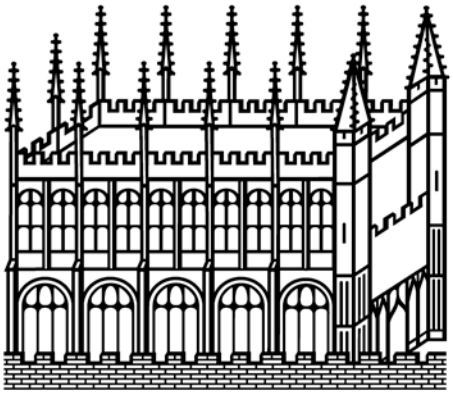

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THE

LONDON

MEDICAL AND SURGICAL

JOURNAL;

EXHIBITING A VIEW OF THE IMPROVEMENTS AND DISCOVERIES IN THE VARIOUS BRANCHES OF MEDICAL SCIENCE.

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CRITICAL REVIEW.

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I. *A Pathological Inquiry into the Nature of Hydrocephalus, grounded on an attentive Observation of the Phenomena, and of the Appearances presented on Dissection.* By Thomas Mills, M. D. Honorary Fellow of the King and Queen's College of Physicians *.

Few reflections are more pleasing to the mind, or more worthy of being cherished, than those derived from tracing the history of science, in regard to medicine, from ancient times down to the present period. There was a time, and that not very distant, when everything relating to disease was vague and conjectural, and when the practice of medicine had no other foundation to rest upon than that which blind empiricism could give it. The condition of that art, however, which, during many revolving centuries, was justly stigmatized from its connexion with the adjective conjectural, has now undergone a material change, and medicine may, at the present period, be justly ranked among the other sciences. The book of Nature, though always open, could not be read by those who lived in a world of their own creation, and it required the powerful mind of Bacon to render its characters legible to mankind. Had it not been for the wholesome lessons which this master-genius gave to the world, the circulation of the blood might have been still a mystery to us, and the illustrious Harvey would, in all probability, have never made that discovery which has shed such glory on his name, and which has conferred such inestimable benefit on mankind. "Divide and conquer" was his motto, and to this motto his posterity have adhered, until science has been brought to a

*Transactions of the Association of the Fellows and Licentiates of the King and Queen's College of Physicians in Ireland, vol. ii.

pitch of excellence and grandeur unknown before in the history of the world. The healing art, although rather slower in its movements than some of the other arts, has, nevertheless, advanced of late years in rapid strides, and its progress continues to increase in a ratio to that of general science. Medical men, in this age of inquiry, are not satisfied to rest their faith on the opinions of one or two leaders. They have found that Nature is as open to their views as she is to those of others, and that many of her secrets deserve that name no longer than till they are attempted to be revealed. As knowledge advances, the laws of nature become more plain and simple in their appearances, and we are enabled to comprehend how that endless variety of phenomena, observable in the universe, are guided and regulated by a few simple laws or principles. Life, disease, and death, or the cessation of those affinities upon which the identity of organized bodies depends, are, each, governed by modifications of laws peculiar to themselves; but it will be, probably, found, as science advances, that these different modifications, which upon a superficial view appear so dissimilar and complex, are still traceable to those few and simple principles which appear to be the ruling agents of nature.

The advancement of our art, and the degree of perfection which it has comparatively attained of late years, owe themselves to the study of anatomy, particularly morbid anatomy; and it is pleasing to observe the progress which this branch of science is daily making in a country where it meets so many oppositions. When we inform our readers that the learned author of the essay before us presented *thirty-four* cases of hydrocephalus, with dissections, to the Association, they will confess that some able labourers are at work in the field of pathology. Twenty of these are cases of acute hydrocephalus, and fourteen of chronic. Ten additional cases of recovery from supposed hydrocephalus were also presented.

Dr. Mills remarks that "the name of hydrocephalus is an improper one, inasmuch as it leads to the employment of remedies calculated only to excite the action of the absorbent vessels, and removes from our view the nature of the complaint in that stage in which perhaps it is alone curable." If a disease is to be treated according to its *name* only, we fully agree with the author, that, not only the malady in question, but several others also, would lead to a wrong treatment. Almost all diseases, according to the nomenclature in common use, derive their names from some symptom or symptoms manifested in their progress. There are, perhaps, few things more difficult than to find out a name for every affection which

would lead to unerring views of its nature and treatment, and this difficulty is still greater where it applies to the affection of an organ or tissue whose function becomes similarly deranged under the influence of different diseases. Now, it is very questionable whether hydrocephalus is, in *every* instance, preceded by inflammation of the meninges. Indeed, analogy is against such a supposition. We find anasarca occurring without previous inflammation; it is the same with ascites, hydrocele, hydro-thorax, and hydro-pericardium. These affections are occasionally found, upon post mortem examination, to be complicated with effusion in the cerebral ventricles. This we have noticed in anasarcous subjects, where no symptoms of inflammation existed before death. To suppose that the exhalant vessels cannot become deranged in their function without inflammation, is going nearly so far as to suppose inflammation to be the cause of every disease, which neither observation nor the nature of the symptoms would lead us to infer to be the case.

The condition of serous membranes, in that state which gives rise to effusion of lymph, remains still in some obscurity. Let us, for instance, take the cellular membrane, one surface of which is serous. An increased secretion from this surface gives rise to anasarca. There is here no inflammation—no symptom of inflammation. Erysipelas forms a specimen of inflammation of the cellular membrane. This produces œdema, from increased secretion; but this œdema bears little analogy to that constituting anasarca, and all the symptoms are totally different. On examining the seat of the disease after death, in the one all the characters of inflammation will present themselves, namely, *arterial* congestion, pus, coagulated lymph, sloughing or gangrenous appearances, &c.; whereas in anasarca, the parts will appear pale and flabby, scarcely any *arterial* congestion, but more venous fulness. Again, in peritonitis, acute or chronic, a layer of coagulated lymph adheres generally to the surface of the membrane; there is a thickening of this membrane; the fluid in the abdominal cavity is full of flaky lymph, &c. These are marks of inflammation; but we have witnessed cases where patients had been often tapped, one twenty-four times, but where the peritoneum presented no evident marks of disease, no thickening, no arterial congestion, no lymph *coagulated*, no symptom of peritoneal inflammation during life.

If an inference be drawn from such cases, effusion of fluid *may* take place from the surfaces of the meningeal membranes, without any attendant or previous inflammation; nay, we have every reason to infer that it *does* in some instances, although the symptoms in such cases are very dif-

ferent from those which characterize hydrocephalus in the acute form. *Venous* congestion is generally an accompaniment of serous effusion. This is a state of vessels distinct from that which usually characterizes inflammation, for it gives rise to no adhesions, no pus, no plastic lymph. The fluid is clear and limpid and does not coagulate in the cavities; the veins are proportionably fuller than the arteries in the seat of the disease, and their contents are frequently of a redder colour than usual, which renders them, now and then, liable to be mistaken for congested arteries. This condition of the vessels we have always considered different from the florid blush of inflammation. It is a state in which the vessels of the brain are often found after death from typhus or continued fever. The congestion frequently extends back to the extremities of the arteries, owing to a relaxation of the capillary tubes, without, at the same time, giving rise to symptoms indicative of inflammation, and without leaving any of those appearances after death which distinguish that disease from simple congestion.

It is this state of venous congestion, accompanied, truly, generally, by arterial congestion, which is commonly found in the brains of those who die of hydrocephalus. The disease is frequently rapid in its course, but the symptoms are very different generally from those of phrenitis. In the former disease the lymph effused is seldom found in a coagulated or plastic state, nor is there any appearance of pus thrown out on the surface of the membranes. The fluid is clear and limpid, and no adhesions exist between the meninges or the surfaces of the ventricles.

These facts are adduced to show that the effusion of fluid in the brains of children depends generally upon a condition of vessels different from that which gives rise to peritonitis or pleuritis in the membranes lining the other cavities; but let it be remembered that it does not follow from this fact that the treatment should not be, in most instances, active; but it does follow that it should be modified very materially, compared with the treatment best adapted to genuine inflammation of serous membranes. In the latter affection, the system will bear blood-letting to be carried to almost any extent short of putting an entire stop to the functions of life, and the patient will be benefited by such a proceeding, provided it be carried into effect at the commencement of the attack; whereas in that condition of the vessels upon which effusion of clear lymph depends, when bleeding is pursued beyond a certain point, which experience and a correct view of the nature of the affection can alone lead to a knowledge of, the powers of the system will be diminished without any beneficial effect being produced on the seat of

the malady. Dr. Mills proposes the term hydrocephalitis as a substitute for hydrocephalus; but if the disease depends on inflammation of the cerebral membranes, the term *meningitis* would convey a better idea of the condition of the parts affected than any other name we know. We, some years ago, proposed this term as the one best adapted to convey a correct notion of the morbid appearances after death, and as the least likely to lead to a wrong view of the treatment of the disease in the majority of cases.

Of the twenty patients who died of hydrocephalus in the acute form, and whose cases were presented to the Association by the author, twelve died before they attained the age of six; seven between their sixth and eighth year; and one at twelve years of age. Of the fourteen chronic cases, death occurred in seven under the age of four; in three, between seven and eight, and in four between the age of eight and sixteen. "The above numbers show a majority of six in favour of the great prevalence of the acute; and with respect to the recoveries, seven out of ten laboured under the disease in its acute form."

By the recoveries, Dr. Mills cannot mean a recovery from real hydrocephalus, where fluid had actually been effused, for he seems to doubt the possibility of such a recovery. Yet if he does not mean this, we can hardly comprehend what he would have us understand by the three recoveries which he mentions of the disease in the chronic form; for if there was no actual effusion in these cases they could not, by any proper latitude of meaning or of language, be considered as, or called, cases of chronic hydrocephalus. He says that "hydrocephalus, properly so called, cannot positively be said to have existed in *any case* of recovery, but only that inflammatory action, or congestion of the vessels, which threatened to terminate in hydrocephalus, or dropsy of the brain." We must here declare our dissent, for so far as appearances can go, and unless the testimony of the senses is to be disregarded, we have witnessed proofs of recoveries from the disease after effusion, even to a considerable amount, had taken place in the brain; after the sutures had been separated to a great extent, and the head had become considerably enlarged. We can therefore say as positively, that recovery may take, and has taken, place where fluid is or has been effused, as that recoveries have taken place where fluid had been thrown out into the bag of the peritoneum in ascites. Moreover, the effused fluid in hydrocephalus will sometimes be absorbed in a very rapid manner, which is proved by the diminution of the size of the head, and the reclosing of the sutures.

The author of this essay divides acute hydrocephalus into two stages, one of excitement, the other of effusion. Now, these two different stages are evident in the extremes, but it is difficult to tell where one ends and the other begins. We meet with cases where the first symptom of any ailment is a fit of convulsion, where the child appeared perfectly well before that moment, but where every indication of effusion is apparent after the fit. Inflammation cannot be supposed to take place in this sudden manner; nor, indeed, can effusion be supposed to do so; but some change of condition occurs in the brain, which gives rise to congestion, or to relaxation of the extreme vessels of the meninges, so as to lead to effusion. We remember the case of a fine, healthy boy, about two years of age, who was suddenly, without any previous illness, seized with a convulsive fit. We saw him almost as soon as the fit was over. He then had all of the most characteristic symptoms of hydrocephalus acutus, namely, partial stupor, screaming when touched, *knitting of the eyebrows* (an *invariable* symptom of the disease), pupils sometimes immoveably contracted, at other times immoveably dilated, squinting, &c. This child was immediately bled, put into the warm bath whilst cold water was poured over the head: he took five grains of calomel every three or four hours for about a week, and had half a drachm of strong mercurial ointment rubbed into the arm three times a-day. The symptoms continued for several days in the same state, but by persevering in this plan, and by keeping the head constantly cold with evaporating lotions, the patient ultimately recovered.

An extraordinary circumstance in many of these cases is, that mercury, in the form of calomel, although taken in enormous quantities, very seldom acts either on the gums or on the bowels. This circumstance cannot be accounted for otherwise than by supposing the lacteals, as well as the coats of the intestines, to have lost their tone, or contractile property, and that the greater part of the calomel either remains unchanged in the alimentary canal, or that it passes off with the stools which occasionally come away. We have known several drachms being given to children in a very short space of time without producing any other evident effect than that of subduing the inflammatory affection, which is certainly the *best* effect it can produce.

It would appear then, that, although, as a general rule, acute hydrocephalus may be divided into two different stages, still cases do occur where no line can be drawn between these stages, judging from the symptoms. Indeed, we know of no pathognomonic symptom of effusion having actually taken

place but an enlargement of the head and a separation of the sutures, neither of which becomes generally observable in the acute form of the disease before death destroys the patient. That symptom usually denominated the water-stroke is, by no means, a sure indication of effusion, for it occasionally happens, after this phenomenon has appeared, that the child revives, and arouses himself from the stupor, into which he again relapses after a few hours. There is another fact worthy of notice in these cases, namely, that the quantity of fluid found in the brain after death is not by any means in proportion to the stupor, and to other symptoms usually considered as pathognomonic of pressure during life. The stupor is generally much greater in the acute form of the disease, where only an ounce or so of lymph is discovered after death, than in the chronic form, where, often, four or five ounces are found. The stupor, then, and the other signs commonly considered as indicative of pressure, are not actually dependent on pressure in every instance, but upon disease of the brain or of its membranes, which gives rise to the effusion. The degree of the stupor may depend in some measure on the particular part of the brain which may be affected. But this proposition requires further facts to establish its truth.

The following are the symptoms of acute hydrocephalus, as given by Dr. Mills :—

" Acute hydrocephalus is ushered in with symptoms indicative of a disturbance in the cerebral functions. There is uneasiness, pain, vertigo, sense of weight, heat or fulness of the head, attended by languor, chilliness, lassitude on slight exertion, confusion of ideas, and a feeling of weariness, as if arising from a long journey; the pain of the head varies; at one time dull, and confined chiefly to the vertex or occiput; at another acute, and seated in the forehead and temples. In some rare instances, pain is not complained of; the head is often bent forward upon the chest, or reclined upon whatever may give it support; there is a throbbing of the temporal or carotid arteries; sometimes the pain assumes the intermittent type, a circumstance which, as it may mislead the practitioner, deserves particular notice. In the second stage the head is often thrown backwards, and appears stiff and immoveable, indicating a spasm of the muscles of the neck and occiput. The temperature of the body, in the first stage, is raised considerably above the natural standard; that of the head varies, especially the forepart, which in some cases is dry, and of a pungent heat; in others it is alternately hot and cold, or hot and moist, or cold and moist; the eye-balls and forehead are frequently rubbed and pressed by the hand as if to relieve pain; the eye is dull and cloudy, and frequently suffused; a sensation of sand in the eyes is a common symptom; there is strabismus with intolerance of light; red or black specks are often observed floating in the atmosphere, and there is frequent pulling of the eye-

lashes. These symptoms are succeeded, in the second stage, by a fixed vacant stare; the pupils are preternaturally contracted or dilated, sometimes alternately; there is a slow rolling of the eye-balls observed through eye-lids partially paralysed, when it is not unusual to see only the lower portion of the tunica conjunctiva of one eye and a part of the pupil of the other; one or both eye-lids are occasionally swelled, and in some instances there is a puriform or watery discharge from one or both eyes; strabismus is more apparent; there is imperfect vision; objects are seen double, out of place, or of a colour different from what they really are; total blindness generally precedes the fatal termination; picking of the nose is a common symptom, and the fingers are not unusually thrust up the nostrils with violence. The features are generally constricted; in a few instances they have a bloated appearance, the complexion changes from a rosy to a pale or sallow hue, occasionally a red or purplish circumscribed flush suffuses one or both cheeks; the lips are pale, contracted, and often surrounded by a dark or bluish circle, and the same is observed under the eye-lids. The senses of hearing and smelling are too acute; those of taste and feeling vitiated or imperfect; in the second stage these senses are blunted or lost. The voice at the commencement is commonly hoarse, and words are delivered slowly, and in a low tone; as the disease advances, it becomes shrill and high, and sentences are expressed rapidly and incoherently; towards the close, it is low, muttering, and indistinct."

A little further on the author casually, as it were, notices two other symptoms, which we consider as invariable accompaniments, namely, *knitting of the eye-brows*, and grinding of the teeth. Sudden starting during sleep, especially if the least noise is occasioned in the room, is another symptom never absent at the commencement and during the first stage of the disease. We never witnessed a case where that peculiar knitting of the brows, indicative of irritation or inflammation of the meninges, was not present, and we consider it as one of the most striking symptoms of this sort of cerebral affection. It gives the features more of the appearance of great mental anxiety, or uncontrollable grief, than of absolute pain referrible to a particular seat.

The descriptions which Dr. Mills gives of the symptoms of the disease, in the cases presented to the Association, are extremely meagre, and they are quite as applicable to any other affection as to hydrocephalus. We shall take the liberty to extract one of the cases as a specimen of the whole. If no other signs than those recited were evident to the practitioner, he had no reason to infer the complaint to be hydrocephalus, for it might be simple bowel complaint, common fever, or any other affection. There is an anomaly in the case which we are going to extract, namely, the gall-bladder was absent.

" April 9, 1817. Miss T., Great Ship Street, æt. 4, a dull, inactive child, of a florid complexion, who enjoyed good health, appetite, and digestion, but was unable to walk before she was three years old, seven days ago was attacked with headach and vomiting, followed by heaviness and feverish symptoms. Cathartics have been administered. Pulse 136, hard and irregular; skin hot; tongue foul, and yellowish; fæces tar-like; nausea; pain in the forehead; throbbing of the temples; face alternately pale and flushed.

" V. S. ℥vi. Pulv. ex Cal. et Scam. Foveantur crura.

" 10th. The parents would not suffer the child to be blooded. Three or four dejections, dark, and mixed with blood; headach and fever abated.

" Rep. Pulv. Mist. Sal.

" 11th. Hæmorrhage from the bowels; fæces dark and brownish; some appetite. Much relieved.

" Cr. Pulv. et M. Sal.

" 12th. Return of headach, accompanied by sighing, nausea, and moaning; fæces dark-coloured; stupor; pupils contract and dilate on the application of light, but the right pupil is more dilated than the left; head and neck thrown backwards; pulse 142, irregular; countenance vacant.

" Vesic. Capiti abraso. Pulv. ex Cal. Jal. et P. Ant.

" 13th. Blister not applied; three or four dejections, dark, yellowish, and green, and passed involuntarily; coma; frequent sighing and moaning; restlessness; vision impaired; right pupil much dilated; uneasiness on pressing the right hypochondrium; skin dry; alternate paleness and flushing of the face.

" Baln. tepid. Foveantur crura. Cr. Pulv.

" 14th. Symptoms more urgent; hurried respiration.

" Mist. Anodyn.

" 15th. Died at four o'clock, *a. m.* No convulsions.

" *Dissection.*—Occiput jutting. Serous effusion between the arachnoid membrane and pia mater of both hemispheres, especially of the left. Considerable vascularity, both arterial and venous, of the pia mater of the left hemisphere. About three ounces of a watery fluid are found in the lateral ventricles; these ventricles are dilated, and their walls are soft. Plexus choroides pale. Cerebellum soft, and possessing little vascularity. Some watery fluid is found in the theca vertebralis, and at the base of the brain.

" Liver slightly adherent to the diaphragm and abdominal muscles; when cut into it is of a light yellow colour, and rather firmer than natural. Gall-bladder wanting. A single duct is traced passing from the liver into the duodenum, in which bile is found of a bitterish taste and olive colour. On cutting into the right kidney, a milky fluid oozed forth; its structure is natural. External surface of the lungs irregular, and covered with tubercles; these tubercles are of different sizes, some containing a cheesy matter, and distributed throughout every lobe."

The post mortem examinations of these cases render them highly valuable, otherwise, they are all very deficient with respect to the history of the symptoms, and most of them so, also, with regard to the treatment which was employed. It is surprising that Dr. Mills never recommends, in any part of his essay, the application of cold lotions or ice to the head. This is one of the most powerful and beneficial agents which can be employed in this malady. There is always an excessive evolution of heat from the surface of the scalp; so much so as to dry the wet cloths applied to it at first in a a very few minutes; but by a constant renewal of the cloths, soaked in a cold, evaporating lotion, and applied in a *single layer* over every part of the scalp, the heat will be reduced materially in the course of some hours, and the cloths will be found not to dry or require changing nearly so often as at first, which is one of the best criteria of the disease being in a degree subdued. It is a matter of some consequence to allow only a single layer of cloth to be applied at a time, and the application should be renewed by another layer as soon as the first has become warm. By the use of this method, a freer evaporation can go on from the surface of the scalp than if the rags were applied doubled several times, and allowed to remain on until they become dry.

We agree with the author that blisters should never be applied previously to depletion; and their effects even then are often very equivocal. To the head they ought never to be applied in the active stage of the disease, or indeed at any stage of the malady in the acute form; but relief is frequently afforded by them when applied to the back or between the shoulders, whilst the head is kept constantly cold by evaporating lotions. The same remark will apply to other species of irritating applications.

Dr. Mills remarks that, of the remedies applicable to acute hydrocephalus, "the most important are, blood-letting, cathartics, antimonials, and calomel combined with opium; and these are named according to the order in which they prove most useful." The auxiliary remedies are, "the tepid bath, blisters, fomentations, sudorifics, pediluvium, &c."

Now, bleeding, either general or local, ought never to be omitted; but it requires no small degree of judgment to decide how far it ought to be carried with propriety in individual cases. That it may be carried too far, we feel convinced, from having witnessed its effects in more instances than one. The appearances on dissection, in cases which have died of inflammatory affections, especially in those of meningitis, and where much blood had been taken away, are, a great congestion of the vessels in the seat of disease, and an

almost absolute privation of blood in the vessels of every other part. In spite of all abstraction of blood, the capillaries and venous extremities of the diseased seat will still, not only retain more than their due proportion of blood, but will remain nearly as full as they were before blood was taken away.

We shall not at present enter into an examination of the pathology of inflammation, and of the manner in which abstraction of blood proves beneficial in that affection; but we may be allowed to observe, that its immediate effect on the seat of disease is not to empty its vessels, especially if the inflammation has existed for some time previously. It may, and does, relieve the pressure on the sides of the diseased vessels in some degree, by diminishing the force of the heart; it also reduces the pabulum upon which the disease feeds. But it should be remembered that it likewise diminishes the pabulum on which the nourishment and strength of the system depends, and, by that means, reduces the power of the agencies connected with the functions of life, upon which our hopes of a healthy reaction taking place in the seat of the affection rest.

With respect to cathartics, we generally place much reliance on them in most inflammatory diseases, especially in inflammations attended with effusion; but by persisting too long in their use in meningitis, we deprive ourselves of other means and other remedies which possess a greater influence over the disease. The bowels should be at first well cleared out, and then kept regularly open; but if the cathartics be carried much beyond this, the brain becomes sympathized with the mucous membrane of the alimentary canal, and the disease in some instances will be consequently aggravated. It is no uncommon thing to find the brain, in children, assume an irritable state when the function of the alimentary canal is disordered. We have witnessed cases where death was produced from cerebral affection, and where fluid was found in the brain, but where the disease originated in the abdomen or chest, and continued for days or weeks before any affection of the brain was observable. Cerebral affection is by no means an uncommon sequela of measles when this disease has been severe. Indeed the brain is so susceptible of disease in children, that few acute maladies occur in the abdomen or chest without its sympathizing with them, unless these maladies run a very short course.

The effects of antimonials on children are rather equivocal, so far as we have been able to observe—so much so that we should not feel disposed to place *much* reliance on them.

If they create vomiting they do harm, by obstructing the flow of blood from the brain; and they generally produce excessive irritation of the mucous lining of the bowels in children. These effects might, perhaps, be in some degree counteracted by combining them with a very small quantity of opium, provided this medicine produced no injurious influence on the disease.

Instead of placing calomel *last* in the order of remedies, as Dr. Mills does, we should not hesitate to place it *first*, after the bleeding. The antiphlogistic character of this remedy is now so fully established, and its influence over that condition of the vessels, existing in acute inflammation, so well known to those who have given it a fair trial, as almost to give it the claim of specific. In no species of inflammation is its effect more striking than in that of the serous membranes. In most of the cases detailed in the essay before us, Dr. Mills appears to have administered the calomel chiefly as a cathartic, combined with other purgatives. In such a form, it is superior to other cathartics only in proportion to the quantity of it absorbed into the system. The object is, to bring the mercury in contact with the seat of the disease, and in meningitis it requires a very large quantity of the remedy to be administered before such an object is accomplished. The absorption of the mercury, as well, probably, as of every other substance, from the surface of the intestinal tube, is remarkably slow, it therefore requires to be given in large and frequent doses before any beneficial impression can be expected to be produced on the inflammatory affection of the cerebral membranes.

The order in which we have been in the habit of employing the different remedies in that species of irritation or inflammation of the cerebral membranes threatening hydrocephalus, has been, first, bleeding, either general or local, according to the age of the patient and other circumstances; warm bath to the lower extremities and trunk; cold applications, constantly renewed, to the head, both while in the warm bath and out of it; a smart purgative of calomel and jalap immediately after the bleeding; followed up by calomel, in large and frequent doses, namely, from three to six grains every three or four hours. The calomel has been sometimes assisted by frictions with mercurial ointment, for it occasionally happens that children take several drachms of the submuriate without manifesting any sign of its being absorbed into the system. This plan has been attended with the most satisfactory success. Sometimes a little opium combined with the calomel will tend materially to allay the

irritation under which the patient labours; but the experiment requires great caution, especially in very young children.

Dr. Mills draws the following distinctions between chronic and acute hydrocephalus :—

"Chronic hydrocephalus, in its mode of attack, is more insidious than the acute, and is slower in its progress and development. Vertigo, confusion of ideas, heaviness, or a dull pain in the head, and stupor, attended by a pallid countenance and shrunk features, usually usher in this form of the complaint; whereas, in the first stage of the acute hydrocephalus, we find lancinating pains of the head, throbbing of the temples, suffusion of the eyes, or intense heat of the forehead. In chronic hydrocephalus, the intellect is more clouded, and the expression of countenance is generally bewildered, fatuous, or like that of a person half intoxicated. In the acute, on the contrary, the countenance is often expressive of quickness and intelligence, the voluntary powers are more enfeebled, and the vital functions more oppressed. We may likewise notice a considerable difference in the temperature of different parts of the body; the forehead and extremities being, in the chronic, often cold or damp, while the trunk is little, if at all, above the natural standard; whereas, in the acute, the heat is more intense, and more equally diffused. Further, we find on dissection, the turgescence of the veins and sinuses of the brain much greater, and the effusion of a watery fluid between the arachnoid membrane and pia mater, in larger quantity in the chronic than in the acute. The chronic, moreover, is oftener found accompanied by disorganization of the substance of the brain, or its membranes.

"From what has now been stated, it would appear that acute hydrocephalus is distinguished by a high degree of arterial excitement, and the chronic form by venous turgescence of the brain, an imperfect development of disease, and an unequal distribution of the blood; but, as in both forms several modifications and varieties may be traced, due regard must be paid to the peculiarities of every case, as these must necessarily require some modification of the mode of treatment; still, however, the curative process is to be governed by the same general principles, and the same means are to be employed, regulated by the urgency of the symptoms, and the age and constitution of the patient. Blood-letting, general and topical, cathartics, mercurials, opiates, &c., are the principal means to be employed in chronic as well as in acute hydrocephalus; but, as in the latter the danger is more imminent from the high degree of excitement with which it is usually accompanied, the most efficient remedies are to be employed with promptitude and decision. In the chronic, on the contrary, the disease is slower in its progress and development; and, as the symptoms are less urgent, measures of a milder nature are commonly required; I say commonly required, because cases of chronic hydrocephalus occasionally arise in which the system is so

overpowered by the venous turgescence of the brain, that, to save the life of the patient, recourse must be had to the most decidedly active measures."

Great benefit is sometimes derived, in chronic hydrocephalus, from combining the calomel with as large doses of squills as the stomach can bear. We have witnessed the size of the head very rapidly reduced in a few instances where these remedies were conjointly employed.

From appearances observable on dissection, Dr. Mills is led to conclude that hydrocephalus is invariably an idiopathic disease of the brain, and that the digestive and other organs become secondarily affected through the medium of the nerves. But dissections alone are not sufficient to prove this point. When marks of disease are discovered in any organ on dissection, they truly afford a proof that that organ was affected before death, but they by no means prove a priority of affection in it. The vessels of the brain are found turgid in children who have died of hydrocephalus, and fluid is discovered in the ventricles or between the membranes. These appearances afford signs that the brain was affected before death, but in what way do they prove that affection to have been idiopathic? When no marks of disease are found in other seats, a legitimate inference may, certainly, be drawn that the brain was the primary seat of the malady; but in most of the cases presented by the author, disease was observed in other organs, either of the chest or of the abdomen. Were the abdominal or thoracic affections in these cases dependent on that of the brain? or were the diseases of the different and distant seats independent of each other? Questions like these cannot be answered from post mortem appearances alone. The inference must be drawn from the nature and order of succession of the symptoms, compared with the morbid marks observable on dissection.

Without laying any stress upon the fact that meningitis frequently takes place without the impression of any evident cause on the brain, this being the case with the occurrence of inflammation in other organs, it may, however, be noticed that the symptoms may be frequently traced in a regular order of succession from other organs to the brain. As an instance of this may be noticed, the occurrence of hydrocephalus as a sequela of measles. After the cutaneous eruption of measles has disappeared, if the disease has been severe, the cough not unfrequently increases; muco-purulent matter is secreted by the lining of the minute bronchial tubes; the pleura becomes subject to a species of low inflammation or irritation, attended with effusion of liquid lymph from its surface; in the course of a few days, the

child manifests symptoms of cerebral irritation; then stupor, and all the pathognomonic signs of effusion in the brain. On post mortem examination, pus is found in the bronchia, limpid fluid in the bag of the pleura, and a similar sort of fluid in the ventricles of the brain and between the arachnoid and pia mater. The order of succession of the morbid symptoms here is not from the brain to the chest, but from the chest to the brain, although this organ presents the same morbid appearances as if it had been primarily affected.

Several analogous instances might be adduced to show that meningitis is frequently a secondary affection. Long continuance of bowel complaint, teething, general fever, &c. form some of them. But it does not appear to us to signify much, as regards the treatment, whether the inflammation in the head be primary or secondary. If there be disease going forward there, it must be checked, whether it be the one or the other, and this must be done without loss of time, by the most powerful means in our possession, paying due regard at the same time to the strength of the patient, and to other circumstances connected with every case.

Dr. Mills's cases are highly valuable as illustrations of the anatomical characters of the brain and its membranes in hydrocephalus; but they are very deficient in semiology, and the treatment falls short of that which his view of the nature of hydrocephalus would point out, particularly as he never notices one of the most useful agents in our possession, namely, cold applications to the head.

II. *Transactions of the Medico-Chirurgical Society of Edinburgh.* Vol. III. Part I. with Plates, 8vo. p. 316. Edinburgh, 1828.

Science owes its advancement in no small degree to the establishment of literary and philosophical societies; and the members of our profession have reason to be proud of the number and respectability of institutions of a similar nature, founded for the cultivation of the healing art. When we consider the number of medical and philosophical societies which exist in this country at the present day, compared with that which existed thirty or forty years ago, it is not surprising to find that knowledge runs on at such a rapid rate as to render it difficult to keep pace with it. He who does not enlist under the banner of science will, in a few years, find himself a solitary being in the world. If the me-

chanic has his Institution, his Magazine, and his Library of Useful Knowledge, what ought those to have whose education, profession, and station in society, afford them the most favourable opportunities of acquiring knowledge? But we have ample proof, in the number and respectability of the names enrolled in the list before us, and in the lists of institutions of a similar nature, that the medical, will not be allowed to remain behind the other, sciences.

We are always glad to find volumes of Transactions issue from the press, because we consider them the most useful works published, next to periodical Journals, for the distribution of medical knowledge. There are few diseases which require systematic treatises to be written on them, and not many persons would take the time and trouble of reading them if they were written, especially at the present period, when every information may be conveyed and acquired with such facility through the medium of the periodical press.

a. Hospital Gangrene.

The present volume contains seventeen papers, and a supplement to one of the essays. The first is by Dr. Boggie, on Hospital Gangrene, as it appeared in the British army during the late Peninsular war.

The object of Dr. Boggie's paper is to prove that hospital gangrene is an inflammatory disease, requiring the antiphlogistic plan of treatment; that its origin may be traced to causes which tend to give rise to inflammation; for instance, stimulating food, or drink; acrid or irritating applications to the wound; motion, or mechanical irritation, as when the patient is removed to a great distance from the field of battle. These are causes which contribute to bring on the disease; but Dr. Boggie mentions also as causes, particular states of the atmosphere, inattention to cleanliness, and contagion.

This disease is found to prevail often in ships of war, and in naval hospitals, where it commits most destructive ravages. It appears to owe its origin, under such circumstances, to the crowded state of these places; to the difficulty of keeping them freely enough ventilated. Civil hospitals, also, do not escape its attacks. It shows itself at all seasons of the year, but the author of the present essay is of opinion, in which opinion we fully agree, that its virulence is much greater during the summer months, when the temperature of the surrounding atmosphere is very high, than at any other season of the year.

The disease shows itself under two forms; the first

Dr. Boggie calls contagious gangrene; the second, phagedæna gangrenosa.

"When a wound or ulcer is affected with contagious gangrene, it becomes painful and swollen, loses its healthy florid appearance, and the granulations, which were small and distinct, become flabby, and appear sometimes as if they were distended with air; at other times, vesicles, containing a watery-coloured fluid, or bloody serum, have been observed, and the sensation in the sore has been described as resembling the stinging of a gnat. The secretion of pus is suspended; the wound is dry, and covered with a tenacious viscid ash-coloured matter, which adheres firmly to the surface. When this morbid state has existed for some time, a discharge takes place of a thin ichorous matter, of a very peculiar smell; the pain increases, the edges of the wound are everted, and, in general, assume a circular form; an erysipelatous redness surrounds the wound, and sometimes extends to a great distance, even over a whole limb; the neighbouring glands, as those of the axilla or groin, swell, inflame, and sometimes suppurate; febrile symptoms become apparent; the pulse is accelerated, full and strong; the heat of the surface is much increased; the patient complains of nausea and thirst; the tongue is covered with a whitish or brown crust, and the bowels are, in general, constipated. The inflammation goes on increasing, the thin ichor continues to be discharged in great quantity, and a thick slough, apparently of coagulable lymph, covers the whole surface of the wound; the fetor becomes intolerable, and the pain quite insupportable. In the last stage there is, in general, an oozing of blood from the surface of the wound, and not unfrequently distinct hæmorrhage, from the corrosion or destruction of the larger blood vessels. Sphacelus takes place to a greater or less extent; the strength of the patient fails; the pulse sinks; his countenance becomes collapsed and altered; the skin is bedewed with a clammy sweat; and a diarrhœa with hiccup coming on, the scene very soon terminates."

Dr. Boggie considers the phagedenic form of the malady of a more chronic nature than the contagious. It occurs in patients who have been long confined in hospitals. It begins in the form of a small dark-coloured spot or ulceration, most commonly on the edge of the sore, "varying in its dimensions from the size of a millet seed to that of a split pea." This spot is, in general, circular, its edges ragged, its bottom unequal and excavated, and it secretes matter of a peculiar smell. The ulceration sometimes proceeds to a great extent, destroying all the tissues in its progress, without, at the same time, appearing to produce any particular impression on the general system. The system, however, ultimately feels the effect; febrile symptoms come on; the rapidity of the local malady increases, and the disease assumes all the characters of contagious gangrene.

The author thinks, that in the milder form of this affection, the skin and cellular membrane only are the parts affected; but, that in more violent cases, all the tissues become involved; the ligaments, tendons, muscles, blood-vessels, and nerves, are equally liable to destruction. "Even the periosteum is not exempt from its influence, and the bones, being deprived of their covering, very often become affected with caries."

It has been remarked, particularly by Dr. Rollo, that specific sores are not liable to be affected by hospital gangrene. Should this fact be sufficiently established, it will go a good way to prove the disease to be simply local, for if the sore became affected through the medium of the system, there is no obvious reason why a specific ulcer should not be as liable to be affected as a common ulcer.

It often occurs, in the phagedenic form of the disease, that ulceration, suppuration, and cicatrization, go on at the same time, on the surface of the same sore. When these appearances occur, the malady can be considered only as a local affection, for if the system at large were affected, these different processes could not be determined at once to the same ulcer, according to any known law of the animal economy.

From all the phenomena of the disease, Dr. Boggie thinks that he is warranted in concluding, that hospital gangrene, particularly that form of it called contagious gangrene, is "a peculiar inflammatory action attacking wounded surfaces; varying in its character according to the constitution of the patient, type of the accompanying fever, and other circumstances; nearly allied to erysipelas, if, indeed, it be not a modification of that disease, and depending on a diversity of causes."

Now, such a sentence as the above will answer very well to help to fill up a paragraph, but we would rather have something more substantial to grasp at—some more satisfactory information respecting the exact condition or characters of the wound, and of the general system, than to be merely told that a peculiar inflammatory action attacks the wounded surface. Some may run away with the idea that, if "inflammatory action" is going on in a part, bleeding, purging, and other antiphlogistic means may be persisted in *ad libitum*. But this is by no means the case. There are "inflammatory actions," if they may be called so, which require a treatment directly opposite to the antiphlogistic. We do not mean to maintain that some forms or some modifications of hospital gangrene do not require blood-letting and other powerful antiphlogistic means to be had recourse to; but we do maintain that

other cases occur, especially in the metropolitan hospitals, where, although "inflammatory action" is apparent in the wound, still this inflammation, or, at least, the spreading of the disease, would go on, and death would soon occur, if the antiphlogistic plan of treatment were persisted in to that extent which is generally considered requisite for subduing inflammation.

The inflammatory pathology, though evidently the least likely of any hitherto advanced to lead to erroneous practice, may still be carried so far as to be injurious. A scientific work on inflammation would be a desideratum. It has not yet been shown what inflammation really consists in — what the actual condition of the vessels is in that disease— what distinguishes it from simple congestion—whether *any* disease can actually take place in the mixed tissues, without manifesting that appearance usually denominated inflammation—whether inflammation in every instance be curable by the same means, in different modifications;—if not, what distinguishes the one requiring the antiphlogistic plan of treatment from that which demands the use of stimulants, tonics, or specifics;—why inflammation, in one instance, should lead to the death of the part; in another, to the formation of pus; and, in another, again, to morbid growth. These, and several others, are points which have never been decided, respecting that appearance called inflammation. For our own part, we look upon inflammation as only a symptom of a great variety of diseases, very different in their special properties, but giving rise to that fulness of the vessels characterizing inflammation in the seats in which they reside, and requiring various modes of treatment, according to the constitution of the patient, to the special characters of the local malady, and to the external causes or circumstances under which the patient may be placed. These causes may consist in the seasons; in the temperature of the surrounding atmosphere; in the condition of that atmosphere, as to purity or impurity; in the nature of its impurities; in local situation; and in the nature of the food. These, and various other causes, are capable of influencing the system, and of giving rise to inflammation in different seats. The inflammation itself will present similar characters to the senses in almost every case, namely, redness, and fulness of the vessels; but its tendencies are very different in different instances, showing a difference in the properties of the diseases upon which it depends.

Dr. Boggie is of opinion, with most other writers, that the foul air of crowded hospitals is a chief cause of hospital

gangrene. Nothing can prove this more satisfactorily than the fact, that the disease seldom appears except in such situations as hospitals, gaols, and crowded ships of war. But little doubt exists, on the other hand, that other causes may give rise to it, and that it may be propagated by contagion after it has once become developed. Now, it may be asked, in what way does the contagion act in propagating the malady? Is it by coming into immediate contact with the surface of the ulcer; or by taking its course through the system, thereby deranging the general functions, and, consequently, the functions of the vessels or nerves, or both, in the seat of the local disease? Dr. Boggie observes, that the local symptoms are generally apparent before the constitutional; he must therefore infer, that the contagious principle acts by coming in contact with the surface of the sore. He, however, admits it very possible that the constitutional symptoms may precede the local in civil hospitals, where the disease originates in foul air or febrile infection.

However dissimilar the views of pathologists in this country may be respecting the nature of particular diseases, —whether they consider inflammation as the disease itself, or merely as the symptom of disease, experience leads them to a great similitude of treatment. Although sloughing is generally considered as the result of the highest pitch to which inflammation can arrive, still it is acknowledged by all parties, that the progress of the sloughing cannot often be stopped by those means usually found most beneficial in arresting inflammation of a pure character. Dr. Boggie, therefore, in laying down the rules for the treatment of this complaint, says, that we must be guided entirely by the symptoms, both constitutional and local. When the gangrene occurs in a recent wound in young, and otherwise healthy, subjects, or in persons of the middle period of life, "the accompanying fever is almost always inflammatory," and it must be treated, accordingly, by antiphlogistic means. He never recommends bark, wine, or any other tonic or stimulant remedies to be given at the commencement of the disease.

The local treatment which the author recommends in the contagious form of the disease, consists in the application of cold lotions to the part, until the inflammation has abated. Poultices of all kinds are objected to, because they are either applied warm, or they soon acquire the temperature of the body. They are also objectionable on account of their weight. When the inflammation has abated, and the sloughs

have separated, the wound is to be dressed with a little dry lint, over which a pledget of emollient ointment is to be applied.

The phagedenic sore requires more stimulating applications to arrest its spreading; for instance, the argentum nitratum, undiluted sulphuric, nitric, or muriatic acid, or the oxyd. hydr. rubr. Dr. Boggie believes this form of the disease to be always local in the first instance, consequently requiring but few constitutional remedies.

b. Spontaneous Cure of Syphilis.

We shall next notice an essay containing Observations on the Natural or Spontaneous Cure of Syphilis, by Dr. Wilson, of Hull. The object of this paper is to prove that syphilis may originate spontaneously; that it probably had a spontaneous origin in Europe, and that it is curable without the aid of mercury or any other specific remedies. The ground on which Dr. Wilson appears to found his opinion seems to us far too limited to settle a point of this importance. He objects to the propriety of dividing lues venerea into syphilis and pseudo-syphilis, as some of the later writers have done, for he considers the circumstance of some forms of syphilis not being curable by mercury as one proof of the spontaneous curability of the affection. Mr. Abernethy, the principal founder of this pseudo division, acknowledges that the fictitious disease so nearly resembles true syphilis in appearance, as to render it impossible to distinguish the one from the other. No diagnosis can be formed until mercury has been tried; that which gives way under the employment of this remedy is true syphilis, and the other, which resists the specific properties of mercury, is the fictitious. This is, certainly, not a very philosophical method of disproving the identity of these supposed different affections. We might as well say, that, because bleeding and purging will cure inflammation under common circumstances, those diseases are not inflammatory which resist, or which do not give way to, the employment of these means. It is assuming a fact which has never yet been proved, namely, that mercury cannot fail to cure *true* syphilis under every circumstance. It is not only assuming that the properties of the morbific poison of syphilis are universally the same, but, also, that the constitutions of mankind are all and always the same, whatever the circumstances may be under which they are placed.

Dr. Wilson instances other diseases, as small-pox, scarlatina, &c., which vary materially in their modifications according to various internal and external causes; yet small-pox is still considered small-pox, whether it be mild or

severe, and scarlatina is never considered fictitious because it differs in degree and modification in different constitutions, and at different seasons of the year. The inference to be drawn, therefore, is, that syphilis may be influenced by analogous causes—that it may be sometimes severe and at other times mild—generally curable by mercury, but not always so, although it is still the same disease, differently modified in different constitutions. All this we admit. But the point in question is, can it be cured, in any modification, *without* mercury? Dr. Wilson adduces no further proof, that can be considered as such, in support of the affirmative, than what was brought forward before by our army surgeons. To this proof we pay all the regard which it deserves, and although, from our view of the nature of disease, and of the modus operandi of curative agents, we consider it not only possible, but also very probable, that syphilis may undergo a spontaneous cure, or that antiphlogistic and other means than the employment of mercury may completely eradicate the disease, still, with respect to a question which a great number of facts can alone decide, we confess that the proof which has been hitherto adduced is not strong enough, in a philosophical sense, to establish the point that syphilis can be cured without *any* mercury.

In support of the opinion that venereal diseases are indigenous in every country, Dr. Wilson mentions the case of a native of New Holland, residing at a great distance from any British settlement, who had gonorrhœa. There was no reason to trace the infection to any European or other foreign source; Dr. Wilson had no occasion to travel so far for instances of this kind. We have witnessed cases of gonorrhœa in this country, which, there was every reason to believe, had a spontaneous origin, or, at any rate, had arisen from some other causes than infection. But the identity of gonorrhœa with syphilis has not yet been proved. Indeed, from almost all the facts in our possession, we are led to believe that they are two distinct diseases. It is true that a *few* instances are on record where syphilis was found to succeed gonorrhœa; but there are also instances where secondary symptoms of syphilis have appeared without any primary symptoms. It is, therefore, not improbable that those cases of lues which have been found to follow gonorrhœa were cases where syphilitic poison had been absorbed without producing any primary symptoms, and where both diseases had been contracted at the same time.

Dr. Wilson states another circumstance, relating to the inhabitants of Otaheite, in proof of the spontaneous cure of syphilis. It is well known that this island was discovered

in 1767, by Captain Wallis. It was soon afterwards visited by Captain Cook, and by Bougainville, both of whom found the venereal disease very prevalent there. But they do not inform us in what form it appeared among the crews who had had connexion with the females of the island. Dr. Wilson visited it in 1801, as surgeon to his Majesty's ship Porpoise, and remained there three months. The connexion of the crew with the native women became unlimited, "and probably two-thirds of the whole of the young ones, at that time on the island, were at various times on board," but only three of the men became affected with gonorrhœa, and none of them with syphilis.

In a second visit, the following year, after remaining there two months, thirty of the crew contracted gonorrhœa, but no other form of the disease appeared, nor did any secondary symptoms follow in any of the gonorrhœal cases. In the interval between these two voyages, "a small vessel had arrived, and was wrecked on the island, whose crew, amounting to twenty-one, were living on shore, and one of whom brought a severe gonorrhœa with him." From these circumstances, Dr. Wilson was led to believe at that time that syphilis had never been introduced into the island, and that the crews of those vessels which had visited there before, had only been affected with gonorrhœa; but he has been since credibly informed by Captain Colnet, who accompanied Captain Cook in his voyages, that the crew were affected with chancres and buboes, as well as with gonorrhœa, when at Otaheite. Dr. Wilson, therefore, concludes that syphilis, in the space of thirty years, in the interval between the time Captain Cook visited the island, and 1801, had entirely disappeared; because he does not consider it probable that the crew of the Porpoise could have escaped the infection, after such an unlimited intercourse with the natives, had the syphilitic form of the disease existed there at the time.

Now, these circumstances are, undoubtedly, curious; but, from our knowledge of the history of syphilis, we are certainly too sceptical to believe, from these facts alone, that the disease would have entirely eradicated *itself* from the island in the course of thirty years. Nothing but a severe penal law, debarring all intercourse between the sexes for many months, if not for years, could have contributed to produce such an effect; and that no such severe measures had been resorted to, is probable, from the fact that gonorrhœa did not disappear at the same time. The natives of Otaheite, at that time, particularly, had no sort of regard for chastity; if, therefore, syphilis existed there when Captain Cook visited the island, the probability is that it also existed there

when Dr. Wilson paid his visits, although the crew of his vessel may not have come in contact with those affected with it. Even if we allow the possibility of syphilis undergoing spontaneous cure, it is contrary to all reason to suppose that such a cure could have taken place nearly at the same time, or within the space of thirty years, over the whole island, where sexual intercourse was not, and, perhaps, among the Otaheiteans, could not be, debarred. In the absence of further facts we must then conclude, either that the malady which appeared among Captain Cook's crew was not actually syphilis, or that the crew of Dr. Wilson's vessel escaped the infection from some fortuitous causes.

c. Epidemic Erysipelas.

Erysipelas is one of those diseases respecting whose treatment the profession has not yet arrived at a settled opinion. Whilst one class of practitioners does not hesitate to ease the patient of some pounds of his vital fluid, another is equally anxious to burthen his stomach with as many pounds of Peruvian bark. That a disease, so frequent in occurrence and so fatal in its tendency, should have its treatment involved in so much uncertainty, is much to be deplored. This uncertainty appears to us to arise chiefly from the circumstance, on the one hand, that a disease is often treated more according to its *name*, than according to all the circumstances connected with each case; and, on the other, that every disease, attended with appearances of inflammation, is considered to require an active, antiphlogistic treatment. Erysipelas is a disease which often appears in emaciated subjects, who possess no more blood than is barely sufficient to keep up the functions of life; still the local malady puts on an inflammatory character. It, on the other hand, makes its appearance, though not so frequently, perhaps, in robust subjects, whose vascular systems can bear the loss of some pounds of blood without being sensible of it. This fact alone is a proof that the disease does not depend either upon too much or too little blood in the system; but that it is an affection of a peculiar kind, connected with a particular tissue; and that, as this tissue is highly vascular, it presents the appearance of inflammation, or of over-fulness of the vessels of the affected seat. Now, in the robust subject, blood may be taken away from the general, vascular system, not only with impunity, but also with decided benefit; because, by this means, the vessels generally, and especially in the diseased seat, will be relieved of a part of their tension, which, when their coats are affected, aggravates the pain, and because, if the expression

be not objectionable, a portion of the pabulum, which contributes to nourish the malady, is abstracted, without depriving the general system of the energy necessary to support the functions of the different organs. In the emaciated subject, on the other hand, although the abstraction of blood may deprive the disease of some of its nourishing properties, still, as our hopes of the recovery of the patient depend on the due and energetic performance of the general functions, and as the loss of blood is known, often, to deprive the organs upon which these functions depend of their natural stimulus or support, it is not only probable, but certain, that blood-letting, especially general blood-letting, does more harm than good in some diseases, or rather in some individuals, where the local malady presents the characters of inflammation.

To illustrate this subject further, we beg to be allowed to *theorise* a little, but we shall leave it to the option of our readers either to agree or to disagree with our views in this respect. We can distinctly perceive the difference between theory and fact, and can partly judge of the comparative regard which is due to each. The laws which govern the animal economy would be found, perhaps, to be as determinate as those which govern the motion of the planets, or that of a heavy body towards the earth, if we knew all the circumstances relating to them. It is acknowledged, generally, that it would be a desideratum to possess this knowledge, but, hitherto, our facts have been too deficient to lead us to it. It would not do to supply this deficiency with vague conjecture, but supplying it with inferences drawn from the facts within our knowledge may lead to some beneficial result; distinguishing, however, these inferences from the facts themselves. The pure matter-of-fact practitioner will act boldly in straightforward cases; for instance, in phlegmonous inflammation in robust subjects; but when we meet a complicated disease—when the inflammation takes place, not in robust, but in emaciated, subjects, who have had long previous illness, or who may have had hemorrhage, or who have been reduced by depletion, in order to subdue a previous acute disease; and when we know, from experience, that two constitutions exactly alike are scarcely to be met with—something more than plain and observed facts is requisite to guide us in the treatment of such affection. Whether this something be called theory, inference, deduction, analogy, or any other name, cannot alter the case. If we examine our views of practice minutely, we shall find that we are generally guided, and necessarily so, more by this analogy than by real facts, inasmuch as we seldom, if ever, find two cases exactly alike in every respect.

Having stated these views, as an apology for swerving from pure facts, we may suggest the probability, that some benefit would be derived in almost every disease from loss of blood, provided the system could bear that loss without detriment to the functions of some of the organs. That disease is something more than a change in the mechanical condition of the blood-vessels, or of other tissues, is proved by almost every fact connected with its history. The blood is a medium of communication between the various tissues; it moves through every tissue, and it is probable that it partakes of the properties of each tissue. If this be the case, it must partake of the diseased, as well as of the healthy, properties, and must convey them to other seats, the functions of which, consequently, become more or less deranged. By depriving the system of a part of this fluid, a certain portion of the properties of disease would be abstracted at the same time, and the local seat of the malady, as well as the constitution at large, would be thereby cleared of a part of the cause keeping up the local and general derangement. But, as a certain quantity of blood is requisite to maintain the energy of the different organs, and as the return of the seat of disease, (whether local or more general) to health, must depend mainly on the due performance of the functions of the organs generally, the grand point is, to decide whether the benefit likely to be derived from the abstraction of a portion of the morbid, or morbific, properties would not be counterbalanced by the evil of depriving the organs generally of a part of their natural support. In deciding this point we must call both experience and analogy to our assistance; as the characters of the malady, as well as the constitution of the patient, will vary in some degree in every instance. But to proceed:

Among these Transactions we find rather an interesting paper, by Dr. Gibson, containing an account of the epidemic erysipelas, which appeared in Montrose, and the neighbourhood, in 1822. In this epidemic the mortality appears to have been great. The disease was not confined so much to the head and face as in the common erysipelas, but attacked other parts of the surface; sometimes the fauces was the seat of the disease, when it extended to the trachea, and generally proved fatal. "It was followed in almost every case by diffuse suppurations in the cellular substance." It frequently attacked wounds, particularly if situated on the face or head. It occasionally destroyed the cellular membrane to a great extent, without producing inflammation or any other appearance of disease in the integuments covering the seat of affection. The relation of the

erysipelatous affection with fever of the continued kind, was so peculiar in this epidemic, as to render it doubtful whether the local or the constitutional symptoms preceded in most instances, or whether erysipelas was the cause of the constitutional fever, or *vice versa*.

"On the 6th current, James Craig, a healthy young peasant, was brought to his father's house, in the village of St. Cyrus, from his former residence, at the distance of some miles, affected with erysipelas of the face. It was reported that his master had died, a few days before, of a febrile disease. In Craig, the disease became very severe, spread to the chest and abdomen, and was attended by violent fever and delirium. These symptoms were succeeded by very extensive suppuration, extending from the neck to the lower part of the abdomen. At both these points vent was given to the purulent matter, and he ultimately recovered. His father was now attacked in both hands and arms. The disease spread to the neck and face, and he died in a few days. It was only after death that it was discovered that the most extensive suppurations had taken place along the back and loins, from the neck to the sacrum. Four young children in the house were next attacked with febrile symptoms, which continued for eight or ten days, but the symptoms did not seem to differ from those of common continued fever, nor could any mark of erysipelas be observed. The mother, who was much occupied about the diseased, remained healthy.

"James Steven, a healthy young man, in Montrose, was attacked with erysipelas in the face. The swelling was, however, much more trifling than usual, so that there appeared little more than a deep blush. In a few days the throat became affected; then the larynx; upon which he was very suddenly cut off. One of his sisters, a married woman, who waited upon him, had an open ulcer on the fore finger of the right hand, from whitlow. Erysipelas appeared on the edges of the sore, spread rapidly up the arm, over the whole neck and chest, and terminated in a large abscess of the right mamma. No sloughing of the ulcer on the finger took place, such as always occurs in hospital gangrene.

"An infant son of a gentleman in Montrose was seized with erysipelas on one foot. The disease spread successively over both legs and arms, and the whole trunk of the body, but it did not reach the face or head. It terminated by abcesses in both ankles and shoulders, which were opened, and ultimately did well. The mother was now affected with erysipelas in the face and scalp. The disease spread over the whole trunk, but did not reach the extremities. It terminated in a small abscess in the neck, and another in one of the eye-lids. The nurse who suckled the child was now attacked with symptoms of pneumonia, and obliged to go home to her father's house at Old Montrose, a distance of four miles. Her father had, some days before her arrival, received a wound of the scalp. In a few days after her arrival erysipelas came on upon his head and face, of which he soon afterwards died. A sister, living in the same cottage, became affected with severe

febrile symptoms, attended with inflammation of the throat, from which she recovered very slowly. Two children in the same house, one five, the other seven years old, were, at this time, cut off by what seemed an attack of croup. The nurse herself had a second attack, apparently of pneumonia, afterwards of cynanche, similar to the sister's disease, and ultimately recovered only after a lapse of several months.

"I was, one day last year, suddenly called to see Mr. David Wylie, of this town, a healthy middle-aged man. I found him labouring under great oppression at the precordia, with depressed pulse, and in a few days he died. I was told that, some days before, he had been seized with rheumatic pain in the right side, which, after the part affected had been several times rubbed with oil of turpentine, had shifted to the left leg; and that on this being rubbed in the same manner, he had that day been seized with the faintness and oppression. After his death, I was asked to see a maid-servant in an adjoining room, who had an attack, as I was told, of pneumonia. I found that there existed a very large collection of purulent matter between the right mamma and neck, which at once led me to suspect that she had had an attack of erysipelas. I then went into the next room, and, on examining Mr. Wylie's body, found distinct marks of erysipelas a little below the right arm-pit, and on the left leg. The maid-servant was sent to her mother's. The mother, in about ten days after her daughter's arrival, was seized with violent febrile symptoms, with dyspnœa and oppression, and died after a few days' illness. Another maid-servant, who removed the bed-clothes after Mr. Wylie's death, *complained of heat and uneasiness in her hands and arms;* on inspection, they appeared red and slightly swelled, but the disease did not proceed farther than this blush of the surface of the skin, although there were distinct febrile symptoms present.

"In 1824, Christian Taylor, from the parish of St. Cyrus, was admitted into the infirmary here, with abscess of the hand, and caries of the bones of one finger. Some days after her admission, the patients in the two beds next to her were seized with erysipelas, and on inquiry being made, it was ascertained that the suppuration in Taylor's hand had followed an attack of erysipelas, which had been prevalent in that parish. The patients were all removed from that ward, and it was well cleaned, white-washed, and fumigated. *Yet, when patients were placed in that ward, the disease again made its appearance,* and it was found necessary to remove the whole patients from our little infirmary, and to take every precaution before the contagion was eradicated.

"In March last, William Keith, of this town, received a blow on the forehead with a large file, which penetrated to the skull. Some weeks afterwards, when the wound was nearly healed, erysipelas of the face and head supervened, which occasioned his death. On dissection, a considerable effusion of serum was found on the surface and in the ventricles of the brain; and, in many places of the surface of the brain, the arachnoid coat was raised up in

small clear vesicles from the pia mater. This is the last case of the disease I have met with."

We have been induced to extract the above passage at full length, to show our readers the real history of the malady, as described by Dr. Gibson. We find here an account of a peculiar epidemic, of a febrile character, not, perhaps, more allied to the cellular, or other tissue, of one part of the body than of another, in the previously healthy subject, but liable to attack any seat previously injured or predisposed to disease. In some instances, the disease showed itself in the form of general fever, without any distinct local affection; still this general affection proved itself capable of propagating the local malady, and of giving rise to extensive inflammation and suppuration of the cellular membrane in those who either had suffered local injury, or who had some predisposition to local inflammation. According to the common phrase, the constitutional malady was determined to the weakest part, where it showed itself in the form of inflammation and consequent suppuration. But, although this phrase is sufficiently expressive of the fact, that diseases manifesting themselves by constitutional symptoms attack some organs or tissues in preference to others, it still remains to be explained what this "weakness" consists in. Our limits will not permit us to attempt this explanation at present, nor do we profess that we could give that explanation which would be satisfactory to every one.

Dr. Gibson does not mention the plan of treatment adopted in this epidemic.

III. *Mémoires de l'Académie Royale de Médecine.*—Memoirs of the Royal Academy of Medicine. Vol. I. with Plates. Paris, 1828.

THERE is no society in the known world where more talent learning, and industry are displayed, in pursuit of medical science, than in the French Royal Academy of Medicine; a work, therefore, coming from such a body of able men must greatly interest the profession from one end of the civilized globe to the other. This learned Institution was established in December, 1820, by an Ordinance of Lous XVIII. It was instituted for the special purpose of answering the demands of government in every thing relating to the public health, principally to examine into the history, nature, and treatment of epidemics; of the particular diseases of different countries; of epizooties or the epidemic maladies of animals; to examine every thing relating to legal medicine; for the propagation of

vaccination; for the examination of all new remedies, and of secret remedies, of mineral waters both natural and factitious, and of all other subjects connected directly or indirectly with the healing art.

The Academy is divided into three sections—one of medicine, one of surgery, and one of pharmacy—and each is composed of Honorary and of Titular Members, of Associates, and of Adjuncts. Of the titular members, a certain number is to consist of veterinary surgeons; foreigners of eminence are admitted as associates and adjuncts. This learned institution consists of from seven to eight hundred members in all, among whom are several foreigners of distinction. Each section elects its own members, honorary and titular, and its adjuncts. The associates are elected by the academy at large, but the honorary and titular members, and the associates, must be approved by the king before the election is definitive. The election of the adjuncts is confirmed by the academy itself.

The academy holds its meetings either in a body, or in sections. A general sitting is holden every three months, and a sitting of each section takes place twice a-month. At the general sittings the affairs of the academy at large are discussed and settled; and all scientific subjects of great importance, requiring the aid of all the sections, are brought forward and discussed on these occasions. The sittings of the sections are devoted to objects of science connected with the special pursuit of each; and if the subject under discussion in one of the sections requires the aid and knowledge of one of the other sections to elucidate it, these two unite for the purpose of discussing it in common. The general Bureau of the academy is composed of a President of Honour whose office is perpetual, of a temporary President, of a Secretary and of a Treasurer; and the Bureau of each department consists of a President, a Vice-President and of a Secretary.

These are a few of the ordinances under which the Royal Academy of Medicine is governed—an institution which reflects more lustre on the French nation than the conquests of Napoleon ever did, when at the highest pitch of his glory, and an institution which forms a good pattern of imitation for all other civilized nations.

A great part of this volume of memoirs, which consists of about 830 pages, quarto, is occupied by the Inaugural Discourse of the president, and by Elogies on the following eminent characters, delivered by the president and secretary; viz. Corvisart, Cadet de Gassicourt, Bertholet, Pinel, Beauchêne, and Bourrou. These, and some other Discourses,

take up about 340 pages. The rest of the volume consists of six memoirs from the section of medicine, four from the section of surgery, and six from the section of pharmacy. For the present article we shall take one of the surgical essays as a text.

a. On Penetrating Wounds of the Chest.
By M. Le Baron Larrey.

Whatever proceeds from the pen of this surgical veteran will be viewed with much interest. A long career of practical experience, and opportunities almost unequalled by any other modern practitioner, added to a mind expanded by general science, form the basis upon which the works of this celebrated individual are founded. The principal objects of the present memoir are, to show the changes which take place in the form of the thorax consequent on lesions penetrating that cavity; to prove the necessity of and to show the best mode of performing, the operation for empyema when there is reason to believe that much blood is extravasated into the bag of the pleura; and to prove the advantage of the new method of treatment in these lesions, namely, of simply letting out the extravasated blood and of keeping a tent in the depending wound made by the operation, over the old method, of injecting astringent lotions into the cavity of the chest.

"Penetrating wounds of the chest vary, 1st. according to their form and directions; 2d. according to their depth and the nature of the lesion of the organs; 3d. according to the effects of this lesion on the vital properties of these organs, &c." When a sword, or any other clean cutting instrument, penetrates the sac of the pleura, without producing any lesion of the lungs, or of the nerves or vessels of the thoracic parietes, the wound is simple, and requires merely to have its edges brought into contact, for a union to take place. The patient must be kept quiet, he is to take cooling drinks, and, if necessary, to have blood locally abstracted from the neighbourhood of the wound. These are all the means that are requisite to be resorted to, generally, in wounds of this simple nature.

But when the injury is complicated with lesions of the thoracic organs, it assumes very different characters. When the lungs, for instance, are wounded, immediate effusion of florid, frothy blood takes place; oppression; emphysema sometimes round the wound; spitting of blood; severe local pain; respiration is short and laborious; the visage pallid; the vital forces feeble; the pulse small, accelerated and tremulous; animal heat is diminished, and the feet become cold; the

patient sinks into a state of great anxiety, and frequently sighs. If the wound be large and deep, and attended with the above described symptoms, and if the patient be left to himself, death generally follows very soon; for, first, there is no resistance opposed to the blood poured out of the divided vessels; second, the irritation produced in the injured vessels and in the lungs themselves, and the contact of the external air, act as causes in keeping up hemorrhage, and in producing nervous spasm. Baron Larrey's views with respect to the influence of the external air in keeping up hemorrhage from divided vessels, are different from those of Mr. Abernethy, who, in his lectures, says that arteries will often bleed when the injured parts are imbedded in blood, but the bleeding ceases when the cut extremities of the vessels are exposed to the air. We certainly find this to be the case on the surfaces of stumps, where the parts are fairly exposed; but in penetrating wounds, which are generally filled with blood, so that the air is prevented from coming fairly in contact with the wounded vessels, the pressure or resistance which the effused blood exerts on these vessels, must act materially in preventing or in diminishing further effusion. This fact is exemplified in aneurisms arising from puncture of the arteries. The wounded artery pours out its blood into the cellular membrane, which forms a sac, the fluid contained in which prevents further effusion; whereas, if the wounded vessels, partially cut across, were fully exposed, and deprived of any pressure, fatal hemorrhage would take place in some instances, in which, from the barrier opposed by the effused fluid, only a few drachms of blood is thrown out. This is a fact which Baron Larrey insists on with respect to wounds penetrating the chest, complicated with lesion of the thoracic organs.

If we treat these wounds after the old method, still used by many practitioners, we augment the irritation of the injured parts; we provoke acute inflammation of all the organs contained in the cavity, and produce, incessantly, a renewal of the hemorrhage. Thus, introducing a canula into the chest, for favouring the evacuation of the fluid; the suction or the absorption of this fluid; the introduction of tents into the wound to keep the edges asunder—means which form the basis of the ancient method—can only tend to aggravate the mischief without suppressing the effusion, which is immediately reproduced with additional force, if previously stopped, when these applications are used.

It is seldom, except when the ribs are either cut across or fractured, that the intercostal arteries are injured by the instrument in its passage between these bones, for these

vessels are protected behind by the edge of the groove in which they are imbedded, and their anterior extremities, where they are most exposed to the action of the instrument, are so small that little hemorrhage would take place, even if they were divided. Besides, these arteries, so free in their course, easily retract, and become obliterated by the slightest resistance. It is sufficient to close the wound to put an entire stop to the bleeding from these arteries. Experience has often verified this assertion to M. Larrey; and he has never found it necessary to apply a ligature to the intercostal vessels, nor has he used any other means than simple compression to prevent effusion from them.

A lesion of the pericardium alone is easily distinguished from that of the lungs. In wounds of the former, the blood which flows from the chest is not frothy; the oppression is less than when the lungs are injured; but the beatings of the heart are quicker; the local pain is very acute, and is accompanied with spasms, extending, more or less distant, along the course of the phrenic nerves; for it is seldom that the pericardium is wounded without some injury being done to the branches of these nerves.

Baron Larrey has never had an opportunity of verifying, by post mortem examination, whether certain wounds of the heart be susceptible of cure, but he is of opinion that they are.

The author remarks, that the evil arising from the presence of blood in the cavity of the pleura, is not to be compared to that produced by an attempt at sucking out the fluid through canulæ, or by syringes, as has been generally recommended; and that the effused blood, unless the quantity is very great, will be absorbed, "not by the lymphatic vessels, as has been believed until the present day, but by the capillary veins, which ramify on the internal surfaces of the serous membranes, or in the cellular tissue." As absorption goes on, the surrounding organs develop themselves, and expand gradually so as to fill up the vacant space. M. Larrey has witnessed a great number of facts of this kind, where remarkable spontaneous cures took place, and with promptitude in proportion to the youth of the subjects and to the efficacy of the artificial means employed to assist the powers of nature. These means consist in closing the wound so as to exclude the entrance of air; in general and local blood-letting during the inflammatory period; in the application of cupping-glasses, blisters, and moxa, to the affected side, &c.

But if the effusion is considerable, and if it has taken place suddenly from lesion of some of the large vessels, so

as to fill entirely one of the thoracic cavities, the resources both of nature and of art are then insufficient to remove the extravasated fluid, and a counter-opening becomes indispensable, unless the wound, which gave rise to the extravasation, be in a position low enough to give vent to the effused blood. It is necessary to be acquainted with the symptoms indicative of the quantity of blood in the thoracic cavity, in order to enable us to judge of the probability or improbability of its being absorbed. The first symptoms by which we are here to be guided are, the force of the primitive hemorrhage, the depth of the wound, and the size of the wounded vessels; but these symptoms can only lead to an inference of the mischief done. The symptoms which point out great extravasation are, the extreme debility or collapse into which the patient falls, which is manifested by the smallness and feebleness of the pulse, pallor of the skin, coldness, beginning at the extremities, and extending from thence over all the body. Other more characteristic symptoms succeed these first phenomena. The side in which the extravasation has taken place is more elevated than the other, the ribs are separated to a greater distance from each other, and no motion is carried on in them. *Percussion, instead of imparting a heavy and obscure sound to the ear, emits a sound clear and sonorous,* a phenomenon which M. Larrey has oftentimes verified, though it appears contrary to the laws of physics: the patient is always desirous of reclining to the side of the injury, and of retaining, as much as he can, a sitting posture; because then the fluid presses less on the mediastinum and the diaphragm, than if he lay on the opposite side, or flat on his back.

These are the leading symptoms which the author mentions as characteristic of much effusion in one for the thoracic cavities, and which point out the necessity of performing the operation for empyema. But this operation is not to be resorted to until there is a certainty that the internal hemorrhage has ceased. The cessation of the effusion is announced by the development of warmth over the system, by the elevation of the pulse, by a return of colour to the skin, and by an augmentation of all the vital forces; respiration is more free; the pulsation of the heart is stronger and more equal; in fine, the sanguineous fluid which escapes from the wound, if not united, is no longer of a florid, vermillion colour, but is, on the contrary, black and carbonized. This internal hemorrhage is arrested by the obliteration of the wounded vessels and the obstruction of their coats, owing to an adhesive inflammation taking place in the points of contact.

These symptoms of reaction or return of the vital powers, coupled with those indicative of non-absorption of the effused fluid, prognosticate the necessity for making a counter-opening for the discharge of the extravasated blood. Our learned author proposes the following questions:—In what quantity of fluid should we be justified in resorting to this evacuation? Is the fluid to be evacuated partially and gradually? or is the whole of it to be abstracted at once? In deciding the first question we must be guided by the severity of the symptoms; but with respect to the others, experience has proved to the author that it is better to accomplish a complete evacuation of the fluid at once and uninterruptedly; for if any be allowed to remain after the air has had access to the thoracic cavity, putrefaction takes place, followed by all the evil effects which usually occur under such circumstances.

M. Larrey recommends the incision to be made as far backward as possible; if on the right side, between the eighth and ninth ribs, counting from above; if on the left, between the ninth and the tenth ribs. The air must be prevented as much as possible from entering the chest during the operation, as well as after it. In order to accomplish this, the skin is to be drawn up over the rib before the incision is made, so that, after the fluid has been evacuated, it may slide down again and cover the opening leading into the thoracic cavity. After the fluid has been totally evacuated, one end of a slender fillet of lint, covered with cerate, is to be introduced into the cavity of the chest, and the other end fixed to the dressings. This fillet will favour the discharge of the fluid, prevent the adhesion of the wound, and keep the air from entering the thoracic cavity. This is to be allowed to remain in for about eight days, till suppuration has taken place in the edges of the wound, when it then becomes fistulous, and gives ready exit to any discharge which may take place from the cavity.

If the wound of the chest has been produced by a ball, the effects are according to the parts injured and the course which the projectile followed in the thoracic cavity; whether it penetrated to any great depth, or whether it lodges in the cavity. It is seldom that these foreign bodies, unless very small, penetrate the chest without producing a fracture of some of the bones forming the parietes. In these cases it is necessary to enlarge the external wound, in order to be able to extract any splinters of bone which may be loose and divested of periosteum, if any exist. This must be done with great caution, for fear of injuring the blood-vessels running along the lower margin to each rib. Any spiculæ of bone

standing out from the fractured surface must be removed by a pair of nippers. This being done, if the ball have not made its exit, every point of the side opposite to its entrance is to be examined, and, if found, it is to be extracted when that can be accomplished. If, on the contrary, the ball lodges in the thoracic cavity, we sound the wound with great caution, and, if discovered, it is to be immediately extracted.

Baron Larrey has seen many subjects in the parietes of whose chests balls of different sizes had remained for years, without causing any remarkable inconvenience. In others they have caused great irritation by their presence in these cavities, and have produced serous or purulent empyema, so as to require a counter-opening to be made for their extraction; and this operation is often very difficult to accomplish.

The change which some of these wounds produce in the conformation of the chest is very remarkable, when the operation for empyema has been performed. Baron Larrey has given two drawings to represent this change. One is that of a soldier, who received two wounds, during a single combat, in his right side. The instrument in its course divided a great part of the lungs and the root of one of the intercostal arteries. Profuse internal hemorrhage immediately took place, attended by great depression of the vital functions. The patient, however, rallied beyond all expectation; but on the third day he committed an excess, in eating bread and meat, which produced a renewal of the hemorrhage. This had scarcely stopped when he committed another excess, which threatened his life. The hemorrhage, however, ceased the third time, and after having allowed the vessels some days to close their extremities, M. Larrey evacuated the effused blood. The patient ultimately recovered; but his physical characters underwent a total metamorphosis; the functions of the respiratory organs, as well as of the heart, received remarkable modifications, but such as that life and health resumed a new equilibrium, as firm as that which existed previous to the accident. The side of the chest on which the injury was inflicted became considerably reduced in its circumference; the ribs lost a great part of their curvature, and came into immediate contact with each other; the shoulder of the same side sank much lower than the other; the trunk inclined towards that side; the pulsation of the heart was no longer felt on the left side, for the organ receded towards the right, and could be felt beating on the right side of the sternum, against the cartilages of the eighth and ninth ribs. The diaphragm was considerably elevated on the right side, with all the viscera suspended to its vault; a part of the right lung became hepatized and

increased materially in volume, in order to produce a complete obliteration of the enormous void which the evacuation of the fluid had caused. The axillary vessels and nerves became enveloped in this fleshy inorganic mass, and the arm and abdominal members were reduced to a state of atrophy; whilst the left cavity of the chest became dilated in the same proportions, and the parenchyma of the lungs of that side acquired double its dimensions: thus the patient respired by that lung alone.

These are the leading points touched upon by the author in his memoir on wounds penetrating the cavities of the chest.

In our next we shall give an exposition of the subject of one of the other memoirs contained in the present volume.

ORIGINAL COMMUNICATIONS.

I. *On the means of removing the Aversion existing in the Public Mind to Anatomical Pursuits.* By a Member of the College of Surgeons.

So MUCH has been recently said and written respecting the means of facilitating anatomical pursuits in this country, that the subject appears to be nearly exhausted, yet I beg leave to offer a few observations, which I hope may be productive of good to the cause of structural investigations. The necessity of an accurate knowledge of the human fabric, as a basis for medical education, is obvious and universally acknowledged, and it is evident that the only method by which this knowledge can be obtained is by post mortem analysis; nevertheless, so strong is the public feeling against the circumstances attending practical anatomy, that, unless something more than has at present been proposed can be introduced, to meet, and, eventually, to disperse the aversion, it is to be feared that the science in question cannot long be properly taught or studied in this country.

I do not expect any ultimate benefit to arise from an appeal to the legislature. I consider it unwise to endeavour to overcome the aversion by stigmatizing it as an absurd prejudice, nor can I approve of the conduct of those who wound the public ear and do violence to delicate minds, by asserting that the dead must be mangled. I humbly conceive that terms of savage import (I know no milder, appropriate term) are ill calculated to appease that order of feeling which is known to exist.

John Bull has a mind possessed of very acute sensibility, united to a steadiness of feeling and firmness of action; his emotions are not manifested in gusts, nor are they called forth but under peculiarly exciting causes. They continually, though quietly, influence his conduct and modify his character. Many circumstances have concurred to produce an antipathy to the present, as well as to the hitherto proposed, methods of prosecuting anatomical affairs—and this aversion does, undoubtedly, arise as much from the delicacy of the English mind as from any thing which occurs in the process of scientific investigations peculiar to this country.

But from whatever causes our difficulties arise, it equally becomes us to meet them in that way which seems most likely to tend to their removal. No sudden violence offered to public feeling can produce any beneficial effect. What is done ought to be accomplished slowly and gradually; and by steadily persevering in a well-directed plan, I hope that much may be achieved. Let us consider some of the causes which oppose our wishes. One, and perhaps the principal one, is the infringement committed at present on the sacred rites of sepulture, and this cause would continue to act even should the practice of exhumation be abolished, unless a provision be made similar to that which I am about to propose. The plan which I propose is, that some suitable arrangement should be made for the decent interment of those bodies which have been submitted to scientific investigation, with the exception of those parts that may be preserved as preparations. It would be a convenience to anatomists to have a room contiguous to each school, for the purpose of receiving these relics. Here, properly constructed coffins should be placed, for the purpose of burial; at an early hour, once in the week, an undertaker should go round to the different schools, and should convey the coffins, with their contents, to a place of sepulture, there to receive the funeral rites, and afterwards to rest in peace.

It is important that the cemetery should be appropriate, both as to situation and construction. I would suggest the propriety of its being situated in a pleasant part, in the vicinity of the metropolis, and that it be laid out with some attention to elegance; that a chapel be erected on the spot, and that a monument be raised in the centre of the ground, to proclaim to the world that the remains of those who have subserved the arts of preserving life and health will always be treated with respect, and that they will ever find a place of honourable sepulture. Should this plan be adopted, I think that much good would be effected by it.

The manner in which anatomical pursuits are conducted in some places has an influence prejudicial to the cause of the science. To remedy this evil I would propose that no person be allowed to teach anatomy who has not a license granted him for that purpose by the Colleges of Physicians and Surgeons, and that each candidate should, together with his scientific testimonials, produce a certificate as to moral character, signed by a beneficed clergyman, who shall have been personally acquainted with him for the last two years. It is highly important to the interests of anatomy in this country, particularly at this period, that teachers of that science should be men of prudence, and not of loose and dissipated habits.

The cause has been much injured by the admission of pupils to the anatomical rooms at too early an age. Students should not be admitted to these places at the age of childhood. The public mind revolts at the idea, and this is one objection frequently brought forward by non-professional persons. One great evil results from this, which is, that children and young lads, for want of prudence and discretion, chatter about these things, and often with much exaggeration. Anatomy should not be made a subject of common conversation, the tendency of which would obviously be to create disgust.

It would be desirable that all the anatomical rooms should be under the surveillance of a committee; and no rooms should be allowed but those which have been inspected by this committee, and upon their certificate only should they be licensed. These rooms should be regularly visited, and no longer than the strictest decorum and decency is observed, should the teacher be allowed to continue his functions. The license for the teacher and the room should be renewed annually.

Considerable improvements might be made in the arrangement of the seats of anatomical pursuits at little expense. All the rooms now in existence are unworthy of a science of such grand importance as anatomy.

The foregoing remarks result from a minute consideration of the nature of the subject in question, and of the various circumstances connected with the difficulties against which the anatomist has at present to contend; I hope they will be deemed worthy of the attention of the public, for I feel confident that, were the plan proposed, adopted, it would tend to produce a gradual change in the state of public feeling upon a matter of very high importance to science and to humanity.

London, June 6th, 1828.

II. *General Principles of Physiology.* By John Davies, Esq., Surgeon, Hertford.

Of the Motion of the Blood.—Hepatic Circulation.—Force of the Heart.

(Continued from the last Number of the Medical Repository.)

That the peculiar form of the hepatic system of vessels constitutes any great obstacle to the motion of the blood through this part of the body, is a position which requires further proof to support it than has yet been advanced. We may ask, if the left ventricle possesses power enough, as has been proved, to return the blood from the toes to the right auricle, what is it that prevents its returning a shorter column, from the abdominal viscera? Is there any proof, either demonstrative or inferred, that the motion of the blood receives more obstruction in the liver, during a healthy state of the organ, than it does in the capillary vessels of other parts? Unless the affirmative of this point can be proved, there is no reason whatever why the force of the left ventricle should not be considered capable of extending through the vessels of the abdominal viscera, as it does through those of the muscular system of the lower extremities; for, as the vascular tubes of the former seats have calibre sufficiently large to allow the blood to pass through, that calibre is also large enough to allow the impelling influence of the heart to extend along the column of blood throughout every part of its course. But let us suppose that an impediment is offered to the motion of the blood in the extreme vessels of the liver: is it probable that the fluid could find its way better through that impediment from the influence of a vacuum existing anteriorly to it, than it could be forced through by pressure from behind? If the calibre of the hepatic capillaries be large enough to allow the blood to be *drawn* through, they are also large enough to allow it to be *pressed* through. In fact, even were its motion dependent on a vacuum existing anteriorly to the liver, it would still be caused by *pressure* from behind, namely, the pressure of the atmosphere posteriorly to the obstruction. If, therefore, the atmosphere could force the blood through these capillary tubes, there is no reason why the pressure communicated by the left ventricle should not do so equally well, if it can be proved to possess sufficient *power* to accomplish that effect; and that it does possess strength enough for that purpose we shall presently prove.

We may be again allowed to advert to the hydrostatic law, well known, not only to every philosopher, but also to the vulgar, namely, that fluid will find its level in communicating vessels, or tubes, whatever their relative capacity may be, or however distantly they may be situated from each other. If a tube of a yard, or six yards, in the diameter of its calibre reached from the top of Saint Paul's to the ground, and if it communicated below with another, of only half an inch in diameter, reaching from the ground to the same height as the larger one, by pouring water in at the top of the smaller tube, the fluid would rise progressively in the larger one to the same height as in the smaller, and both would become full at the same time, allowance being made for a little capillary attraction in the smaller tube. If the smaller branch, instead of bending on the larger and rising to the top of Saint Paul's, ran under ground and opened on the top of Highgate Hill, at the same height above the level of the sea as the larger branch, the same thing would exactly occur. By filling one branch, the fluid would rise to just the same level in the other, and both would become full at the same time. If these two unequal tubes, instead of directly opening into each other at their junction, communicated with one another by the intervention of a vast number of capillary tubes, just large enough to transmit the particles of the water, the same effect would occur by filling either of the branches, for the fluid would very readily find its level through these capillary vessels. We are now, of course, supposing the capillary tubes to be numerous enough, or to be allowed time sufficient, to let the fluid find its way through. Moreover, if we suppose either or both of these branches to be divided into a great number of capillary tubes in different parts of their course, and to unite again into one channel, this would not prevent the fluid from rising in the one as high as in the other.

Now, analogous to this is the mechanism of the vascular tubes leading towards and through the liver. The arteries of the abdominal viscera divide in these organs into an immense number of capillary tubes, which again unite into larger branches, and ultimately form the trunk of the vena portæ. The tube next divides a second time into capillary vessels, which again join to form three or four principal branches, namely, venæ cavæ hepaticæ. That the *capillary* portions of the vessels in this course are possessed of calibre sufficiently large to allow the blood to pass readily through, is fully proved by the fact, that a very large proportion of the blood *does* pass through them. Now, we have only to keep in mind that the heart is situated above the level of

every part of the course just described, and that the aorta and its branches are full of blood all the way up from the abdominal viscera to the left ventricle, to account for the fluid rising in, and filling, all the hepatic system of vessels by its own gravity, or by the universal law that fluid will find its level in communicating vessels. This is a principle so incontrovertible, that no theory, however ingenious, can shake it. Unless every part of the tube in the above course communicated freely with each other, the blood could not move through at all, and as long as that communication does exist, the fluid within must necessarily find its level in every part, and consequently fill the whole, inasmuch as the end of the pipe, at which the blood is poured in, is above the level of every portion of those channels. This must necessarily take place, independently of the *propelling force* of the left ventricle; and not only would the *vena portæ* be kept full in this way by a constant addition to the fluid in the aorta, but the blood, under this hydrostatic law, would necessarily rise in the vena cava, or in any other tube connected with one of the venæ cavæ hepaticæ, as high as the arch of the aorta. The same thing occurs in every other part of the venous system situated below the heart; or indeed, below the highest point of the arch of the aorta; for if the left ventricle possessed only just enough power to raise the blood over the arch, the column in the inferior cava would be compelled to rise about three inches above the level of the right auricle, if the vein were connected with a tube of that length; and, as the auricle is situated below the level of the arch, this cavity would be continually filled, when dilated, by an impelling force in the left ventricle sufficient simply to transmit the blood through the highest point of the aorta. Nothing can be more absurd than to attribute such an immense and unnecessary force to the left ventricle as has been done by some physiologists, especially when nothing is more easy to prove than the exact force (or very nearly so) with which this organ acts.

It is then perfectly clear that the *double* division, into capillary tubes, of the arteries and veins running to, and forming, the hepatic system of vessels, can render no further impediment to the motion of the blood through the abdominal viscera, than what arises from friction and the opposition of angles. It is true, that the angles in these parts are more numerous than in other parts of equal length of vessels, in consequence of the channel being divided *twice* into capillary tubes, whereas, in other seats the division only occurs once. But as the area of the channel increases in a ratio to the number of branches into which the vessels

divide, the velocity of the blood diminishes in the same proportion; and as the impediment to the motion is in proportion to the velocity, the opposition offered by the angles formed by the division of the vessels into capillary tubes, and by the reunion of these tubes into larger branches, is very trifling, compared with what it would be if the area of the canals were equal in every part of their course. But the left ventricle of the heart has abundance of force in store to enable it to overcome the inertia of the column of blood and the opposition given to it by the division and reunion of the vascular tubes.

That the propelling influence of the left ventricle is very considerable on the blood in the extremities of the longest arteries, is proved by the fact, that when a principal trunk is wounded in the leg or foot, the fluid is projected to the distance of several feet. This may be witnessed in amputation of the leg if the tourniquet be slackened. The force of the ventricle at this point is much more than sufficient to throw the blood to a distance equal to the length of the venous tubes from the foot to the heart. Several physiologists have endeavoured to calculate, in various ways, the degree of power with which the ventricle forces the blood into the aorta; but it must be admitted that most of them have done more towards showing their total ignorance of the laws of physics, than towards explaining the point in question.

The only two facts necessary to lead to an exact calculation of the force of the left ventricle are, *first*, the height to which the *human* heart will raise a column of blood; *second*, the number of square inches which the left ventricle presents of surface internally.

Blumenbach mentions that he has seen the blood driven to the distance of five feet from the carotid artery of an adult. Dr. Hales, by fixing a long glass tube to the arteries of large animals, such as the horse, found that the column would rise in the tube to the height of ten feet, and remain near that point, ascending and descending a little with every contraction and dilatation of the ventricle. From the height to which the blood will be raised in a tube connected with the arteries of smaller animals, Dr. Hales calculates that the column would be lifted seven feet and a half from the human carotid. This is evidently attributing a greater power to the human heart than it actually possesses, judging from its comparative size. Taking six feet as the average height to which the human heart would raise the column of blood, if a tube were inserted into the ascending aorta, the force with which the left ventricle contracts will be equal to *two pounds, ten ounces and five drachms* avoirdupois, or

2·64 decimals, to every square inch of its surface. We know that a column of water thirty-four feet high presses with a weight equal to fifteen pounds on every square inch of surface, and as the human heart is supposed to be capable of raising the column of blood only six feet, and of supporting it at that height, the amount of its force must be that just stated.

Dr. Hales, calculating from a seven feet and a half column, and from fifteen square inches of surface to the ventricle, concludes, that a weight of 51·5 pounds is incumbent on that ventricle to overcome by its contraction, being 3·3 pounds to every square inch. If we take the column which the heart is capable of lifting, at six feet, and the surface of the ventricle at fifteen inches, the weight sustained by that ventricle, according to this view, will be 39·60 pounds. But this is a most erroneous view of the action of the heart on the blood in the vessels; for, according to it, the fluid is supposed to be propelled into the aorta with a force equal to fifty-one pounds and a half, or to 39.60 pounds, the former being sufficient to raise a column 116 feet high, and the latter about ninety feet. It is a law of nature that fluid confined in vessels presses equally *in all directions*, and that the pressure is at the depth. Now, if the blood were injected into the aorta with a force equal to 51·5 pounds, according to Dr. Hales's calculation, or equal to 39·60 pounds, according to our own calculation, and if a ligature were applied to the femoral, or any other artery, the obstruction would no sooner be caused than the vessel would either burst or the ligature would give way; for the artery could never bear a pressure of near forty pounds on every inch of its surface, which would then be the force applied to it. A force equal to 39·60 pounds at the root of the aorta would necessarily make the blood rise in the inferior cava with exactly the same degree of force if the tension of the veins were equal to that of the arteries, and would be sufficient to raise the column of blood ninety feet above the level of the right auricle. Such a pressure would instantly burst any vein if the motion of the blood through it were obstructed. It would certainly do away with the necessity of a *thoracic vacuum*, to suck up the blood from the venous system.

But, in truth, the force with which the blood is injected into the aorta is only equal to 2·64 pounds (or 3·3 pounds, according to 7½ feet column) to the square inch of that vessel's diameter; and this force would make the column rise in the veins six feet above the level of the right auricle, were it not for the very yielding quality of these vessels in their circular direction, which allows them, under the weight of the super-

incumbent column, to dilate and become much more capacious than the arteries. The veins never, probably, are in a greater state of tension than what is produced simply by the weight of the column of blood which they contain, unless some preternatural impediment be thrown in the way of the current. In the natural state, tension of these vessels is prevented from taking place, by the easy entrance of the fluid into the right auricle; but it may be observed, that during the contraction of this cavity, although the time taken by it in contracting is very short, a little enlargement takes place in the venæ cavæ every time, not, however, amounting to any great tension. It has been already observed, that a force connected with the left ventricle just sufficient to lift the blood over the arch of the aorta would be enough to cause the other end of the column to rise and regularly fill the right auricle, because there would even then be a pressure equal to the weight of a column of blood three inches high, or about an ounce and three quarters to the square inch, on the blood in the aorta at the level of the heart. According to the law that fluid will find its level in vessels which communicate with each other, even this small degree of force would be sufficient to carry on a regular circulation, for it can make no manner of difference whether the channel divides in its course into capillary tubes or not, provided the area of these tubes be sufficiently capacious to allow the fluid to pass through readily, as is the case with the sanguiferous capillaries. But a *quicker* circulation is necessary in the animal body than would be carried on under this small degree of pressure; we therefore, find that a pressure of nearly two pounds and three quarters to the square inch is added to it, which is amply sufficient to overcome the inertia of the fluid, whatever position the body may be in.

(To be continued.)

III. *Anatomical Description of the Ductus Communis Choledochus.* By Joseph Houlton, Esq. Surgeon, F. L. S., &c.

In the case of jaundice, published in Number xxvii of the Medical Gazette, the writer gives a sketch of the appearance of the ductus communis choledochus, the peculiarity of which he attributes to disease. I beg leave to show that the duct is sometimes found of a similar form where no trace of disease can be discovered. C. H., aged 26, died of disease of the lungs. She had never suffered from any morbid affection of the liver, or of the parts immediately

connected with that organ. After examining the body, I removed the gall bladder, with the cystic and hepatic ducts, the ductus communis choledochus, and a part of the duodenum, for the purpose of demonstration. I found the projection common to the ductus communis and ductus pancreaticus, in the duodenum, very strongly marked, forming an hemispherical eminence, in the summit of which the aperture was situated. This aperture was of a size just sufficient to admit a small probe. Ruysch mentions this form in his *Thesaur. Anatom.* in the following words:—"In duodeno a me aperto luculenter videndam sese exhibet apertura ostium dicta, per quam bilis, ut, et succus pancreaticus in intestini dicti cavum sese exonerant; hanc aperturam sitam esse in medio monticuli, instar umbilici hic quoque apparet."

This part is usually described in a very vague manner by anatomists. It is a part which deserves attention, and it ought to receive a more accurate description than is to be found in our works on anatomy*.

Grove Place, June 10th, 1828.

IV. *On the Liver, as an Auxiliary Pulmonary Organ, with some Practical Remarks on the Effects induced by its Derangement.*

Whether with respect to human labours the "quid utile" can be always beneficially answered, it is difficult to say: but with regard to the works of the Creator, the response must always be in the affirmative. Every thing which He has created has its use; and although, in reference to many parts of the human system, we are as yet unable to point out their uses, yet that these parts have uses, no intelligent mind can doubt. In proportion as anatomy, physiology, and pathology are pursued, uses are found in addition to those which were previously supposed, and even imagined uses are discovered not to be real. There is often an unfortunate haste in ascribing wisdom to the Creator, where He has not shown any, at least in the way in which the wisdom is considered as being shown. This fact shall be kept in view in the following remarks: and a due modesty will be preserved in speaking of the uses of the important viscus, the liver, now under our consideration.

There is no need to enter into any anatomical detail re-

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* We have seen the preparation taken from the case mentioned by Mr. Houlton. That part of the duodenum where the duct opens presents a considerable eminence. It has no appearance of being the effect of disease; but it requires additional facts to prove whether this form is common to the part immediately surrounding the orifice, or whether it is a little malformation in this case and in some others. J. D.

specting the liver generally; and any description that is to be given will be limited to those peculiarities that seem to favour the view pointed out above, that the liver is an auxiliary pulmonary organ.

The use commonly ascribed to the liver is that of aiding digestion, by favouring the separation of the nutritious and excrementitious parts of the food, and by communicating a peculiar stimulus to the feculent part, thereby aiding its expulsion. That this use is not sufficient, is an opinion founded upon several circumstances. The first to be mentioned is the large size of the liver in the fœtus, and the quantity of meconium contained in the intestines. The size of the liver being so great in an individual where no process of digestion goes on, must be for some other purpose: and this, it seems justifiable to suppose, is the separation of a quantity of impure matter from the blood, which, if carried into the circulation, would be injurious. Again, in jaundiced people digestion goes on: and Dr. Fordyce, having tied the ductus communis choledochus, found that the formation of chyle took place as before.

The peculiar situation of the liver with respect to the circulation of the blood, seems to favour the view that it is an auxiliary pulmonary organ. The blood, rendered impure by the different changes going on in the system, is about to be returned to the lungs. Loaded with impurities, it is brought to the liver on its way, by veins, and from this impure venous blood, the fluid called *bile* is secreted. Why should the liver, were it not for some purpose of this nature, differ from all other viscera, in having, as its fluid on which to act, *venous*, and not arterial, blood? And why should the liver be placed, as it were, just at the termination of the venous circulation? And why should the blood of the intestines, which, it seems reasonable to suppose, must be the most impure part, be that which, in particular, is made to pass through the liver? All these questions seem difficult to answer, unless we allow that the liver is an auxiliary pulmonary organ, acting as such, by *separating from the blood, principles, which, if carried into the system, would be highly injurious.*

In further illustration of this view, some facts, showing certain similarities between the vessels of the lungs and of the liver, may be mentioned.

The pulmonary artery, like all arteries, has the power of contraction; and Magendie states, that the branches of the vena portæ are the only ones which, by the disposition of their external membrane, are able to contract when the blood which passes through them is diminished in quanti-

ty. The pulmonary veins, too, as contrasted with the venæ cavæ hepaticæ, have no valves, and do not anastomose after they have acquired a certain thickness. In both these respects the two sets of vessels agree. Barclay says, "In all the arteries, the blood flows from the trunk to the branches; in the veins, it flows from the branches to the trunks. The vena portæ is the only exception. This singular vein is ramified at both extremities. By the branches of one extremity it collects the blood from the stomach, spleen, pancreas, and intestines; and by the branches of the opposite extremity distributes it through the liver."

From the various anomalous circumstances with respect to the pulmonary artery and the vena portæ, it seems difficult to say whether the pulmonary artery resembles a vein more than the vena portæ resembles an artery. This difficulty seems to have presented itself to ancient anatomists, for "prior to the time of Harvey, all the blood vessels connected with the right or pulmonic ventricle were considered as veins, and hence, in those days, the pulmonic artery was called the *vena arteriosa*, or *arteria venosa*. In the same way all the vessels connected with the left or systemic ventricle were considered as arteries; and hence the pulmonary or systemic veins were regularly termed *arteriæ venosæ*, or *venæ arteriosæ*."—Barclay on the Arteries.

Some morbid manifestations, which seem to favour the view that the liver is an auxiliary pulmonary organ, may now be stated, being premised by a brief statement of the chemical composition of the bile, and also of the change which the blood undergoes in the lungs.

The *proximate* elements of bile seem to be water, resin, picromel, albumen, soda and its salts; perhaps a little phosphate of lime, and some oxide of iron. These, reduced to their *ultimate* elements, will give a great quantity of *carbon*, besides *hydrogen* and *nitrogen*. Thus, it will be seen, that by the liver a considerable quantity of carbon is separated from the blood. Again, with respect to the change of blood in the lungs, every one knows that it consists, in a great measure, in the evolution of *carbonic* acid. Here then we perceive a similarity in the function of the liver and of the lungs: in both the separation of carbon is the consequence of their action. This short statement may be concluded by a passage from Magendie: "On account of the considerable extent of the mucous surface, with which the drinks or other liquids are in contact, and of the rapidity of their absorption by the mesenteric veins, a considerable quantity of liquid, foreign to the economy, traverses the abdominal venous system in a given time, and changes the composition of the blood.

If this liquid arrived at the lungs in this condition, and proceeded thence to all the organs, very serious inconveniences might arise."

Now as to the morbid manifestations. Every one who practises in a great city must have met with cases similar to the following:—

J. A., aged 26, troubled with a swelling of his right side, complains of a weight there, and of pain upon pressure; his bowels constipated, requiring, generally, medicine to keep them open; has frequently, almost constantly, an oppression of spirits, with a sense of tightness across his chest, making him every now and then take a full breath for relief; great drowsiness; horrible dreams at night; and is so little refreshed by sleep, that he finds great difficulty in rising in the morning; and when he does rise, is very little refreshed: the tongue in the morning is covered by a thick fur. He experiences a general languor, and is better when any powerful motive calls him into bodily and mental activity, and also when in the country. He has a peculiar pulsation at the pit of the stomach, detected by the stethoscope. He looks well; so that his friends imagine he is not so unwell as he pretends to be: eats moderately, and drinks freely.

Such cases, I imagine, are very common. They come across my path, and are often treated with success by using means which have the effect of rendering the circulation through the liver perfect, and thereby restoring the secretion of bile, which, being in proper quantity, stimulates the intestines, and enables them to act afterwards of themselves.

These symptoms seem to arise from the bile not being separated in proper proportion from the blood, which, thus impure, passes through the lungs, and from its state, oppresses that organ, and is carried to the head, inducing that heaviness, that unwillingness to think or act, that sluggishness, those unpleasant dreams. The bile being deficient, the intestines want their appropriate stimulus, and hence cannot act. The peculiar pulsation indicates an impediment to the flow of blood through the liver, which aids the effect of the impure blood in producing the symptoms already described.

The authority for the correctness of these views is founded upon a series of observations, but more particularly upon some humoral pathological facts which have come under my own notice, and some stated in a work, by Dr. Foote, on cholera Indica. To these the reader's attention is particularly requested.

In this disease there is no secretion of bile, at least of bile *properly formed;* it thus differs from the common cholera

of this country. The patient complains of weight in the epigastrium and hypochondria; complains of a tension about the abdomen; exhibits the greatest anxiety; is unwilling to be disturbed. The disease is generally preceded by vomiting and purging; but in those cases, where these symptoms do not precede, the collapse is instant, and the individual dies in a soporific state. There is a peculiar pulsation at the pit of the stomach. On dissection, the liver is found gorged with blood, the veins filled with blood of a blackish colour, and the intestines filled with fetid air. The gall-bladder is frequently found full of thick black bile, resembling pitch. The bladder is constantly empty; the lungs exceedingly collapsed; the veins of the dura mater are turgid, and, according to Finlayson, the brain seems covered with general ecchymosis. The blood, too, (which is a curious circumstance,) when a vein is opened, during life, flows very tardily; sometimes, indeed generally, it dribbles away, drop by drop, and is blackish.

Dr. Foote, from all these facts, concludes that there is an *excess of carbon and nitrogen in the blood,* the secretion of the bile and of the urine, and that from the skin, being stopped; and that the excess of these deleterious ingredients, acting either *per se,* or producing some deleterious ingredient by a union together, induces the symptoms described.

Dr. Foote also states a very interesting fact, namely, that the tension experienced in cholera Indica, and the non-coagulation of the blood, are symptoms occurring from the bite of the snake called *Cobra di Capello*; that the peculiar fetid air found in the intestines, is met with in individuals bitten by poisonous fish; and that the above state of the blood occurs in asphyxia, in those killed by the inhalation of carbonic acid, by lightning, by malignant fever, and by the plague.

These are very curious facts, and they testify, with the foregoing, the effect produced when the liver does not perform its function. Indeed, the symptoms of cholera Indica bear a very near relation, the difference being in degree, to those which have been described in the case of J. A.; and from long observation, the results of which may, perhaps, hereafter be more fully detailed, it is concluded that the symptoms of the case of J. A. were produced by the liver not performing its function as an auxiliary pulmonary organ, of separating from the blood those principles, carbon and nitrogen, which remaining, are so deleterious. And this view is strengthened by the fact, that fresh country air is often very successful in relieving the torpidity of body and the listless-

ness of mind occurring in such morbid states. This subject I at present leave. I appear to some, no doubt, to tread very closely upon the humoral pathology; but this I regard not—truth is my aim, and to do good is my object; names alone I hold to be trivial things; they should never, to a philosophic mind, be an object of terror.

Some affections of the lungs, induced by a diseased state, may be noticed at some future opportunity.

London, June 15th, 1828. M. D.

V. *Sage Advice to Medical Practitioners.*

GENTLEMEN,—Grey hairs and bodily infirmities inform me that my professional career approaches its close. Having grown old in the service of the public, I have had opportunities of making many observations, although I have not in this respect made so good a use of my time as I now think I might have done. Nevertheless, many of my juniors do me the honour to profess a regard for my opinion on matters which relate to medical affairs, and more especially do they seem desirous of my advice as to the best mode of obtaining and maintaining the good opinion of our worthy master—the public. My remarks have usually been simple and my words few, and if you think what I shall state worth printing in your useful Journal, I beg the honour of its insertion.

1. Let all your professional exertions, if you wish to practise, tend to a practical end. The public want the man that can DO, not him that can merely write or speak. Aim at a practical character—keep your speculation to yourself, until the practical end can be made self-evident to the public.

2. Keep your private studies or amusements in the back ground; never wish to be thought a great poet, a musician, a shot, or a card-player.

3. Be not known as the great runner after new things; the public are afraid of experiments. Be not the first by whom the new are tried, nor yet the last to lay the old aside.

4. Cultivate the benevolent feeling in a high degree; a kind-hearted man has a universal passport; be kind, open, and frank, but not LOQUACIOUS, and never take offence so as to show a mark of ruffled temper.

5. Study what is your duty, and do it at all risks; ever let your motive be seen, for motive gives the character to the deed.

6. Consider patronage the great instrument of success; consider every patient a patron; you may make him so. By

looking beyond what you possess you lose your possession; what you have, nurse with tender care; from that will emanate all you can obtain; if your present patients be not made your warm friends, you will long remain in *statu quo*—therefore, treat every one, even the poorest gratuitous-patient, with respect, but no one with familiarity.

7. Attend to general knowledge; but do not let it appear to occupy much of your time.

8. Let your literature shine in your language, not by classic flashes, but by the steady, clear, and strong length of sound and cultivated sense; as you will avoid grammatical errors, so omit the use of one part of speech; the grammar of every medical man should be minus one part, that is, the interjection. This may be considered fastidious, but I have known that part of speech cost a physician more than the King's taxes; it pays a very heavy duty, and should not be kept but by those who can well afford it.

9. Let the exterior, as relates to dress and manners, be such as a little observation will teach you; dress and address more frequently (*cæteris paribus*) make a practice, than scientific attainments.

Excuse the style of an old man, who is
Your very humble servant,
A General Practitioner*.

London, 18th June, 1828.

MONTHLY SYNOPSIS OF PRACTICAL MEDICINE.

1. *Scope of the* "Synopsis."

In this department of the Journal, we shall give a general Review of the Medical Periodicals of the day, both domestic and foreign. In doing this, however, it is not intended to notice all the articles which they may contain. Indeed, to do so would require a monthly volume of no small size. We shall endeavour to cull the better materials from amongst the worse, to turn the useful into further use, and leave the useless where it is found. The "Synopsis" will embrace all subjects immediately connected with Medicine, Surgery, Physiology, and Pathology. These will consist of condensed abstracts of the most interesting and practically useful Essays, Cases, and Hospital Reports, which

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* We hope the experience of our *sage* and *venerable* Correspondent may prove instructive to our junior brethren.—Editors.

may appear in British and foreign Medical Journals, and of subjects of any importance brought under the notice of the French Academy of Medicine, &c., and of the Medical Societies in this country. If we were to attempt to divide these branches of the science, and place each under a separate head in the Journal, we are not aware that any increased advantage would be thereby afforded to the reader. Our object has been to simplify the arrangement of the work as much as the subjects which it is intended to embrace would permit that to be done. No distinct line can be drawn between medicine and surgery; and physiology and pathology are necessary companions to each of them. They are, in fact, all members of one body.

2. *On the Treatment of Colica Pictonum.* By MM. Chevalier and Rayer*.—Three principal indications present themselves in the treatment of poisoning caused by the salts and oxides of lead, and particularly in the colic produced by that metal. The first is to neutralize the poison by the internal administration of hydrosulphurous water, in quantities proportioned to the known or presumed quantity of the noxious matter which has been received into the system. M. Rayer has employed the water of Enghien in his experiments with success. An artificial water, prepared according to the formulæ, No. 1 and 2, may also be employed.

No. 1. Take eight gallons of water, and thirty-five fluid ounces of water saturated with hydrosulphuric acid, to which has been added ten grains of subcarbonate of soda previously to the saturation. Mix.

No. 2. Take four grains of sulphuret of potass, and dissolve it in thirty-five fluid ounces of water.

The good effects of these fluids are in an inverse ratio to the time which has elapsed since receiving the poison. Many obstinate cases of colic from lead have rapidly recovered under this treatment.

The second indication is to combat constipation when it exists. This is accomplished by purgatives of a strength proportioned to the degree of the constipation. Pills of equal quantities of jalap and scammony should be repeated until copious evacuations be produced. In cases of obstinacy a lavement of infusion of senna and castor oil should be administered.

The third indication is to allay the pain and to procure sleep, for which purpose eight or ten drops of the laudanum of Rousseau, or a grain and a half of opium, should be given.

Under this plan of treatment, the disease rapidly disappears, sometimes on the second day, often on the third or fourth, and it rarely continues beyond the sixth.

M. Rayer has never seen a relapse, although he has thought proper to retain some of the patients in hospital for several days after their recovery.

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* Journal de Clinique Médicale.

3. *On Chronic Inflammation of the Arteries.* By Dr. Montesanto*. A lady, aged 65, suffering habitual headach, and gouty and rheumatic pains, was afflicted, during the latter years of her life, with disease, the principal symptoms of which were the following: pulse very irregular from the first attack till death; frequent occurrence of dyspnœa, which could only be relieved by bleeding; urine scarce, red, and often very thick; pain in the præcordial region; numbness of all the left side; violent pains in all the members, which could only be subdued by the application of leeches. After death, there was found throughout the aorta and its principal branches, ossifications, and unequivocal signs of inflammation of the internal membrane.—*Med. Chir. Zig. Jahrg.*

We are not informed what these unequivocal signs of inflammation were. *Redness* of the lining membrane of the arteries is often found after death where no symptom of inflammation existed; and it is probable that the signs, mentioned as unequivocal in this instance, were nothing more than this redness. Chronic inflammation could hardly have existed for years without causing ulceration of the internal coat, and had there been ulceration here, it is probable that we should have been informed of it. Neither are we informed whether all the other organs were healthy or not.

4. *On the Treatment of old Ulcers of the Legs.* By MM. Trovati and Omodéi †.—The treatment recommended by MM. Travoti and Omodéi consists in the application of thin layers of lead (sheet lead) over all the ulcer. The lead is to extend about half an inch beyond the edges of the sore all round. It is then to be covered by a compress, and the limb to be bandaged. In the case related by M. Omodéi an ulcer of great size had existed about twelve months on the internal ankle. Several surgeons had seen it, and they concluded, from the nature of the discharge, that the bone was carious. M. Omodéi attempted to cure it according to Bayn-ton's method, but without success. He then applied a thin sheet of lead over the ulcer, and covered it over with a compress and bandage. The amelioration which took place in a short time in the condition of the sore was surprising. Healthy suppuration came on, the callous edges disappeared, and the chasm filled up with healthy granulations with great rapidity; so much so, that the ulcer, which was considered to demand amputation of the leg, was entirely cured in two months and a half by this simple method. This mode of treating old and obstinate ulcers is well deserving the attention of surgeons. We have occasionally tried it on a small scale, and can bear testimony to its efficacy. Dr. Trovati has been in the habit, for many years, of using this method with able success.

5. *On different kinds of Malformation of the Heart.* By M. Gendrin‡.—M. Gendrin observes, that the principal defects in the conformation of the heart are, preternatural communications be-

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* Journ. de Clinique.

† Journal Général de Médecine, Mars, 1828. ‡ Ibid.

tween the cardiac cavities, from the absence of the interventricular partition; irregularity of the vascular orifices of the organ, for instance, the transposition of the aortic orifice to the right ventricle; contraction, or total obliteration of the pulmonary artery, and in its place the existence of a solid cord without any cavity. M. Gendrin concludes, from his own observations as well as from those of other physiologists, 1st, that the heart at first is formed of only one cavity; 2nd, that, after a time, the organ is divided into two cavities, namely, an auricle and a ventricle; 3rd, that at a still later period these cavities are, each, divided into two, which, nevertheless, still communicate for a long time, owing to the imperfection of their partitions. From these general and incontestible facts, M. Gendrin advances the following propositions: The pulmonary arteries rise originally from the aorta, by the intermedium of the *canalis arteriosus*; it is at a later period that the trunk of the pulmonary artery is formed; the development takes place from without inwards, towards the heart, owing to a mechanical impulse from behind: it is only when the pulmonary artery has arrived at, and joined, the ventricle that the interventricular communication is closed: the pulmonary veins open originally into the superior cava; it is only by the development of the superior part of the single auricle, that the pulmonary veins arrive at the auricle of the heart, and it is only at this period that the formation of the inter-auricular partition commences to be formed. Whatever the varieties may be in the malformation of the heart, still they are subordinate to a regular and constant succession of changes which operate in the organ; neither the aortic nor the pulmonary arteries ever open into the auricle; neither the venæ cavæ nor the pulmonary veins ever open into the ventricles; neither the right auricle nor the left ventricle is ever wanting if the organ has more than one cavity; the pulmonary veins never open into the inferior cava nor into the aorta; the pulmonary arteries never open into the venæ cavæ; when the interventricular partition is imperfect, the imperfection is always at its superior part, towards the base of the heart, and never at the inferior part, towards the apex of that organ; when the orifice of the pulmonary artery does not exist, or when it exists imperfectly, the canalis arteriosus is never obliterated. It is the same when the aortic orifice is not free; but in this case, the orifice of the pulmonary artery always exists. When the orifice of the aorta, or that of the pulmonary artery is more or less completely obliterated, there always exists an opening in the interventricular partition; when the pulmonary artery is imperfect, the imperfection is always at the orifice, and never further on towards the canalis arteriosus. If the canalis arteriosus is obliterated at the time of birth, the arteries, both aortic and pulmonary, are always completely formed and open into the same ventricle; or if they open into separate ventricles there is a communication between them through the partition which divides them.

6. *Case where the Stomach was found terminating in a cul-de-sac.* By Dr. Crooks*.—This malformation was discovered in a child born

* Journ. des Progrès, &c.

a month before the usual period. Its external conformation was perfect. Six hours after birth it vomited a brownish fluid resembling half digested blood or meconium. A short time after that it had real hæmatemesis, which returned periodically until death. This occurred sixty-five hours after birth. In vomiting it did not appear to be in any pain, or to have any disagreeable sensation. After death, a large quantity of blood came from the mouth and nose. All the body assumed a dark livid colour. On examination, the stomach, greatly distended, was found to occupy all the left side of the abdomen; the liver extended very low down on the other side; and between these two organs the intestines appeared very slender, agglomerated, and resembling a knot of worms. The internal surface of the stomach was spongy and inflamed, blackish in many parts, and containing bubbles of air, which appeared to be the effect of gangrene. The pylorus communicated with a pouch, or second stomach, which had no other opening than the pancreatic duct, which opened in the bottom of the second stomach; between this and the intestines there was no communication.—*(Med. Zig. Jahrg.)*

6. *On the Effects of Cupping Glasses on the Development of Vaccine Pustules* *.—The members of the Académie Royale de Médecine have been, for some time, endeavouring to prove the effects of exhausted glasses on virus and poison inserted into the skin, but they do not appear to have yet arrived at any satisfactory conclusion. Did Dr. Barry's theory of absorption lead to so useful a point in practice, as to enable us to arrest the progress of poison inserted into the skin, it would be worthy of some attention, however contrary to the laws of physic it might appear. Dr. Barry, conceiving that the absorbent fluids are driven up towards the heart by the weight of the atmosphere on the surface of the body, was naturally led to suppose that, by depriving any part of that surface of atmospheric pressure, no absorption could go on in that part, whilst so deprived. Facts, so far as they have yet been collected, tend to support this opinion, although they prove no more that the fluid in the absorbent vessels is propelled by the weight of the superincumbent atmosphere than the flow of blood out of a punctured vein proves that the atmosphere *attracts* the fluid, against its own gravity, out of the punctured vessel. The committee appointed by the Académie to examine Dr. Barry's experiments, found that no absorption went on under a vacuum; that, in fact, if poison be inserted into the skin, and a cupping glass, with the air exhausted from it, be applied over the part, the absorption of that poison into the system is prevented. M. Itard, wishing to satisfy himself of this fact, repeated the experiment, not by inserting poison, as Dr. Barry did, but by inoculating the part with the vaccine virus. He vaccinated a child on the shoulders by several punctures, over some of which he applied glasses, whilst the rest were left uncovered. The punctures which were covered by the

* Journ. Gén. de Méd. Mars, 1828.

glasses formed no pustules, whereas all those which had not been so covered, gave rise to vaccine pustules, possessing the usual characters. M. Bousquet was not satisfied with the result of M. Itard's experiment, so that he determined to repeat it on a large scale, at the bureau of public vaccination of the Académie. M. Bousquet obtained a very different result from that which M. Itard had obtained. In the experiments of the former the glasses appeared to have scarcely any sensible effect in preventing the puncture from forming a pustule. It appears to be the general opinion among the members of the Académie, that a vacuum produced over the puncture may prevent the action of poison on the system, which generally takes place very suddenly, and in a degree proportioned to the dose; but that it is different with regard to a *virus*, which has the property of reproduction, and whose action is slow.

This subject appears to us easily explained. The application of an exhausted glass to a part will suspend the function of absorption in that part while it remains on. It acts in two ways in doing this; first, by the pressure of its edge on the absorbing vessels running from the part, thereby obstructing the motion of their contents; second, by *expanding these vessels beyond their natural calibre*, thereby suspending their function for the time. The absorbents are naturally intended to sustain the weight of the atmosphere, and when this weight is removed, they necessarily expand, and assume a calibre which is not natural to them. The arteries and veins do the same. It cannot be expected that the absorbents, while in this state, can bring their sides together in order to press forward their contents. Let it be tried whether a portion of the intestinal canal will be able to contract so in a vacuum. As the vacuum of a cupping glass suspends the tonicity or contractility of the blood-vessels where it is applied, nothing can be more probable than that it suspends that of the absorbent vessels, whose coats are much more delicate than those of the arteries and veins. The fact appears to be, that the pressure of the atmosphere is natural to all the vessels, as it is to all other terrestrial objects, and that it is one of the causes which determine their physical form; it is also one of the causes which enables them to perform their functions, but it does not follow from this that they act like syphons, more than it does that the intestinal tube acts so.

Now, it is not only possible, but also probable, that all the poison, or even virus, may be extracted in some instances, if an exhausted glass is applied *immediately* after its introduction—that is, if the glass is applied before the poison or virus has entered the extremities of the absorbents. It may, by this means, be washed out by the blood. But should it once enter the extremities of the absorbents, nothing but a retrograde action of these vessels could discharge it again; for, as the edge of the glass extends all round to some distance beyond the wound, and as there is no pressure between the glass and the wound to force the poison back, it must necessarily remain at rest there, unless it can run back under to the law of gravity. The only chance of abstracting the poison when

it has once entered the extremities of the absorbents would be, by using a very small glass, which would barely extend beyond the edges of the wound. It is generally supposed, that, because an exhausted cupping glass extracts blood from a puncture, it must also extract the contents of the absorbents, or any thing else which may be in the wound. But this is by no means the case. The blood is constantly forced by the action of the heart towards that part, as well as towards others; it therefore flows out at the puncture. But as there is nothing to force the contents of the absorbents in a retrograde direction, that portion of the fluid situated between the edge of the glass and the wound will remain at rest, but the fluid situated between the glass and the heart may, and probably does, flow on in its natural course. It is true that the absorbents running into the wound from the distal side of the glass may pour out their contents, but it is not probable that any of the poison enters the divided extremities of these.

Now, it would be advantageous to apply immediately an exhausted glass over the bite of a rabid animal, in order to suspend the absorption of the virus until instruments could be procured, and the consent of the patient and his friends obtained, to have the part excised. The absorption of any other virus or poison might be suspended in the same way for a period, to allow time to decide upon the best plan of treatment to be pursued. But should excision be considered necessary, all the parts which have been covered by the glass should be removed before the patient can be considered safe.

8. *Case of Malformation—Absence of the Kidneys and Bladder.*—Examination of the body of Marie Barba, aged fourteen years. The navel was where the mons veneris is usually situated. The anus was in the situation ordinarily occupied by the orifice of the vagina, and its aperture was large enough to admit the introduction of the hand. No communication between the rectum and the organs of generation. No other exterior trace of these organs than a protuberance of the structure, bearing some analogy to a clitoris, and two little excrescences like warts, covered with a few hairs. In the place of the symphisis pubis, there was an extensive chasm covered by the integuments only. The uterus was of its natural size, and of a perfect form; so were also the ligaments, ovaries, and fallopian tubes. There were neither ureters nor kidneys to be found; the bladder was also wanting; the urachus, very long and thick, was lost insensibly in the integuments; the umbilical vein surpassed much in size that usually observed in the bodies of adults.

This young woman had always been much tormented by a continual discharge from the navel, of a fluid which had much the character of urine, and the odour of which was so penetrating that she could not change the linen covering this part too often. In the absence of the kidneys, ureters, and bladder, Dr. Moulon, of Trieste, the author of the observation, thinks that the blood was depurated in the liver, of the principles which serve to form the urine, and that this was conveyed by the umbilical vein to the na-

vel, where it was excreted. This girl died of chronic gastro-enteritis, complicated with hepatitis. All the intestinal canal was covered with black spots; and the liver was in a gangrenous state. The pancreas was converted into a sac full of pus; and the great piploon was partly destroyed.—*Journal des Progrès.*

9. *Mercury found in the Metallic State in various parts of the Body.*—In an analysis made in the chemical laboratory of the faculty, of the mammary glands, of the mesentery, of the large intestine, and of the salivary glands of a young woman who had died of puerperal peritonitis, and in whose case mercurial frictions to a great extent had been used, the mercury was discovered in a metallic state in these organs. This result, opposed to the assertion of many chemists and of a great number of physicians, confirms the researches of MM. Fourcroy, Dumeril, Orfila, and Cruveilheir, who have discovered mercurial globules in the bones, in the cerebral substance, and in the nerves, and leaves no more any doubt of the correctness of the fact, notwithstanding all the warmth with which it has been combatted at different periods, and the attempts which have been made to turn it into ridicule.—*Journ. des Progrès des Sciences et Instit. Médicales.*

10. *Ulceration of the Intestines, consequent on Fever* *.—Mr. Bettner, one of the senior students of the Philadelphia Alms House Infirmary, relates five cases of ulceration of the intestines, discovered in the bodies of those who had died of fever. It has been attempted, from, as we think, rather a narrow view of the phenomena of fever, and a disregard or scarcity of facts derived from morbid anatomy, to assign a seat in the brain to this disease. Those who have endeavoured to prove that the malady owes its origin to inflammation of the mucous membranes, especially to that of the bronchial tubes, have been equally unsuccessful. A great number of facts are in the possession of the profession respecting the morbid changes which take place in the system during the progress of idiopathic fever, and the anormal appearances presented after death. These, considered in all their varieties and bearings by any one whose mind is unprejudiced by speculative theory, must lead to the conclusion, that idiopathic fever has not invariably its seat in any one particular and the same organ, but that any one or more of the organs may suffer in the course of the malady in a greater proportion than the rest of the system. During the progress of the fever, the brain, the liver, the stomach, the small or large intestines, the lungs, the heart, the pleura, or peritoneum, or any other organ or tissue, may become the seat of congestion, of inflammation, or of ulceration; and any one or more of these seats will present marks of disease after death. In the treatment of the malady the same attention is necessary to be paid to the local affection which may take place in the progress of the fever, as if this local affection constituted the primary disease. Where local disease exists in an important or-

* North American Med. and Surg. Journal.

gan, whether it be a cause or a consequence, it must be attempted to be subdued, and when the attempt is unsuccessful, the malady, whether primary or secondary, will go on equally to produce a change in the organized condition of the organ in which it resides. It is to be hoped that few practitioners of the present day are possessed of views so confined, respecting the nature and tendencies of disease, as to lead them to disregard all affections of a secondary character in the order of succession, and to neglect such affections whilst applying their remedies. It would avail but little to apply our remedies to the head when the local seat of inflammation or of congestion is in the stomach, liver, or in any part of the intestinal tube. Mr. Bettner's cases, as well as numerous others recorded by pathologists, prove undeniably that the abdominal organs are often the parts which exhibit the greatest marks of disease in the bodies of those who have died of idiopathic fever. The object of Mr. Bettner's cases is to prove that the intestines form, not unfrequently, the seat of inflammation and ulceration. The ulcers observed in some of these cases were on the peritoneal covering; in others on the mucous. They existed in various parts of the tube, sometimes in the large and sometimes in the small intestines. They were of various sizes, and some were in a cicatrized state.

11. *Caries of the Tibia—Amputation—Remarkable Effects of Remedies applied to the Stump* *. A man of colour, about sixty years of age, had a large ulcer of the leg, of long standing, with caries of the bone. Several remedies were applied to it without success, and the limb was obliged to be amputated as the only remedy likely to save the patient's life. Desirous of saving the knee joint, and supposing the disease of the bone extended no higher than the external sore, Dr. Horn performed the flap operation, taking off the limb an inch and a half above the lesion of the skin. The bone was found diseased at that part, and amputation above the knee was obliged to be resorted to about two months after. On dissecting the limb, removed by the first operation, the following state of parts was noticed:—

'1. A considerable quantity of fat beneath the skin, though none in the cellular membrane surrounding the muscles, &c. 2. The blood-vessels and nerves supplying the foot appeared perfectly healthy; and so did the fascia and tendons. 3. The tibialis anticus and extensor communis were but slightly altered; but the gastrocnemius and soleus appeared more like gelatinous substance than muscles, having entirely lost the fibrous structure. There were occasionally interspersed oily tumours, and some of them seemed adherent to the tibia. 4. The structure of the tibia, for about two inches in its centre, was entirely changed; and instead of compact bone, a substance not unlike to putrid cheese, was met with. It was very oily. Higher up and lower down than the space above specified, the bone retained its shape or form, though not its firmness. It could be easily cut with a knife, was very oily, and occasionally pieces of bone could be discovered:

* Dr. Horn. The North American Med. and Surg. Journal.

showing, that the destruction of the tibia was not complete in those places. It was apparent, that the knife had not removed all the diseased parts. The fibula was perfectly sound, as far as autopsic examination extended.'

On the ninth day after the operation, a part of the wound which was not covered with skin became very irritable, and in order to allay the irritability, Dr. Horn applied some powdered opium to the surface of the sore. To his surprise, next morning he found his patient labouring under the bad effects to be expected from a large dose of opium given internally. The pain and tenderness were completely removed. His pulse was weak and intermittent; his skin soft and clammy; his mind stupid though easily roused out of sleep. He was affected with subsultus tendinum, and an almost involuntary picking at the nose and face. His mouth was clammy, and his voice much altered. Retention of urine and costiveness were also present. Costiveness was removed by repeated doses of sulphate of magnesia; and the other symptoms gradually declined. The sore again becoming irritable, powdered opium mixed with rhubarb, one part of the former with two of the latter, was again applied; and with the same result. In fact, Dr. Horn repeated the application under so many circumstances, as to leave no doubt on his mind, that the symptoms above described were really the effect of the opium.

In the course of the subsequent treatment, Dr. Horn was induced to apply rhubarb alone to the wound. The patient had a severe purging next day, attended by a nauseous, bitter taste; and on being given a little rhubarb, he immediately recognized its taste as the same as that which he had so sensibly in his mouth before. He was quite certain that it was the same. The application of rhubarb to the wound was repeated with the same result. Dr. Horn was informed by a friend, of another cas where rhubarb was applied to a wound, and where the effects exactly resembled those which were produced in his own patient.

That the application of opium to a raw surface should bring the system under the influence of that drug, is nothing uncommon or more than might have been expected, from our knowledge of many similar facts, although we are still in the dark respecting the modus operandi of its properties; but that rhubarb—a substance recognized as one possessing no particular relation to the nervous system—should produce such a decided effect on the constitution in so small a dose as might be supposed to be absorbed from the surface of the wound, although forming only a modification of the same fact, still is curious in a physiological and therapeutical point of view. This fact, as well as that of ipecacuanha injected into the veins producing regular vomiting, of quinine applied to a part deprived of the epidermis exerting its tonic effects on the system, &c. tend to prove that the relations of remedial agents are exerted on the same seats in the system through whatever channel they are conveyed into the body. The effects of mercurial frictions in causing salivation have been long known; and it would appear, from several facts discovered of late,

that the effects of almost all other internal remedies are perfectly analogous. These facts tend more to prove the modus operandi of medicines, than all that was known before respecting them.

12. *On the Influence of the Pneumo-gastric Nerves on the Functions of the Stomach. By Dr. Ware, of Georgia, U. S.**—Several attempts have been made at various times by physiologists, to identify the nervous and vital properties with those of some other known principles, and their reasoning has occasionally presented some show of plausibility; but experiments and new facts have generally intruded themselves; they have, in regular succession, swept off the materials of such doctrines like chaff before the wind, and have left them in ruins until scraped together again by some one who would fancy he could find something in them worth preserving, towards the building a new theory. Electricity, because it is a principle of great activity and power, has been, consequently, supposed to be all-powerful; and when Dr. W. Philip informed the world that he could convert it into an agent of digestion, after the gastric nerves have been divided, no doubt remained of its identity with the nervous fluid, and the cerebellum was considered as the galvanic battery from which it derived its existence. Further experiments, however, have tended to prove that those of Dr. Philip are not deserving of that implicit reliance which some physiologists seem to have placed upon them, and amongst some of the most satisfactory are the following, performed by Dr. Ware, assisted by Dr. Finlay:—

Experiment 1.—After causing two rabbits of the same age and size to fast for the space of sixteen hours, I gave them as much parsley as they would eat. One of them I set at liberty. In the case of the other I divided the nerves of the eighth pair, about midway in the neck. The division was immediately followed by difficult respiration, soon attended with a croaking noise, and gradually increased until death supervened, which happened in six hours and a half after the operation. The other rabbit was then killed; and a comparative examination made. The stomach of the one subjected to the operation was much distended, the general mass of food had undergone but little change; that part which was in contact with the parietes of the stomach was altered in colour, and somewhat in consistence, resembling partially digested matter. The central parts retained their natural colour and odour, and resembled finely chopped parsley. The lungs were largely engorged with blood, but did not ink in water. The trachea and air cells contained a frothy fluid. The stomach of the rabbit not operated on was hard and contracted, and about half the size of that of the other. That part of digestion confided to the stomach was comparatively completed; for though all the contents had not passed out at the pylorus, yet what remained was a uniform chymous mass, more compact and dry at the pyloric than towards the central or cardiac portions. This experiment was

* N. American Med. and Surg. Journal.

satisfactory and conclusive, and was followed by six others of a similar nature, all of which gave uniform results.

'Experiment 2.—A half grown cat was kept without food for twelve hours, and then one ounce and a half of raw beef was given. In fifteen minutes after, I divided the eighth pair of nerves. The usual symptoms followed, differing from those of the last experiment only in degree; respiration was deep, slow, and laborious, attended with a croaking noise, and apparent efforts to vomit, which continued to increase for ten hours, when, from the great distress and prostration, I was induced to kill it. Upon examination no change was perceptible in the food, except in the circumference, which had lost its livid hue, and resembled beef shortly after being placed in warm water. It had lost nothing in weight. The lungs were engorged with blood—and the trachea filled with frothy fluid slightly tinged with blood. This experiment was also confirmed by one other.

Experiment 3.—Having caused two rabbits of the same age and size to fast for sixteen hours, I allowed them as much cabbage as they could eat, after which I made a section of the eighth pair of nerves in each. One I set at liberty. The other, the hair being shaved, on either side, from the region of the stomach, I submitted to the influence of a galvanic trough, containing fifty pair of four inch plates—the intervals being filled with sulphuric acid and water, in the proportion of one of acid to sixty of water. A gentle and uniform twitching of the muscles of the trunk was kept up, by the occasional addition of acid, for six hours, at the end of which time (the animal being almost exhausted) it was killed by a blow upon the occiput. Examination being made, the stomach was found distended as in the preceding experiments: the external part of the contents was changed in colour and somewhat in consistency, so as to resemble a chymous mass; whi'st internally it was as it had been chewed and swallowed. The lungs were engorged, though not so much as usual. During the process, the respiration exhibited the phenomena seen in the other cases. The trachea contained a frothy fluid. This animal ate nothing after the operation, and nothing was found in the œsophagus. In half an hour after (six hours after the operation) the other rabbit died; the stomach and its contents resembled in every respect that of the galvanized rabbit. The lungs were more largely engorged with blood, which constituted the only apparent difference.

Experiment 4.—A rabbit, after fasting, was afforded as much parsley as it would eat; when the hair was shaved on the back, near the region of the stomach, and a small plate of tin bound thereon: the eighth pair of nerves were divided, and about a quarter of an inch of the lower section of each coated with tin foil. The tin foil and tin were connected with the opposite poles of the galvanic trough, and a uniform effect kept up for five hours and a half, when the animal died. Its respiration during the process, the state of its stomach, food, lungs, and trachea, differed in no particular from those in the immediately preceding experiments.

Experiment 5.—Two rabbits were caused to fast for twelve hours, when they were given as much cabbage as they would eat. The one remained in its natural state. In the other the pneumogastric nerves were divided and submitted to the galvanic power, as in the last experiment, and a uniform effect was kept up for seven hours, when the animal died. Upon examination it was found to differ in no perceptible degree from those in which the nerves had been divided, whilst the stomach of the healthy rabbit exhibited the contents diminished in quantity, and in a completely chymous state, and in the pyloric portion comparatively dry and compact.'—*Ibid.*

13. *Chronic Headach, of three Years standing, cured by the Arsenical Solution.**—The subject of this case was a boy, eleven years of age, who was attacked, without any assignable cause, with violent headach, which came on daily. His constitution was good, and, with this exception, he had been unusually healthy through life. This headach came on periodically during the space of three years, the paroxysms varying in length and severity at different periods. When placed under Dr. Otto's care, he was ordered to take five drops of Fowler's solution of arsenic three times a-day. He continued to do this for a fortnight, without undergoing any improvement, when he left it off. But a day or two after, without taking any medicine, the headach suddenly left him, nor was there any subsequent return of the disease for two years, when the family removed to a distant part of the country, and Dr. Otto has not heard of the patient since.

14. *Case of remarkable Transposition of the Thoracic and Abdominal Viscera* †.—The subject of this case was a female child, two years and a half old, who died of pertussis. She was a fat and flabby child till she was weaned, when about nine months old. For about a year and a half after that, she continued in tolerably good health; at the expiration of which time she became affected with cough and difficulty of breathing. She recovered from this affection, and continued in good health, till she was attacked with pertussis about three months before her death. On examination of the body, the following appearances were discovered :—

'On opening the thorax, there were strong adhesions found between the pleura pulmonalis and costalis on the right side; none on the left side; the left lung had *three lobes*, the right *two*. The lungs on both sides were very much diseased, but principally on the right side, which contained a great many small tubercles, some with purulent matter in the centre, and others assuming the appearance of small abscesses. The upper part of the left lung was in the same state as the right; the lower half more healthy. A considerable quantity of purulent matter exuded from the branches of the bronchiæ when cut. The bronchial glands were very much enlarged; and some of them consisted entirely of scrofulous cheesy matter. The pericardium was very much distended with

* Dr. Otto. N. American Med. and Surg. Journal.

† Dr. Moncreiff. Edinburgh Medical and Surgical Journal.

serum. The heart was on the left side, but apparently nearer the centre of the body than usual. It was removed rather speedily, along with part of the blood-vessels attached, to be examined more minutely afterwards, so that the relative situation of the parts cannot be precisely stated. However, the part of the thoracic aorta, which was left in its situation, lay on the *right* side of the spine, but gradually reached the mesial line as it descended. On examination of the heart afterwards, nothing preternatural could be detected in its structure.

The œsophagus passed through the diaphragm on the *right* side. The cardiac extremity of the stomach and spleen were also on the *right* side. The great lobe of the liver was on the *left* side; the smaller lobe towards the *right*. The commencement of the duodenum and the pylorus were on the *left* side, as likewise the cœcum, appendix vermiformis, &c. The sigmoid flexure of the colon occupied the usual place of the cœcum and ascending colon. It terminated as usual in the rectum, which made its way through the pelvis in the usual manner, excepting that it commenced on the *right* side.

The viscera of the abdomen appeared otherwise healthy. The kidneys, urinary bladder, and uterus, with its appendages, were in their natural situation, and without any morbid appearance.'

15. *Laborious Parturition—Laceration of the Uterus and Vagina**. —'Mrs. Ferguson, æt. 36, of rather spare habit, the mother of seven children, was seized with uterine action on the 21st of November, 1824, at 9 *p. m.*, while in the early part of the last month of this her eighth pregnancy. Pains continued until between one and two in the morning of the 22d, when they suddenly, almost entirely, ceased. After the cessation of uterine action, the pulse became extremely rapid, small, and indistinct, accompanied by a trifling effusion of blood *per vaginam*.

The patient (says Dr. Campbell) was under the care of my friend Mr. James Scott of Broughton-street; and I saw her about an hour after the character of the pains had become changed. She was then in a most alarming state. The abdomen could not bear the slightest pressure without violent pain being produced; the pulse was too quick and indistinct to be numbered; the countenance pale and collapsed; considerable thirst was complained of; and there was a disposition to bear down, but without effect. Immediate delivery was resolved upon, and, to accomplish this, forceps were applied over the head, which was placed upon the brim, but, from its great size, it could not, after a cautious trial of half an hour, be brought through. The forceps had nearly slipped off the head during the attempts of extraction, from the elasticity of its bones, whereby we were induced to think that the cranium contained water. The forceps was withdrawn, and the perforator pushed into the anterior fontanelle, which gave exit to a considerable discharge of water; and this was soon followed by the ex-

* Dr. Campbell.—*Ibid.*

pulsion of the fœtus, and about 2 lbs. of coagulated blood. As the uterus was in a state of relaxation, and blood continued to be effused *per vaginam*, the hand was introduced into the passages, when an extensive rent was discovered in the upper and back part of the vagina, extending through the cervix to the lower part of the body of the uterus. The hand passed through this opening, among the intestines, before we were scarcely aware of the accident. The pelvis was well formed ; and the patient had an easy time in all her previous labours.

At half-past one *p. m.* vomiting of dark coffee-coloured matter commenced, and the quantity brought up in the course of the day amounted to about 2 lbs. While in this condition, Professor Duncan, jun. saw the patient, and agreed with Mr. Scott and myself, in thinking her in a most unfavourable state. The pulse ranged from 130 to 150 in a minute, and the lower extremities occasionally felt cold. Beef-tea and port wine, in small quantities, were allowed for support, and bottles of hot water were applied to the lower limbs. The patient had four enemata in the course of the day, each containing a pound of beef-tea and ten drops of the tincture of opium. 23d, 10 *a. m.* pulse much improved in firmness and regularity, and beat 126. There were occasional pains in the abdomen ; lochia moderate ; urine to the amount of six ounces was drawn off last night by the catheter. 6 *p. m.* Black vomit reappeared, and continued until about six pounds of it were brought up. The bladder was evacuated several times in the course of the day with ease. The passages were washed out with about twelve ounces of warm water.'

The patient was ordered to take some liq. opii sedative. 24th, vomiting had ceased, though a considerable quantity of beef-tea had been taken. As the alvine evacuations were very fetid, and the patient had pain and tension of the abdomen, a turpentine enema was administered. This brought off three copious stools and much flatus, followed by relief of the abdominal tension. She continued to improve, so that, by the 2d December, no medical attendance was further required. ' She remained long delicate, and has not conceived since. During the whole of this pregnancy, her feelings were very different to what they had been on former occasions ; she felt herself weakly, heavier, and not so active as in her former pregnancies.'

Was this difference in the patient's feeling attributable to softening or any other change in the structure of the uterus ? or to pressure of the enlarged head of the child ? Did not the hydrocephalus of the child prove some disease of the uterus ? If not, what could give rise to the effusion in this case, as well as in similar cases ?

16. *Hypertrophy of the Heart, with Induration of the Mitral Valve.*—This case is related by Dr. Vernon, in the Edinburgh Medical and Surgical Journal. It occurred in ' a young lady, thirty-one years of age, of a spare delicate figure, florid complexion, interesting appearance, and of an extremely cheerful dis-

position, which led her acquaintance, generally, to suppose she was strong and robust; was reported by her mother and her immediate connexions to have experienced a gradual but striking change in the state of her health since she arrived at the age of seventeen. Soon after that period, though still retaining her natural buoyancy of spirits, her bodily strength, which previously had been perfect, appeared evidently to be unequal to it. She lost much of her *embonpoint;* but it was particularly noticed that she became painfully distressed in her breathing on every slight exertion, and was obliged to desist immediately from persevering in any thing that had occasioned it, and to have recourse to the horizontal position for relief. She was free from any habitual cough, only experiencing fits of it when respiration had been thus accidentally disturbed. This report of symptoms I was enabled to collect from herself and friends prior to my being consulted, which was about six years and a half before her death, and during which period I was in the habit of seeing her very frequently. Soon after the first symptoms of impaired health were disclosed, she applied to a medical gentleman, who conceived at that time that there was an affection of the spine. The portion of the column where the disease was supposed to exist was treated accordingly, without much relief.

From the absence of cough, and all symptoms of any idiopathic pulmonic affection, I was induced to inquire into the state of the heart. I found its action to be of a most tumultuous and confused character. Its impulse against the ribs was excessively strong, with an area of moderate extent, and imparted a grating sensation to the hand. The pulse at the wrist was feeble in the extreme, and very irregular; it gave a comparatively firm beat at an interval of about every twelve seconds, and the intermediate time was occupied with a confused undulatory motion; and though I was in the habit of examining her pulse frequently, I never found this condition to vary.

The chest sounded well on percussion, excepting over the left præcordial region, where the sound was dull and obscure. The impulse of the heart between the fifth and sixth ribs was excessively strong; the shock repelled the hand with much force; and its area was of moderate extent. The sound of the ventricular contraction was very dull and prolonged, and masked that of the auricle. That produced by the contraction of the right cavities was much clearer, and could be heard over a greater extent. The shock imparted to the hand applied under the sternum was tolerably firm.

The respiratory murmur was distinct over every part of the chest, excepting over the præcordial region, where it was often with difficulty detected. When the palpitations and difficulty of breathing were more than usually aggravated, the murmur was intensely puerile. At the commencement of those violent paroxysms, which were occasioned by mild pulmonary catarrh, I generally found a slight degree of the sonorous râle, which soon vanished, a copious and free expectoration being always speedily established after the application of leeches and a vesicatory to the

chest. This expectoration always relieved the aggravated symptoms, and in the course of five or six days from the first attack she was usually resorted to her former state. In the last fatal attack the mild catarrhal symptoms had yielded as beforetime; but the palpitations had increased much in violence, and the saw-creak noise described by Laennec was heard very distinctly with the stethoscope. This state of things continued for two days and a night, during which time she may be truly said to have been dying in lingering agonies, when her sufferings were at length closed.

Dissection.—There was great emaciation, with turgescence of the subcutaneous veins of the face, neck, and trunk. Chest resounded well. On raising the sternum the pleura was found in a natural state. The lungs collapsed on the admission of air, and were in an extremely sound state, being crepitous throughout. They were almost concealed on the left side by the amazing size of the heart; and there was a very slight adhesion of a small portion of the left lobe to the *pleura costalis.* The chest contained no serum. The pericardium contained about three ounces of a reddish fluid.

The heart was three times the size of the closed hand of the subject. The right auricle and ventricle were enormously distended with blood; and from them were drawn large pieces of fibrin, as thick as the fore finger, and of the colour and consistence of yellow fat. They were deposited in great abundance beneath the tricuspid valve, and at the mouth of the pulmonary artery. When the right cavities were emptied of their blood, they collapsed; but the heart still preserved its enormous dimensions. The cavities of the auricle and ventricle were exceedingly dilated; and the ventrical was at the same time more than double its natural thickness. The tricuspid valve was perfect. The left auricle offered nothing remarkable; but the left ventricle was in a state of excessive hypertrophy, the thickening extending internally, so as to narrow the dimensions of its cavity in an extraordinary degree. The mitral valve was in a highly defective state from disease. Its base was converted into a thick fibro-cartilaginous substance. The valve itself was studded with ossified points, and gave a sensation as if hard gritty fragments were pressed between the fingers. The edge of the valve was also affected; and its pointed processes were connected by a thick cartilaginous cord, which, instead of being applied flat and close to the sides of the ventricle when the auricle contracted, stood up in some measure and formed a circular orifice, which would barely admit the end of the fore finger. The *columnæ carneæ* were very thick and strong. The *chordæ tendineæ* had also become cartilaginous and very much contracted, so as to prevent the valve from closing during the contraction of the ventricle. The parietes of the ventricle were triple their natural thickness.'

17. *Hypertrophy of the Heart**.—'W. H., a porter at the coach-offices, aged 36, stout, short-set, and of a muscular frame, com-

* Dr. Black. *Ibid.*

plained for the first time to me, on the 1st June, 1826, of great oppression, and a dull pain in the left side of his chest, of much dyspnœa, and a sense of suffocation in his bed at night; of weakness, and of a violent throbbing pain occasionally in his head. The countenance was anxious, generally pale, changing at times to a livid hue. Thirst, appetite bad; but no cough nor expectoration. The pulse was hard, quick, and irregular; and the throbbing in the course of the carotid was sufficiently strong to shake his head. The beating felt in the region of the heart was dull, but of wide extent and impulse. No stethoscopical examination made. Urine scanty, and there appeared to be a tendency to anasarca and abdominal dropsy.

Diuretics of digitalis, squill, and a little colchicum, with blistering and anodynes, were administered, and perfect quietude enjoined. But after a month's increasing suffering, with corresponding exhaustion, he was suddenly carried off on coming to the erect position.

On post mortem examination the left lung was found natural and crepitous, and there was no pleural effusion. The right was natural in its parenchyma, but it was surrounded with numerous fibrinous exudations, which attached it to the costæ, and formed large cells filled with nearly a pint of serum. The heart presented the most interesting appearance, being double its natural size, and its left hemisphere was of a livid vascular hue. The walls of the left ventricle were about one inch in thickness, and extremely vascular, resembling, when cut, a section of the recently gravid uterus. The right and left cavities, as well as the aorta, were filled with much dense coagulated blood.

The more particular morbid lesion or disorganization was the state of the aortic valves; one only being perfect, a second loose, acutely triangular, and useless in function; while the third was only a small tubercle. Behind the loose and imperfect valve was the orifice of the coronary artery, which was as large as a goose-quill. The root of the aorta was much thickened. Its inner coat was of a florid red colour, and studded over with red *carunculæ* and capillary vegetations. The mitral valves were imperfect, but uninflamed; and the sigmoid ones of the right side were of perfect formation. The right ventricle was not nearly so large as the left. Its parietes were denser, paler, and about one-fourth to one-half the thickness of those of the left. The tricuspid valves and the auricle were natural; but the lower part of the fœtal *foramen ovale* was open, to the size of a goose-quill, into the left auricle; and the mouth of the coronary vein was wide enough to admit the point of the little finger.'

18. *Appearances in the Brain of a Young Female who attained her Seventeenth year without giving Indications of Sensation or Motion from Birth* *.—'The young person who forms the subject of the following notice was somewhat prematurely born, and appeared at birth to be very feeble. She gave no indications of the

* Davies Gilbert, Esq. M.P. *Ibid.*

usual instinct which guides infants to their natural food; and much difficulty was experienced in teaching her to take the breast. One eye was observed to be smaller than the other, which appeared to be of the natural size.

Except this excessive weakness in the muscular motions, and total deficiency of the ordinary sensations and appetites, nothing particular was remarked for several weeks after birth, when convulsive fits took place, and increased in violence and frequency of recurrence, till they exceeded one hundred in twenty-four hours. Every method that could be suggested by various medical attendants to counteract these fits of convulsions was tried without success.

She nevertheless continued to grow in length much like other children. But the defects in motion and sensation increased and became more apparent. Though she originally gave indications of sight, blindness came on; and cataract was observed in the eye originally of the natural size. The sense of hearing, if it existed at all, was very obtuse. Latterly it was impossible to doubt that she was quite deaf. Though she got a first set of teeth, these were not succeeded by others, so that they were temporary only. The sense of taste seemed to be tolerably perfect, as fruit, confections, custards, and other sweet articles were received with indications of pleasure.

She never acquired any thing like the power of voluntary motion; and she attained her seventeenth year without ever having held up her head, raised her hand to her mouth, or set her foot to the ground. She never was heard to utter any thing like an articulate sound; and a feeble cry or whine only was believed to indicate want of food. When this was gratified, especially with sweet articles, the countenance exhibited an expression of satisfaction.

The bowels were habitually very slow, so as to require the perpetual employment of medicine; and to this no temporary exception was ever remarked. She never acquired any command over the sphincters.

For some short time previous to death the weakness seemed to increase: and exactly on the day when she completed her seventeenth year, she expired, in a manner so gradual, that the attendants thought her asleep when she was really dead.

I understand that some indications of the menstrual discharge had been observed; and the usual marks of puberty were not wanting. I am not aware, however, that the mammæ had enlarged.

Her length must have been equal to that of many young persons of her age. The spine and limbs were distorted; and the person was much emaciated.

Inspection of the body after death unfolded the following appearances, which are given in the words of the surgeon who performed the dissection.'

'On opening the cranium, the first thing which presented itself to observation was the very great distension of the vessels of

the brain and of its membranes. The first longitudinal sinus was particularly gorged, and marked its course by a raised dark blue line extending across the dura mater from before backwards. We laid it open, and found it filled with coagulated blood.

'On proceeding with the dissection, we found some little water in the lateral ventricles; but this is often poured out after death in the healthy subject; and as the contents of the ventricles were perfect, more particularly the optic thalami, I should be inclined to consider that as a natural appearance.

'On removing the brain from the basis of the skull, so as to expose the nerves, we could trace each pair taking their usual course to their destination; and they all appeared firm and healthy, as in the most intelligent individual. But in the base of the skull itself, not a vestige of the dura matter was to be seen. Its place was supplied by a thin semi-transparent membrane, very lax and irregular, so that it afforded no protection to the nerves in their exit from the skull.

'On the back part, likewise, the whole, or the greater part of the *sentorium* was deficient, thus allowing the whole weight of the brain to rest on the cerebellum.

'We proceeded carefully to trace the nerves to their separate organs, and found them, in every respect, seemingly perfect. Indeed the optic nerves appeared particularly developed, as also the ophthalmic branches, although cataract existed in both eyes to a very considerable degree. Nothing further appeared worthy of observation. From these circumstances, I should be inclined to say, (as far as human research can explain the mysteries of our nature) the causes of the child's deficiency were as follow:—

'That from the want of the *dura mater* on the base of the skull, and its place being only imperfectly supplied by the thin expansion before mentioned, the mass of brain was allowed to press on the nerves of sense as they passed through their separate foramina, and thus their vital principle became destroyed; and that the cerebellum, not having any protection, in consequence of the want of sentorium, was also pressed upon by the cerebrum, which likewise suffered in its turn, thus probably accounting for the total extinction of intellect.'

19. *M. Dupuytren's Treatment of Phagedenic and Corroding Herpes**. —'There is not a physician who has had not an opportunity of observing and treating phagedenic or corroding herpes, and to experience a disagreeable proof of the inefficacy of the anti-herpatic, anti-scrofulous, anti-venereal remedies, and others which have been tried by turns against this cruel disease, according to its different appearances, and its supposed nature. We know, that in spite of all the remedies, the phagedenic herpes eats and destroys no less the nose, the lips; the cheeks, the eyelids, the ears, the temples; parts which it more especially and frequently attacks. Fire itself seems to irritate, as well as arsenical paste; these agents

* Medical Guide to Paris.

have besides the inconvenience of destroying the parts on which they are applied, and to add to their deformity. These motives have for a long time induced M. Dupuytren to seek other remedies against phagedenic herpes, and it seems certain, that they may be cured without deformity, by the use of the following powder :—

' ℞ Hydrarg. Submur. præcip.	partes - -	199
Oxidi. Arsenici. Albi. vel Acidi. Arseniosi.	partem - -	1
		200

This remedy, which acts rather as a specific than as a caustic, may be variously employed. If the surface of the herpes is ulcerated, moist and cleaned, it is powdered with a little puff, charged with the above described powder, so as to cover it with a thick layer, of about the twentieth part of an inch. If this surface is covered with a scab, it must be thrown off by means of a poultice, and then it is powdered as has been just described. In fine, if the herpes is actually covered with an imperfect cicatrice, it must be destroyed ; twenty-four hours after, the surface is powdered, when it must necessarily have ceased bleeding.'

20. *M. Dupuytren's Treatment of Spots on the Cornea.*—' The patients have flocked to the Hotel-Dieu for some years, for the treatment of spots on the cornea, as formerly under Desault, for that of chronic ophthalmia of a scrofulous or other nature.

The treatment employed by M. Dupuytren is as follows :—

A bleeding if there be violent irritation. Leeches to the temples if this irritation is less. Afterwards, one or two mild purgatives, two or three days intervening between each. After which a seton made of cotton threads, united in a cylinder, and some inches in extent, under the skin at the back of the neck.

In fine, the insufflation, or blowing into the eye or eyes, with the barrel of a quill, the eyelids being separated, a pinch of an impalpable powder, composed of

℞. Oxyd. Zinci. impur.
Sacchari Crystal.
Hydrargyri Submuriatis āā partes æquales.
Misce fiat Pulv. subtilissim.

The size of the pinch may vary, and the insufflation should be repeated night and morning. The patients ought neither to wash nor dry their eyes after it.

When there is no disease on the eyelids, no inflammation, no irritation of the conjunctiva, the insufflation of the above powder generally suffices to remove the spots. Those which are recent and slight are completely dissipated in a few weeks by this treatment. The thicker and larger patches are ordinarily cured in a month or six weeks, and very frequently patches which occupy nearly the whole of the cornea, and completely cover the pupil, entirely intercepting the passage of light into the eye, disappear entirely in a few months.'

21. *M. Jadelot's Treatment of Croup.*—' M. Jadelot considers the croup as a kind of angina of the air passage, presenting more violent symptoms, and having true paroxysms separated by well marked intermittents of special character. He admits different degrees in the disease according to its intensity, but without changing opinion as to its nature. Bleeding by leeches and emetics are the agents the most employed in the treatment of croup. The emetic alone has often sufficed to stop the disease, especially when it takes place in weak, pale, and bloated subjects; but in the opposite cases he insists on the application of leeches, and allows the blood to flow long enough for the infant to become pale, and the pulse to lose its strength. If the bleeding be too soon stopped, there is a danger of not arresting the progress of the evil, and a result, which is at least troublesome, is, that of being obliged to apply more leeches.

After the bleeding, M. Jadelot causes vomiting, several times in succession, at intervals of two or three hours, and the practice is attended by the greatest success, for the children find themselves relieved each time that they have vomited.

When the croup has arrived at the second period without having been opposed, and the presence of a false membrane is suspected, M. Jadelot directs leeches to be applied, but from the moment that they fall off he hastens to produce vomiting, and it is in this case that he employs by spoonfuls, every ten minutes or quarter of an hour, the mixture called *anti-croupal**, until he has obtained vomiting. He insists equally upon derivatives used upon the skin or in the intestinal canal; he advises also to provoke sneezing.

When the disease is very rapid, it has been a question whether we ought to commence by bleeding or emetic. M. Jadelot's opinion is, that we should bleed first if the infant be robust, and if it present signs of congestion towards the superior parts; on the contrary, he would commence by vomiting, when the subject is pale and exhausted, and there is little heat and fever.'

22. *Secretion of Milk in Men.*—Humboldt, the celebrated traveller, and others, have established the fact that men have been furnished with this secretion, while we have no hesitation in declaring that all men *may* furnish it. In the cases hitherto recorded, we believe that the secretory power of the usually inert organ had been excited by the natural stimulus of an infant in trying to suck its father, after the death of the mother, and in the absence of a nurse. In a recent instance of an old man, an attendant at the hospital St. Louis, the mammæ had been found developed to the same extent as those of females; but upon dissection the glandular fabric was found wanting—whence M. J. Cloquet (rather has-

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* *Anti-Croupal Mixture*—

℞ Infus. Polygalæ - - - - - ℥iv.
Syr. Ipecacuanah - - - - - ℥j.
Oxymel. Scillæ. - - - - - ℥ij.
Antim. Tart. - - - - - gr. jss. misce.

tily we are inclined to think) concludes, that men are never furnished with milk, whatever may have been said to the contrary. —*Rev. Méd.*

23. *Condition of the Arteries in Gangrene of the Toes**.—George Colbert, ætat. 59, was admitted into the Middlesex hospital on the 22nd of April: the great toe of either foot was mortified; the tongue covered with a dry brown crust; the pulse irregular: he was in the last stage of weakness and exhaustion; however, he rallied in some degree under the use of bark and ammonia, wine and porter, but he sank again, and died on the 22nd of May.

Mr. Mayo examined the state of the blood-vessels in this patient after death, and pointed out the following appearances: The crural vein and artery on each side were in a perfectly natural state; the sheath of the posterior tibial vessels was unusually dense and thick, and not easily separable from the adjacent parts, in consequence of the deposition of coagulable lymph, around as well as in the substance of the sheath. The veins, upon opening the sheath, were found to be healthy, but the coats of the arteries appeared to be considerably thicker and firmer than ordinary; the thickening was confined to the outer coat, upon removing which the fibrous coat presented its usual appearances.

The preceding circumstances were observed to an equal extent in both legs; but it was remarkable that, whereas, on the right side the posterior tibial artery was almost entirely obliterated below the middle of the left leg by firmly adherent coagulum contained within it, upon the left side of the artery was pervious, and contained no clot throughout its whole length, which was carefully examined as far as the termination of the plantar arch. The heart was free from disease; there was calcareous and atheromatous deposite in the coats of the aorta.

24. *Affection of the Eye caused by lightning* †.—Jane Humphreys, ætat. 11, was repeating her lesson in the school-room of St. Martin's parochial school, on the afternoon of the 6th of May, standing with her left side towards the window: when a storm came on, and a flash of lightning strongly lit up the room, which instantaneously produced loss of sight of the left eye, with a tingling pain in the eye-ball of the little patient. The pain increasing during the following days, Mr. Mayo was sent for, by whose advice leeches were repeatedly applied to the temples, and blisters behind the ear and to the back of the neck, and mercury given so as to affect the mouth. Under this treatment there was daily a perceptible progress towards recovery, the condition of the patient at different periods being as follows:—

The symptoms, on the 11th of May, consisted in a painful sense of heat in the eye-ball; tenderness of the eye-ball on pressure; inability to raise the eye-lid; and when the eye-lids were held open, extreme sensibility to light; vision dark, and almost extinct;

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* Med. Gazette, No. 27. † Ibid, No. 28.

no redness of the conjunctiva ; no inflammation of the sclerotic or iris ; no loss of transparency of the humours ; pain and tightness across the forehead ; a sense of throbbing in the head ; tongue white, pulse frequent.

About the 20th of May she could distinguish objects more easily, and could bear to look towards the light, when the eyelids were held apart : the muscle which raises the upper eye-lid might at this time have been supposed to be paralysed, as she could bear to look upon the light, but was wholly unable by a voluntary effort to open the eye-lids.

On the 24th of May she was able to raise the eye-lid at pleasure, but the consent between the muscles of the two eyes was found altered in the following remarkable manner : When both eyes were closed she could open either at pleasure, but not both at once ; on the attempt to open the second the first became closed, or if held open the eye was observed to roll away, being drawn upwards and outwards. This morbid association was easily broken by a simple artifice.

On the 27th, all the symptoms being much alleviated, the left eye, to external appearance sound, was used habitually with the other, yet vision with that eye being in some degree painful and weaker than before, the nature of her sight was carefully examined, when it appeared, that although she could read ordinary print, if held near to the eye, and stoop and pick up a pin thrown upon the ground, (yet not as readily as when using the right eye) she had totally lost the faculty of distinguishing colours. Thus, she was able to point out the circular spots on a yellow silk handkerchief, spotted with scarlet, but described the spots as black, and the ground as somewhat less black ; white paper she described as a shade of black, and the leaves and petals of a rose as a deeper shade.

On the 28th, the following day, she had recovered the power of distinguishing colours, but her sight remained weak, objects being seen darker and less distinct than natural with the left eye. At present, though not perfectly recovered, her sight daily improves.

25. *Extirpation of the Uterus by Ligature**.—We understand that the following interesting case has recently occurred. A lady was delivered about two years ago on the continent, at which time some violence appears to have been inflicted in removing the placenta. In fact, it would seem to have been pulled away. Immediately after this occurrence a tumour was found projecting into the vagina. The patient came to London the summer before last, when she consulted Dr. Henry Davies, Mr. Charles Clarke, and Dr. Gooch ; but as at this time she did not suffer from hemorrhage, not even menstruating, and as her health was not impaired, it was thought most prudent to avoid any active interference.

She returned to the continent, where she remained until seen by Dr. Granville, on his late visit to Russia ; when, in compliance

* Ibid, No. 29.

with his advice, she again came to town, with a view to having the tumour (supposing it to be the uterus inverted) returned to its proper situation. This being attempted, without success, extirpation was proposed. Dr. Gooch, Dr. Clarke, and Dr. Henry Davies were now also consulted again; and finding that since her former visit to England she had become subject to violent hemorrhage, under which she was sinking, all four agreed in advising the extirpation of the tumour. About three weeks ago a ligature was applied as high up as could conveniently be reached: this operation gave rather severe pain, which was renewed, and required a full opiate every time the ligature was tightened. The tumour came away at the end of a fortnight, and plainly consisted of the fundus of the uterus, presenting a hollow cup, like the bottom of an elastic gum bottle, and having attached to it the round ligament. At the present date the patient is weak and pale (as indeed she was before the operation), with a quiet pulse, and no bad symptom.

26. *Case of Rupia Prominens.* Treated by Mr. B. Cooper *.—The following has been considered to be a case of *rupia prominens*, and is regarded as so well-marked an instance of the disease, that a cast has been taken of it for the Museum, in order to prepare a wax model:—

Sarah Kealey, ætat 17, of rather a full habit, was admitted into the female venereal ward on the 23d of April, under the care of the junior surgeon.

She stated that the disease first made its appearance about six weeks since in small vesicles; these had gradually increased to their present size, most of them assuming the character of rupia prominens, whilst others were daily making their appearance. They had covered, indiscriminately, the body, but were more particularly numerous upon the lower extremities. Upon inquiry into the history of the case, the patient firmly denied having had any venereal affection. The eruption appears to have begun in the form of small vesicles, with a slightly inflamed base, and these bursting, conical crusts or scabs have been eventually formed. A few of these crusts have been taken off to examine their bases; and it seems that there is the smallest possible degree of secretion going on.

On her admission, she was ordered to take ten grains of Plummer's pill every night, and two ounces of the decoction of sarsaparilla, with one drachm of the extract, and a drachm of the solution of the oxymuriate of mercury, twice a day.

May 7. The disease is progressively spreading. Fresh vesicles appear from time to time, and the eruptions now cover almost every part of the body. Those last produced have assumed the same character as those present upon the thighs and knees when first admitted, which are becoming still more prominent. The medicines are continued.

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* Lancet, No. 250.

20th. Since the last report, the disease has become still more developed.

30th. She has been ordered to rub in mercurial ointment. Her mouth, however, is not yet affected, but the eruptions are scaling off, and the disease is rapidly subsiding.

June 8. The eruptions have, for the greater part, disappeared.

27. *Examination of the Body of a Person who died of Hydrophobia**. Every attempt to throw any light on the pathology of hydrophobia is deserving of encouragement. The subject of this case was a boy, thirteen years of age, who was bitten very severely on the cheek, on the evening of the 18th of March. The wound healed in about a fortnight, and the boy continued well until the 16th of May, when symptoms of hydrophobia made their appearance. He died on the 18th of May. The body was examined, and the following morbid appearances were observed :—

An incision was made on each side of the spinous processes of the vertebræ, so as to expose the whole of the medulla spinalis, when the following appearances presented themselves :—From the medulla oblongata to the 3d cervical vertebra, there was considerable adhesion between the theca vertebralis and bony parietes of the canal; from the 3d to the 5th, a gelatinous deposite was seen on the theca; and from the last cervical to the 7th dorsal vertebra still thicker deposite, mixed with grumous blood, which, to the view, very much resembled pus. In the substance of the brain, dark points of blood were seen; the fluid in the ventricles small in quantity; the choroid plexuses very dark; no other apparent alteration.—The larynx, pharynx, the trachea, and the bronchi to their division in the lungs, presented a highly inflammatory appearance. Slight patches of inflammation were found in the small intestines. The parts not mentioned exhibited no particular appearances.

It is necessary to remark that this boy, from the time he was bitten, continued to take the nostrum, called the Birling mixture, considered in Kent as a specific. This, like all other nostrums, only forms a part of that system of deceit practised daily on the public.

28. *Phlegmonous Erysipelas, terminating Fatally.* Treated by Mr. Lawrence †.—The treatment of phlegmonous erysipelas forms a subject of great interest at present among the members of the surgical profession in this country. The success or the failure of a plan of treatment in one case, or in a few cases, is not sufficient to establish the superiority of one plan over another. It is only by drawing a comparison between a considerable number of cases, treated according to different methods, that this can be accomplished. Mr. Lawrence is of opinion, that had incisions been made in the inflamed part in the following case, when the patient first entered the hospital, they would have arrested the disease. Possibly they might; but several analogous cases have recovered

* Mr. Pout. Ibid. No. 250. † Ibid. No. 250.

without incisions. This, however, forms no reason why they should not be performed if found more generally successful than the practice here adopted.

Elias Spice, aged 60, a very robust and rather corpulent man, and a hard drinker, was received into St. Bartholomew's hospital, as a patient of Mr. Lawrence, on the 16th of May. Two days before, he had struck his elbow in falling, and slightly grazed the skin; inflammation of the surrounding integuments came on, and increased rapidly. At the time of admission, the skin over the ulna presented a superficial abrasion as large as a shilling, and inflammation extended from this point along two-thirds of the dorsal aspect, both of the arm and forearm. The skin of the inflamed part was red, but not of a very vivid hue, and slightly shining; it was elevated by a slight and diffused swelling of the subjacent texture, and pitted a little on pressure. There was headach, full and frequent pulse, and a white tongue; he had not rested the preceding night. Mr. Lawrence observed, that the skin and cellular membrane were here equally affected; that it was a case of phlegmonous erysipelas in the early stage; and that, as suppuration had not yet occurred, it was a favourable opportunity of trying whether the inflammation could be stopped by the antiphlogistic treatment. He ordered bleeding from the arm to 16 oz.; 36 leeches to the inflamed part in the evening, and afterwards fomentation and bread poultice; a dose of jalap and calomel immediately; a saline draught, with a drachm of the solution of tartar emetic, and a drachm of sulphate of magnesia, every six hours.

18th. The blood drawn from the arm was covered by a thick and tough buffy coat. The bleeding and the leeches considerably relieved both the local and general symptoms; but the inflammation and swelling had again increased and extended, this morning, with aggravation of the feverish symptoms. Thirty leeches, the aperient powder, and the draught, repeated.

19th. The redness, swelling, and tension of the limb much increased; great pain; the pulse full, hard, and frequent. Mr. Weekes, the house surgeon, took 24 oz. of blood from the arm in two portions, both of which exhibited the inflammatory character in the highest degree. Mr. Lawrence, who saw the patient soon after, found the arm reduced by the loss of blood, which had nearly caused fainting, almost to its natural colour, while there was a similar relief of the general symptoms.

21st. The inflammation, after being checked for a time, returned, and became more violent; the whole limb, from the wrist to the shoulder, was enormously swollen, more particularly on its back part, and of a bright red in three-fourths of its circumference; the swelling and redness extended from the back of the shoulder to the trunk. The cuticle had become detached by vesication on the inner and posterior part of the limb. There was headach, thirst, and a white tongue, with a dry, brown streak along its middle. On the morning of the 21st, a large collection of fluid was felt above the elbow at the back of the arm, the skin being free from tension, and paler than before; there was a soft feel, as if from

fluid disseminated under the skin, along the back and ulnar side of the forearm, and this obviously communicated with the other collection. Mr. Lawrence made a cut of two inches in the latter, from which about six oz. of thin matter, or rather serous peturbid fluid escaped. A similar fluid flowed out of two smaller incisions in the forearm, at which the cellular membrane was observed of a yellow colour, while pus could be squeezed out of it at several points. Poultice to the part; five grains of subcarbonate of ammonia in camphor mixture, every four hours. Port wine and water occasionally. He died at eight in the morning of the 22d, and was examined in the middle of the day.

Examination.—On the inner and back of the limb, the cuticle was separated from the cutis; the latter had a mottled appearance, being unnaturally red, with patches of rather a livid hue, but it was not gangrenous at any part. Towards the front, the skin presented nearly its natural paleness, and the cuticle was adherent. In the situation first mentioned, the subcutaneous stratum of adipose substance presented a general light red tint, but no suppuration was observed in it at any point; in the other part of the limb, this texture had nearly its natural appearanee. The cellular tissue, which connects the adipose stratum to the fascia, had gone into the state of suppuration over the whole limb; it was of a yellow colour throughout, as if universally injected with pus, and a thin, turbid, or yellowish puriform fluid, gradually oosed from it; at some points, a thicker pus could be squeezed out. This change extended, in a slight degree, to the chest, and where it ended, the cellular membrane was loaded with a clear yellow serum. The fascia was quite natural, and the cellular membrane under it was unaffected. The superficial veins were not inflamed. The contents of the thorax and abdomen were healthy, excepting the liver, which displayed the organic changes produced by dram-drinking. The entire surface of the organ was studded with slight irregularities; it was light-coloured, and had a greasy appearance when sliced. Strong marks of vascular excitement were observed within the skull. All the vessels of the brain and membranes were excessively turgid; the pia mater was loaded with serum, and the ventricles contained about six ounces of water.

29. *Strangulated Ventral Hernia.* Operation by Mr. B. Cooper *. This case occurred in a stout, muscular man, aged 38. The hernia first appeared about twelve months before his admission into the hospisal, in the form of a small reducible tumour, situated on the fore part of the abdomen. 'At the time of his admission, (June 6.) the countenance was excessively anxious; the features were sunk, and the cheeks flushed. The tongue was furred, and the skin hot; the forehead and palms of the hands were bedewed with a clammy perspiration, and the pulse was small, quick, and thready. The hernial tumour was of considerable size, being nearly as large as two fists. The hernial tumour became pro-

* Ibid. No. 251.

truded on the left side of the linea alba, and just above the umbilicus. It was exquisitely tense and tender to the touch. The skin covering it had a shining appearance, and there was some tenderness of the abdomen generally. He had constant nausea, distressing vomiting, and occasional hiccup.

Upon consideration of the urgent nature of the symptoms, it was at once determined that an operation should be performed, to which the man readily consented.

The operation was commenced by making the ⌊ incision; the different coverings of the hernia were successively divided, and the hernial sac opened. The contents proved to be intestinal. Considerable effusion had taken place, the intestine was of a dark chocolate colour, and a small ecchymosed spot was observable. The stricture, which was chiefly formed by the mouth of the sac, was twice divided. As it was feared that gangrene had already commenced, it was thought most expedient to allow the strangulated portion to remain at the mouth of the sac, that in case the gut should give way, the man might have the chance of saving his life, although with an artificial anus. The operation was finished, by bringing the edges of the wound together in the usual manner, and the patient was placed in bed.

He was ordered to take two drachms of the sulphate of magnesia in spearmint water every hour, until the bowels were freely opened. After the two first doses, the stomach rejected the medicine. Instead of the salts being given in aqua menthæ viridis, they were administered in peppermint water, but with the same effect. A common clyster was injected. In the evening the clyster was repeated, but no evacuation followed.

7th. The patient has passed a restless night. He complains a good deal of pain in the right side of the abdomen. The pulse is 104, and *sharp*; the tongue furred, and the countenance anxious, but less sunk; the skin hot. He has had no evacuation from his bowels. The common enema was repeated three times, but no evacuation followed. The vitriolated infusion of mint was given, but the stomach rejected it immediately; it was therefore discontinued.

In the after part of the day the patient passed a small quantity of fæcal matter, probably some of the contents of the rectum. The abdomen was fomented, and he was ordered to take two grains of calomel, with half a grain of opium, every two hours. In the evening he became exceedingly restless, and the pills were discontinued, he having taken but three.

8th. The patient has slept a good deal during the night. The tongue was less furred; the temperature of the skin is lower; the pulse at 92, and softer; the abdomen much less tender; and the countenance decidedly improved. He was ordered to take two grains of calomel, with one grain and a half of opium, every two hours.

9th. On inquiry this morning, we find that, on the preceding evening, the bowels were rather copiously evacuated. After he had taken two of the pills he fell asleep, and had passed a good

night. The skin is now scarcely above the natural temperature; the tongue is much cleaner; the pulse is 88, soft and compressible; and there is somewhat less tenderness of the abdomen. In the course of the day the dressings were carefully removed, in order to examine the state of the wound, and it was found that a layer of adhesive matter had been thrown out, which completely covered the intestine, so that no part of the gut was discernible. Perfect quietude, and a strictly spare diet, were enjoined. No medicines were prescribed for him.

About three o'clock, *p. m.*, the same day, (Monday) he was suddenly taken with a severe pain in the abdomen, and a state of alarming collapse supervened. The countenance became anxious and pallid; the features shrunk; the pulse small, quick, and thready; the extremities cold; the respiration hurried; and an unusual coldness and dampness of the surface. The abdomen, though excessively painful, was not so when compressed by the hand, but rather became easier, which led to the belief that ulceration of the gut had taken place, and that extravasation of fæces had been the result. The patient was exceedingly restless, and was constantly throwing his arms about the bed. His body emitted a most peculiar cadaverous smell, and he was evidently sinking. Brandy and wine were ordered to be given him at intervals. He lingered out till the afternoon of Tuesday, when he expired.

Inspectio Cadaveris. On dilating the wound, and exposing the cavity of the abdomen, there were marks *of the most intense peritoneal inflammation* having existed. The intestines were much congested; the sides of the knuckle of the gut, which had formed the hernia, were glued together by adhesive matter; on opening it, a small spot of superficial ulceration was found, but there were no traces of gangrene. The peritoneal inflammation had gone on to such an extent, that not less than a gallon of fluid, in which were floating large flakes of coagulable lymph, was effused. The great omentum was much shortened, and there were other signs of chronic peritonitis having existed. The liver was enlarged, and on cutting into it several small abscesses were found.'

We suppose that the inflammation in this case was not suspected to run on so insidiously, and to the extent proved on inspection after death, otherwise why was bleeding not resorted to? why were leeches neglected? and why were cathartic enemata not administered, to open the bowels, when the common ones were found inefficient?

30. *Gouty Inflammation cured by Vaccination over the diseased part**.—'There appears to be some foundation for the opinion, that one disease acts as a remedy for another. This will occasionally happen, even when the artificial disease is less severe than the natural. It may appear paradoxical, that the weaker cause should overcome the stronger, but this is not the only paradox in medicine. Should it turn out that the cow-pox can beat off that inveterate enemy of epicureanism, the gout, many a

* Dr. Theodore Coxe. N. American Med. and Surg. Journ.

bumper will be drank to its success, and the subjects of Bacchus will enjoy such a freedom as they have not tasted of since this petty minister has been permitted to exert his tyranny over them.

'A lady of hereditary gouty diathesis had been inoculated for the small pox some fifty years ago, and suffered so severely from the disease, that her life was several times despaired of; she eventually, however, recovered at the expense of a pretty considerable pitting, and the scar upon the inoculated spot is nearly the size of a quarter of a dollar. Some time since, I was requested by her to vaccinate her servant girl, which I did, and successfully. She was herself labouring, at this time, under a severe attack of *gout* in her right wrist, which was swollen, and extremely painful, her system being feverish, &c. I inserted, with her permission, a portion of the virus into the affected part, with the view of ascertaining whether she could take the vaccine disease, and if so, what effects it would produce upon the gout. Somewhat to my surprise, and greatly to my satisfaction, she not only had the genuine disease, but the swelling and pain immediately left her arm; and long before the scab (which, by the way, was *green*) had dropped off, she was as well and as comfortable as she had ever been in her life. Several physicians and students of medicine requested and obtained a sight of the arm, and all acknowledged it to be an interesting case. The cicatrix remaining is of the genuine, porous kind.'

31. *Fracture of the Skull, with lesion of the Brain* *.—'On the evening of the 16th instant, William Murray was admitted with a compound fracture of the skull, attended with very considerable depression of the bone. The patient was quite irrational, and very violent when any attempt was made to examine the wound in the forehead. This was enlarged in the course of the fracture, and a small portion of the bone which was completely detached from the contiguous parts was then removed, this gave room for the introduction of the levator, by which the remainder of the depressed portions lying transversely across the forehead were first elevated, and, subsequently, removed with a pair of tooth forceps, leaving an oblong aperture of about two inches in length by three-fourths of an inch in its greatest breadth. A small portion of the brain also made its escape through the wound, although the breach in the dura mater was not perceived at the time of the operation.

This patient instantly recovered his senses, and answered questions rationally; he soon, however, lapsed into a state bordering on coma, was extremely averse to be disturbed, his pulse 126 and thready, his extremities cold, and his respiration tranquil until the morning of the 18th, when it suddenly became stertorous. You saw him at the usual hour of visit evidently moribund, and he sunk immediately afterwards, having survived the receipt of the injury not quite forty-eight hours.

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* Dr. Ballingall's Clinical Report of Cases treated at the Royal Infirmary.

On the same evening you saw the head opened in the theatre, the fracture was found extending backwards from the two extreme points of the opening through both orbitar plates of the frontal bone, and passing transversely across the ethmoid behind the crista galli. Opposite to the fissures in the roof of either orbit, the dura mater was found lacerated to a considerable extent, and portions of the brain protruding; its anterior lobes were found completely disorganized and broken down, and what was remarkable, a distinct appearance of purulent matter was seen upon the tunica arachnoides covering each hemisphere of the brain, although the patient had survived the accident for so short a time, had lost a very considerable quantity of blood from the wound, and had manifested no inflammatory symptoms.'

32. *Excrescences of an anomalous Character**.—Mary Goodfellow, aged 16, who was admitted on the 6th of December, with the cuticle in various parts of the body presenting the appearance of old superficial cicatrices, apparently the result of some general cutaneous eruption; as the left commissure of the lips, at the anterior margin of the left axilla, and on the left forearm, immediately below the flexure of the elbow joint, were prominent warty excrescences; and in the angle between the right labium pudendi, and top of the corresponding thigh was another excrescence of the same character, nearly as large as a duck's egg, it was of a soft warty texture, its surface apparently consisting of numerous granular bodies, of a florid red colour; and was by many very aptly compared in its appearance to the roe of a salmon. The history given of the origin and progress of the complaint, by the patient and her mother, was exceedingly unsatisfactory, and in many respects altogether contradictory; on one occasion it was stated to have been growing from her infancy, and on another to have originated only a few months ago; by some it was considered as a form of frambœsia or yaws, by others as a case of sibbens, and by others as a venereal affection; my own opinion, at first, was rather in favour of the latter supposition, chiefly from an apparent desire on the part of the patient and her mother to conceal its true origin, and from its resembling, in appearance, those cauliflower excrescences, frequently met with on the prepuce and glans of the male, as a sequela of venereal ulcers or abrasion; at all events, the disease was obviously of an extended and constitutional character, and hence, upon consultation with my colleagues, it was agreed to try the effects of constitutional treatment.

The girl was therefore put upon a course of mercurial pills, and a solution of corrosive sublimate, directed as a local application to the excrescence in the groin, the one in the axilla having been previously removed by a scalpel.

On the 13th of December, I find that her mouth had become sore from the mercury, and the following report entered in the journal:—'The swelling in the groin has much increased since

* Ibid.

her admission, a few of the largest of the small granular bodies composing the bulk of the tumour slough and fall off daily.'

On the 16th 'The disease' is reported to be 'still upon the increase; the angle of the mouth, the place on the anterior edge of the axilla, from which the diseased skin was removed by the knife, and two spots on the forearm, to which caustic has been applied, present the same granulated structure only in a diminished state of activity.'

On the 22d, the pills were ordered to be omitted in consequence of the soreness of her gums, and for some days about this period she suffered considerably from febrile irritation and restlessness, with much pain from the ulcerated and sloughing points of the excrescence.

On the 5th of January, when the febrile irritation had subsided and her system appeared free from the mercurial influence, I removed the tumour by excision, cutting out an oval portion of the integuments on which it was seated; upon dividing it longitudinally, and examining its structure, you saw that it involved the texture of the true skin, so that I had reason to be pleased at having removed the whole thickness of the integument, which some of my friends were, I believe, inclined to consider as an operation unnecessarily severe, thinking the disease confined entirely to the cuticle.

For a few days after the operation the patient suffered considerably from fever, her pulse being at one time as high as 134, but on the 8th, I find the following report entered, 'wound is beginning to granulate and looks well, her pulse 82, her bowels open, her skin cool, and no thirst.' From this time the wound continued to heal kindly, and is now cicatrized; she has suffered considerable pain latterly from an accession of inflammation in the skin of the axilla and of the forearm, but upon the whole has improved in her health, appetite, and appearance, since the operation.'

33. *Ligature on the external Iliac* *.—'James Thompson, aged 39, a chimney sweeper, who was admitted on the 10th of September, and was soon afterwards operated upon by Dr. Cullen, for the removal of some carcinomatous glands from the groin, seated close upon the great femoral vessels.

The sore left by the operation assumed at first a very promising aspect, continued to granulate kindly, and was very much reduced in extent, when at the distance of a fortnight from the operation, (I speak from recollection, the journal containing the first part of the case having disappeared,) the central part of the ulcer assumed a sloughy or rather phagedenic appearance, and speedily became excavated to a considerable depth; in this state it continued nearly stationary for some weeks, and then began again to extend from the centre outwards in every direction, the newly formed granulations giving way rapidly to the ulcerative process. This was attended with severe lancinating pains through the sore, with œdema of the limb, and much constitutional disturbance; these symp-

* Ibid.

toms were treated by the exhibition of laxatives and opiates, with the local application of the cicuta poultice, and latterly the arsenical solution. Towards the middle of December, some slight discharges of blood, apparently arterial, took place from the wound.

On the morning of the 18th, this bleeding was reported to me as being rather of an alarming nature; it recurred again in the course of that day, immmediately after I had left the hospital, but was readily suppressed by the application of dry lint with pressure. On the afternoon of the same day, intimation was sent to me that a third bleeding to the extent of several ounces had taken place from this man's groin; pressure was ordered to be kept up by the hands of one of the dressers, and a consultation assembled at half-past seven. The hæmorrhage, from what I had seen of it, I considered of an arterial character, but not from any breach in the femoral artery, although close upon the course of that vessel; in the state of the ulcer, any attempt to search for, and secure the bleeding artery would have been altogether futile, and even if tied, there would have been no permanent security, no complete closure, in a vessel coming off so immediately from the main trunk. Under these circumstances, it was considered unsafe to trust the patient during the ensuing night without the ligature of the external iliac; and this operation I immediately proceeded to perform, making an incision of between three and four inches long from near the abdominal ring to the anterior and superior spinous process of the ilium. This incision was, in consequence of the encroachment of the ulcer on the lower margin of the external oblique, made nearly in a straight line instead of the semilunar form usually recommended; after dividing some thickened and indurated cellular membrane, the tendon of the external oblique was exposed, and this having been divided along with the internal oblique and transversalis, the artery was readily found, pulsating in the bottom of the wound with some enlarged lymphatic glands lying over and contiguous to it; in separating them, a vessel of considerable magnitude was ruptured, from which a smart bleeding took place; the trunk of the external iliac was then seized above the bleeding point between the fore finger and thumb of the left hand, and the aneurism needle passed under it with the right, the knot being tied, one end of the ligature was cut off, and the wound dressed with adhesive strap.

On the following morning the patient, after a restless night, was found complaining of tenderness over the surface of the abdomen, increased upon pressure, his pulse 116; his bowels confined, his skin hot, and thirst urgent. The limb had for some hours after the operation felt cold and benumbed, but was now nearly of the natural temperature; no pulsation being perceptible in any part of it.

Leeches were ordered to the surface of the abdomen; the patient's bowels were directed to be relieved by an injection; the limb to be kept enveloped in warm flannel, and an opiate to be again exhibited at bed-time.

In a few days, the abdominal pain and tenderness had com-

pletely subsided under the use of mild laxatives and fomentations; the patient's general health and spirits continued tolerably good, with the exception of some slight rigors and tendency to sweating; his pulse, for ten days subsequent to the operation, ranging from 90 to 110; and, on the eleventh day, the ligature separated; at which time a considerable portion of the wound made in the operation had united, and the œdema of the affected limb was considerably diminished, but it was still subject to a considerable degree of numbness, and no pulsation to be felt in any part of it.

On the 30th of January, the wound made in the operation for the ligature of the artery was almost completely cicatrized, and the patient requested leave to get up, to which I consented; and, while putting on his clothes, hemorrhage occurred from the wound, but ceased on the application of dry lint; at four o'clock of the same day the bleeding recurred, and was checked by a piece of sponge.

On the 31st, two slight bleedings occurred previous to the visit, and about one o'clock of that day a hemorrhage took place, by which the patient lost, in all, upwards of two pounds of blood, apparently from a branch of the obturator artery, the ulceration having latterly extended down towards the foramen thyrodieum.—After this attack, the patient had nausea and vomiting, his pulse becoming extremely weak and fluttering. This bleeding was suppressed by thrusting down a piece of dry sponge into the bottom of the ulcer, and confining it by pressure of the hand.

At three o'clock, the patient was still so weak as not to admit of any other step being taken; a consultation was held the same evening after the clinical lecture, when it was decided that in a case so unfavourable, there was no encouragement, and no sufficient reason to undertake any farther operation, particularly as the hemorrhage was, for the time, completely commanded by the sponge, and, if from the obturator, it was thought not improbable that it might be permanently restrained by pressure.

The patient slept well on the following night after an anodyne draught, and continued to improve in strength until the 10th instant, when the sponge was removed, pressure having been kept up during the whole of this time, and the patient assiduously watched by a succession of dressers, to whom I am much indebted for their attention to this case. The sore, although now greatly enlarged in extent, was found to have a healthy aspect, insomuch that some of my friends were disposed to think that a cure might ultimately be effected. I had, however, seen too much of the malignant disposition of this ulcer to be for a moment deceived, and was not at all surprised in a few days to find the ulcerative process again going on in its centre, the granulations assuming an ash-coloured œdematous appearance, and the cavity enlarging at every subsequent dressing, while, at the same time, the granulations round the margin of the ulcer retain, as you see, a florid and healthy appearance.'

We wish hospital surgeons generally, would follow Dr. Ballingall's example in publishing a regular report of the more interest-

ing cases submitted to their care. Such a practice would tend, more than any thing we know, to the advancement of medical science. Until within these very few years the profession was totally ignorant of what was going forward within the walls of the hospitals of this country, with the exception of a few cases published occasionally in illustration of the practice of the author in particular diseases. We hope to live to see the day when the regulations of every hospital and infirmary in the kingdom, supported by the public money, will require the medical officers to publish a regular report of their practice. We hope this from no ill-will or jealousy towards the many very able and efficient officers attached to these establishments; far from it: we only look at the incalculable benefit which such a regulation would tend to confer on medical science.

34. *Venous Absorption* *.—Some experiments have been performed by Dr. C. Luzenburg and Mr. Mailliard, which are of an interesting character.

Both extremities of the stomach were included in ligature together with the gastric portion of the eighth pair of nerves, and those from the solar plexus. Under these cirumstances the prussiate of potash was abundantly absorbed and detected in various parts of the system. In the next experiments, which were performed on cats, the abdomen was opened, and the pyloric and cardiac extremities of the stomach included in ligatures, and divided; the peritoneal attachments were then all dissected away, so that this organ retained its connexion with the system only through the medium of one artery and one vein, and by these the circulation was observed to be kept up. The prussiate of potash, in solution, was then carefully conveyed into the stomach by means of a tube. The incision was finally closed by sutures, and the animal lived two and a half hours. When killed, it presented the following phenomena:—

The tincture of the muriate of iron, applied to the blood of the vena portæ produced a strong blue colour; blue patches were produced when it was applied to slices of the liver, to the heart; and most strikingly to the cut surfaces of the kidneys. When the external surface of the stomach was dashed with the tincture, very little of the blue colour was apparent, proving that these phenomena were not produced by transudation.

To determine the comparative activity of the lymphatics, the principal arteries first, and then the principal veins, were secured by ligature; the circulation being fully carried on by the small vessels remaining. The prussiate was introduced as before, and, at the expiration of two hours and a half, the animal was killed. The prussiate could no where be detected by the most careful application of the test, except in the strangulated veins of the stomach, where it was found in obvious quantity, they being much distended with blood. This, as well as the foregoing, was re-

* American Med. Recorder.

peated several times, with the same results. From this experiment, which was performed at the suggestion of Dr. Smith, he infers that the fluid part of the aliment is absorbed, and carried into the circulation at once by the veins of the stomach; that the liver performs the function of assimilation by separating any crude and saline substances from the portal blood which may be thus introduced, furnishing the material of bile.

The more solid food is converted into chyle by the digestive process, in the formation of which, bile performs an important office, and is absorbed and conveyed into the circulation by means of the lacteals and thoracic duct.'

35. *Chorea Cured by Iodine* *.—Dr. Peltz relates an interesting case of this nature. He was led to use the Iodine from the following pathological views:—He supposes the disease to be seated, in part, if not altogether, in the *tunica Arachnoidea*. It may be divided into *acute* and *chronic*. The acute consists in active inflammation of the above named membrane, and the chronic in a thickening of the same, being a consequence of the acute stage, which yields to local and general active depletion, and the antiphlogistic regimen. It is to the chronic form that Iodine is applicable.

In the case before us, Dr. Peltz directed 15 leeches to each temple. Salts, to procure free alvine evacuations. With pediluvium and sinapisms; the leeches and salts to be repeated every other day, and the pediluvium and sinapisms every other day for ten days; a blister was applied to the back of the neck, and kept open.

Frictions of turpentine were employed with some effect along the spine, and continued for some time. Under this treatment the improvement was slight. When Dr. Peltz thought that the chronic form had supervened, he prescribed Tr. Iodine in doses of six drops, three times a-day, which was gradually increased to 24 drops three times a-day. Under this plan, she improved, and at length completely recovered.'

36. *Structure of the Biliary Ducts* †.—According to M. Amussat there exist, in the parietes of the gall bladder and biliary canals, fleshy fibres; and in the cystic canal a spiral valve, the effect of which is, to cause the bile of the hepatic duct to ascend into the gall bladder, and to oppose the too sudden discharge of the cystic bile; the termination in a cone of the ductus choledochus, and its very contracted opening into the duodenum, favour this effect; finally, the duct of the pancreas opens always into the ductus choledochus and not into the duodenum.'

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* American Med. Recorder. † Journ. Univer. des Scien. Med.

GENERAL MISCELLANY
OF THE ACCESSORY SCIENCES.

1. *The conservation and reproduction of the Medicinal Leech.*—M. Chatelain has published two treatises on this subject. (Annales de la Méd. Physiol. Janv. 1827, and Journal de Physiologie Experimentale, tome VII, 1827.) His observations confirm the supposition that the leech is androgynous, and that the generative process is performed by reciprocal and simultaneous impregnation. One leech is capable of producing three capsules (cocons) ; but on an average, one capsule only is obtained from each individual, and nine leeches from each capsule. The author has observed, where a plurality of capsules occurred, that they were formed at intervals. The young escape from the capsule within twenty-six or twenty-eight days.

Contrary to the opinion of Dr. Pallas (Journ. de Pharmacie, Juin, 1827), M. Chatelain thinks sanguisuction is unfavourable to the fecundity of the leech. The plethora thus occasioned generally caused a mortality of one third of his leeches in the space of two or three months, notwithstanding frequent change of water and diversity of situation. In order to effect disgorgement of blood, the leeches were usually applied for four or five minutes to a solution of one part of common salt in ten of water. For their reception during the season, which M. Chatelain found, in Provence, to extend from the latter part of July to the middle of September, stone pans or jars, each containing a sufficient bed of moist clay, were arranged in the open air so as to be fully exposed to the sun. Two fine leeches were placed in each jar, which was then covered with a cloth of open texture, to prevent escape without excluding all light. With the same view, M. Chatelain was accustomed to draw a brush, dipped in equal parts of sulphuric acid and water, round the inside of the jar, about four or five inches above the clay. The jars were visited daily, and care taken to keep the clay moist.

It is remarkable that the pairs could never be detected in the act of copulation. This was supposed to be accomplished within the burrows which these animals made in the clay.

2. *The Preservation of Leeches.*—M. Pfeufer, physician to the Hospital of Bamberg, recommends the use of a wooden tub, furnished with a cock and a long funnel, for the purpose of renewing the water, which should be done with as little disturbance as possible. At the bottom of the tub, he would have some mud from the pool whence the leeches were taken, with one or more roots of the calamus aromaticus or of the iris florentina. This was the method adopted by M. Chatelain, and is followed in most of the hospitals in France.

M. Schütz takes some ounces of fresh powdered charcoal, which he washes sufficiently with water; on this powder he pours a solution of twenty grains of sugar of milk in warm water. In this mixture he places his leeches, keeping them in a temperature between 50 and 55° Fahr. The water, as well as the solution of the sugar of milk, is renewed every fortnight ; great care being taken that the water be not too cold, and that the vessel be not much shaken.

M. Hampe uses small tubs charred on the inside, covered only with gauze. At the bottom is placed sand, and upon this some moss. River water only is employed, to which he adds a few lumps of charcoal. In summer, the water is changed weekly, by means of a hole pierced immediately above the layer of sand. In winter it is enough to change the water once in six weeks, preventing the access of cold. This method is much recommended.

M. Voget also advises us to add to the water some of the soil to which the leeches have been accustomed ; bu the peculiarity of his method is the addition of oxide of iron.—*Bulletin des Sc. Méd. Avril*, 1828.

3. *Vaccination in France.*—During the year 1825, there were born in France 587,948 children, of whom 378,500 were vaccinated; 26,571 had the small-pox; of these 2,245 were either disfigured or debilitated by the disease, and 3,369 died of it. The sum of 31,305 francs was expended in the vaccination of about two thirds of the children born in this year.

In the kingdom of Naples, the number of births for 1824 was 231,936 ; vaccinations 67,974.

The Russians have lately introduced this salutary practice into California. In 1823, vaccination was introduced into the Aleutian Islands: it is also known to have been lately practised on the children of the Grand Seignior.—*Bulletin. Ibid.*

4. *New Method of Administering Copaiba.*—In consequence of the disgusting flavour of balsam of copaiba, and of the frequent adulterations of that valuable medicine, M. Dublanc, junior, has employed the volatile oil in preference to the balsam itself. This oil is very efficacious, whilst the resin is nearly inert. MM. Bard and Cuillerier have witnessed the success of this mode of administering the copaiba in thirty-three patients, who were cured in five or six days.

M. Dublanc forms a spirit of copaiba by distilling the essential oil with two thirds of its weight of alcohol. (Sp. qr. 837.) This is nearly free from the unpleasant smell and flavour of the drug.

M. Miathes states, that if bals. copaibæ be mixed with a seventeenth of its weight of pure magnesia, it will acquire a degree of solidity sufficient to allow it to be formed into pills.—*Revue Médicale.*

5. *On the Effects produced on different Substances by powerful Magnets.*—In experimenting upon the action exerted by powerful magnets on different bodies, M. Becquerel found that the magnetic effects produced upon steel and soft iron by the influence of a strong magnet differed essentially from that produced on bodies in which the magnetism is weaker. In the first, whatever are the directions which they take relative to the magnet, the distribution of magnetism is always in the direction of the length, whilst with peroxide of iron, wood, or gum lac, it is mostly in the direction of the width, and always when only one magnetic bar is employed, whatever may be the direction taken by the substance.

These differences of effect, which establish a line of demarcation between the two sets of phenomena, are dependent upon the circumstance that the magnetism being very small in the latter bodies, the reaction of the substance upon itself may be neglected, and consequently the action of the magnet upon the substance is the most powerful agency.

6. *Discovery of a New Mineral Spring.*—A mineral spring has lately been discovered on the premises of Mr. Limer, near Windsor, on the road leading to Wingfield and Ascot Heath, which, upon analysis, has been found to contain the following ingredients, per gallon:—Muriate of magnesia, 16 grains; of lime, 56 grains; sulphate of soda, 152 grains; carbonate of lime, 28 grains.

7. *Formation of Adipocere.*—The following account of the formation of adipocere is given by Dr. Harlan, of Philadelphia, in the North American Medical and Surgical Journal:—

'During the summer of 1824, whilst superintending some anatomical preparations at my dissecting rooms in Hartung's alley, I had occasion to macerate a cranium. For this purpose I directed the head of a large fat negro, who had died of acute fever, to be placed in a barrel half filled with water, and closely covered over. On examining the process about six weeks afterwards, with the expectation of finding the maceration completed, I was somewhat surprised to observe the head floating buoyantly on the surface of the water, lying on one side. The air of putrefaction, disengaged within the cranium, most probably raised it to the surface. The upper surface, or that which floated above the water, presented a tumid appearance, and on cutting into it, the whole substance down to the bone was completely converted into adipocere. That portion of the head and face, on the contrary, immersed in the water, was found putrid and macerated.

'Those bodies in which this change has occurred in the cemeteries of this city, such at least as have come under my observation, have been interred in a soil of clay, with a layer of gravel or sand superimposed, the water percolating down to the clay, which confines it in the vicinity of the body, which rests on the water.

'It would appear, that bodies once converted into the matter of adipocere resist decomposition for a long period. The body of a female, lately disinterred by the relatives, from a burial place in this city, six years after death, had undergone a complete change into a substance of this nature, and was so solid and heavy, as to require the united efforts of several men to raise it from the grave! The eyes were sunk, and the lids of a white waxy appearance, but nothing

like actual decomposition had taken place. Such other portions of the body as were accidentally exposed to view were of the colour of tallow, or dirty wax.'

8. *The proportion of Morphine contained in Opium.*—The actual proportion of morphine contained in opium is not generally known to the profession; and chemists have been very silent upon this subject. But M. Pelletier let out the secret a few months ago at the *Académie Royale de Médecine.* He says, that five hundred *grammes* * of opium will yield from thirty-six to forty *grammes* of morphia.

9. *The proportion of Emetine contained in Ipecacuanha.*—M. Pelletier informed the *Académie,* also, of the usual proportion of emetine which ipecacuanha contains. According to him one *livre*† of ipecacuanha will yield from twenty-five to thirty *grains*† of emetine.

10. *Method of obtaining the Figure of a Plant.*—A piece of paper is to be rubbed over with powdered dragon's blood, in the manner practised by engravers, and then the small branch or leaf of which the design is required is to be laid upon it: by means of slight friction it soon takes up a small quantity of the powder, and being then laid upon moistened paper, an impression is to be taken in the manner practised for lithography without a machine. This process may be usefully employed for preserving certain physiognomical and characteristic features, which cannot be retained by drying the plant.—*Bull. Univ.*

11. *New Material for Paper.*—M. Julia Fontenelle has established a manufacture for paper from liquorice root. It is said to be very white, to require no sizing, and to be manufactured at a price much less than that made from rags.

12. *Combination of Lime with Water.*—According to M. Bellani, when lime combines with water, notwithstanding the intense chemical action which takes place and the heat envolved, there is no ultimate condensation between the elements of the hydrate. Lime was put into a matrass, and then the vessel filled to the middle of the neck with water; the place of the surface of the water was then marked, after which heat was applied and the lime converted into a hydrate, no vapour being allowed to escape; when the whole was cool, the place of the surface was exactly in the same part of the neck as at first.—*Giornale de Fisica.*

13. *On the Active Principle of Hemlock.*—According to MM. Brandes and Giseke, the best method of obtaining this vegeto-alkali consists in digesting the fresh plant for several days in acohol, filtering and evaporating the liquid, mixing the residue with water, and acting either by alumina, magnesia, or the oxide of lead; the whole is then to be evaporated to dryness, and the substance obtained acted upon by a mixture of alcohol and ether; the solution being evaporated, yields the principle now distinguished by the name of Conin *(Conia).* This principle is said to possess decided alkaline properties; its aqueous solution forms an abundant red precipitate, with tincture of idoine. Half a grain of the substance will kill a rabbit, the symptoms being the same as those produced by strychnia.—*Bull. Univ.*

14. *Purification of Alcohol.*—A prize was offered by the Royal Academy of Brussels to the person who should prove upon what the difference between alcohol, extracted from various substances, as fruits, grain, roots, sugar, &c. depended. This was obtained by M. Hensmans, who was led, by numerous experiments, to conclude that the alcohol was always identical, but that the difficulty, more or less great, always found in rectifying it, as well also as the difference in taste, depended upon the presence of a fatty matter, and a little acetic ether. The fatty matter, when alone, may be separated by several distillations, but the acetic ether is not removed in this way. It is better in every case, for the removal of both, to add a little caustic potash, or soda, to the alcohol, to be rectified. Carbonated alkali does not act with sufficient energy. —*Ibid.*

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* A *gramme* is about 15 grains troy.

† A *livre* is equal to 15 ounces and 6 drachms troy; and a *grain* French is equal to 4-5 of a grain troy.

15. *Disease of Silk Worms and its Cure.*—In the southern parts of France, where silk worms are raised, it is very common to observe the insects attacked by a disease called the jaundice, in consequence of the colour acquired by them. Very careful examination is continually made for the discovery of such worms as may be attacked by it, that they may be removed, lest the disease, being contagious, should spread to the others.

The Abbé Eysseric, of Carpentras, had recourse to a remedy in these cases, which, though apparently dangerous, had been warranted by the success of twenty years. He used to powder his worms over with quick lime by means of a silk sieve; he then gave them mulberry leaves moistened with a few drops of wine, and the insects instantly set about devouring the leaves with an eagerness which they did not usually show. Not one of the hurdles upon which he raised his worms appeared infected with the jaundice. It was at first supposed, that the cocoons of silk were injured by this process; this, however, is not the case, and his method of practice is now adopted generally in the department of Vaucluse.—*Bull. Univ.*

16. *Fall of Aërolites.*—On the 26th Sept. last, a shower of aërolites fell near Belostok, between nine and ten o'clock in the morning. The inhabitants were alarmed by an extraordinary noise, which proceeded from a large black cloud that hung over their heads, and which continued for three (some say six) minutes, resembling a running fire of musketry. The noise, which was heard by several persons at the distance of more than fourteen wersts, was succeeded immediately by a shower of stones, of which only four were picked up; the largest weighed four pounds, the smallest three quarters.—*St. Petersburgh Gazette.*

17. *Prospectus of a New Medical Journal.*—We have received the prospectus of a new Medical Journal, called the "*Midland Medical and Surgical Reporter.*" We are told that as it is to be strictly a record of facts, no reviews will find a place in it; but every thing that can in the slightest degree tend to enrich the topography of the district will be readily inserted, more especially observations Statistical, Botanical, Geological and Meteorological. It is to be conducted by gentlemen attached to public Institutions, and to contain Reports from these Institutions. Letters and Communications are to be addressed, free of expense, to the EDITORS, at the Office of the Worcester Journal. The first Number, price 2*s.* 6*d.*, will appear on the 1st of August, and the succeeding numbers Quarterly. All we can say is, that we wish it every success, and we should not be sorry to find the same spirit pervade among the Medical Officers of other provincial Hospitals.

18. *The Circular System*—Now, there is incontestible evidence to prove that the same system which is found to govern the heavenly bodies—a system plainly circular—is typically represented on earth, and is that upon which the whole of organised matter has originally been planned. If either the animal or the vegetable kingdom be attentively considered, they will each present a certain number of primary divisions, following each other in a series of affinity. They will also have this remarkable peculiarity, that the last will so intimately resemble the first, that the series returns again to the point from which the investigation commenced; and thus, by the union of the first division with the last, the whole can only be represented under the form of a circle. Again, if any one of these primary divisions be examined singly, the same disposition will be found; each of these secondary groups will form their own circles of affinity. These again are found to contain smaller circles, till at last the inquiry becomes limited to the individual species.

19. *Spontaneous Organisation of Matter.*—M. Bory de St. Vincent has occupied himself for some time past with a variety of microscopic observations, having for their object to prove the natural tendency of matter to become organized. Observing the appearances successively presented in water exposed to light, he thought he saw, for the first time, matter assume the aspect of a simple mucosity, without colour or form. If the water contains any animal substance, it produces a pellicle of this mucosity at its surface, then becomes turbid, and discloses an infinity of living atoms, if we may so call those monads, which, after being magnified a thousand times, are not so large as the point of a needle, and

which yet move in all directions with prodigious velocity. This is what M. Bory names matter in the living state. When the water is exposed to the air and light, there quickly forms what is named the green matter of Priestly, which many observers have supposed to be the first state of certain confervæ, or plants of a like nature. M. Bory thinks that it is a combination of a more general form, and only susceptible of entering into the composition of these plants, as well as of the animalcules which issue from it, and which produces them. He names this combination matter in the vegetative state. It is by it that the infusory animals are rendered green. Those which colour oysters, according to M. Gaillon's observations, produce this effect, as M. Bory says, only because they are themselves coloured by the green matter. It colours, in the same manner, the water and the shells of these oysters ; and it would not be impossible to find some tinged directly by this matter, without any animalcules having penetrated into them.

20. *White Cats with Blue Eyes always Deaf.*—In the "Magazine of Natural History," No. 1, we are told that this is a fact. If it be, it is rather a remarkable one.

21. *On the Means of ascertaining the Purity of Sulphate of Quina.* By Mr. Phillips.—Pure sulphate of quina has the form of minute fibrous crystals, it is inodorous, and its taste is bitter. If certain vegetable products, such as starch or sugar, be mechanically mixed with it, they may possibly be observed by merely inspecting the preparation with a glass.

1st, If the sulphate of quina be mixed with a considerable proportion of foreign matter, it may probably be detected by dissolving the salt in question in about three hundred times its weight of water,—say one grain in about five fluid drachms of boiling distilled water. On cooling, pure sulphate of quina will be deposited in feathery crystals in twenty-four hours, if there be no adulteration.

2dly, As indirect, but as good collateral evidence, the taste of sulphate of quina, of known good quality, may be compared with that of another sample. Thus, when pure, a grain of sulphate of quina will render nearly a pound and a-half of water, or 10,500 grains, sensibly bitter.

3dly, The alkalies either pure or their carbonates, if but slightly in excess, always occasion precipitation at ordinary temperatures in a solution of sulphate of quina containing only 1-1000th of its weight, or less than one grain in two fluid ounces of water.

4thly, A solution of tannin occasions a very sensible precipitate in an aqueous solution of sulphate of quina, containing only 1-10,000th of its weight of the salt, provided there be no acid in excess. Kino is that form of tannin which best answers the purpose. It is, however, to be observed, that the salts of morphia, cinchonia, strychnia, &c. are similarly affected by tannin; but they are not likely to be mixed with sulphate of quina.

5thly, Sulphate of quina suspected to contain sugar, gum, or other substances soluble in cold water, may be tried by digesting the same portion of the salt in small and successive portions of water to saturation. If the sulphate of quina be pure, and the solutions all properly saturated, they will have the same taste and specific gravity ; and similar portions will yield by evaporation equal quantities of solid residuum.

6thly, A repetition of the above process, substituting alcohol for water, answers for extracting resin and some other substances, because sulphate of quina is soluble in alcohol to only a limited extent.

7thly, If a white substance insoluble in cold water be found in the sulphate of quina, heat the mixture to about 170° of Fahrenheit. This will render starch soluble, and its presence may be determined by the addition of an aqueous solution of iodine, which will immediately occasion a blue colour, and eventually a blue precipitate. The iodine should be added in very small quantity.

8thly, Sulphate of quina has been adulterated with ammoniacal salts. These are rendered obvious by adding a little of the suspected salt to a solution of potash. If any ammoniacal salt be present, ammonical gas will be readily detected, either by the smell, or by holding over the mixture a piece of turmeric paper, or a bit of glass moistened with acetic acid.

9thly, To ascertain whether sulphate of quina contains any earthy salts, such as sulphate of magnesia or sulphate of lime, burn a portion of it in a silver or

platina crucible, or even in a clean tobacco-pipe. Any earthy salt, or any matter indestructible by heat, will of course remain in the vessel.

10thly, To ascertain that the sulphate of quina contains the proper quantity of sulphuric acid and quina, dissolve a little in pure muriatic or nitric acid, and add a solution of muriate or nitrate of barytes; sixty parts should give about 17·3 to 17·4 of sulphate of barytes; or the method may be varied without the trouble of drying the precipitate. Dissolve sixty grains of sulphate of quina in water slightly acidulated with muriatic or nitric acid; add a solution of eighteen grains of nitrate of barytes, and separate the precipitated sulphate of barytes by filtering. If nitrate of barytes be now added to the clear solution, it should still occasion slight precipitation, for sixty of sulphate of quina contains 5·8 gr. of sulphuric acid, equivalent to 19·1 of nitrate of barytes.

This test is only to determine that there is no crystallized vegetable matter uncombined with sulphuric acid in the sulphate of quina; the detection of earthy or alkaline sulphates has already been provided for.

11thly, Sulphate of quina should lose not more than from 8 to 10 per cent. of water by being heated till deprived of its water of crystallization. Mr. Barry informs me that he once examined a sample which contained more than 40 per cent. of water in excess diffused through it.—*Phil. Mag.*

22. *Extraordinary Experiment.*—An experiment was lately made at the New Tivoli, at Paris, to ascertain the degree of heat it is possible for a man to bear, in the presence of a company of about two hundred persons, amongst whom were many professors, savans, and physiologists, who had been specially invited to attend by the physician Robertson, director of this establishment. The man on whom this experiment was made is a Spaniard, of Andalusia, named Martinez, aged forty-three years. A cylindrical oven, constructed in the shape of a dome, had been heated for four hours, by a very powerful fire. At ten minutes past eight, the Spaniard, having on large pantaloons of red flannel, a thick cloak also of flannel, and a large felt, after the fashion of straw hats, went into the oven, where he remained, seated on a foot-stool, during 14 minutes, exposed to a heat of from 45° to 50° of a metalic thermometer, the gradation of which did not go higher than 50. He sung a Spanish song while a fowl was roasted by his side. At his coming out of the oven, the physicians found that his pulse beat 134 pulsations in a minute, though it was but 72 at his going in. The oven being heated anew for a second experiment, the Spaniard re-entered, and seated himself in the same attitude, at three-quarters past eight, ate the fowl, and drank a bottle of wine to the health of the spectators. At coming out his pulse was 176, and the thermometer indicated a heat of 110° of Reaumur. Finally, for the third and last experiment, which almost immediately followed the second, he was stretched on a plank, surrounded with lighted candles, and thus put into the oven, the mouth of which was closed this time. He was there nearly five minutes, when all the spectators cried out—"Enough, enough!" and anxiously hastened to take him out. A noxious and suffocating vapour of tallow filled the inside of the oven, and all the candles were extinguished and melted. The Spaniard, whose pulse was 200 at comming out of the gulph of heat, immediately threw himself into a cold bath, and in two or three minutes after was on his feet safe and sound. He was received with the unanimous applause of all the spectators. It is expected that the savans who witnessed this extraordinary experiment with the greatest attention, will publish their observations on this test to prove what degree of heat the human body is able to bear without danger to life.

23. *Linnæan Society.*—The council of the Linnæan Society have had an offer of the late President's collection in Natural History, consisting of the Collections and Library of *Linnæus*, and of those of his son, and the President's own collections and Library, for the sum of 4000*l.*

These collections consist of the Herbarium of Linnæus, as well as that of his son; and of his Cabinets of Insects and Shells, together with the entire Linnæan Manuscripts and Letters of the eminent naturalists with whom he corresponded. The library of Linnæus is extensive, and many of the books are enriched with his MS. notes.

The Herbarium of the late President is also very extensive, and it is scarcely less valuable than that of Linnæus, as furnishing authority for the species he

has described, especially in the English Botany, the Flora Britannica and the English Flora.

If this offer should not be accepted by the Society, these invaluable treasures will be disposed of to the highest bidder.

24. *On the relation of Water to hot polished Surfaces.*—The tranquil state of a drop of water in a very hot silver teaspoon, or metallic capsule, with the comparative lengthened period of its evaporation, are facts well known, and are usually explained by admitting the intervention of a film of vapour which prevents the contact of the water and the metal, and so interferes with the transmission of heat. Mr. Perkins thinks he has proved that other causes are importantly active; but without referring to the opinions on this point, I have thought it may be interesting to point out another form of the experiment which I have often witnessed. A large through of water being placed under the fire bars of a powerful furnace, the water soon becomes heated by the fall of ashes into it, and the communication of heat both by radiation and condensation. With the ashes fall numerous small globules of slag highly heated, and these will frequently remain upon the surface of the water, slightly depressing it at the place, and will float quietly about for several seconds, as drops of water or alcohol, and other substances, do upon masses of their own fluids. During this time they retain a high temperature, cooling by comparison very slowly; but on a sudden, when at a certain point, they come in contact with the water, hiss, are quenched, forming steam, and instantly sink. When these globules have been afterwards examined, they have been found now and then hollow, but generally solid, highly polished, very round and heavy, as slags ordinarily are.

25. *Extraordinary Fall of Rain.*—May 20, 1827, six inches of rain fell at Geneva in the short space of three hours.

From September 23 to 27, 1827, there fell at Montpellier, fifteen inches eight lines of rain. In forty-eight hours, from the 24th to the 26th of that month, eleven inches ten lines of rain fell at M. Berrard's manufactory, near Montpellier.

The fall of rain at Joyeuse (department de l'Ardêche) was, according to the registers of M. Tardy de la Brossy, most extraordinary. The maximum of rain collected in any one day, for twenty-three years, was on the 9th of August, 1807, as much as nine inches three lines. But on the 9th of October, 1827, there fell *twenty-nine inches three lines of rain*, in the space of twenty-two hours. Eleven days of that month, according to the same registers, gave thirty-six inches of water, or about double the quantity which fell at Paris during the whole year.

During the dreadful fall of rain on the 9th, the barometer was nearly stationary, and only two or three lines beneath its mean height. Claps of thunder succeeded each other without intermission.

BOOKS RECEIVED DURING THE MONTH.

1. On Difficult Cases of Parturition; and the use of Ergot of Rye. By W. Michell, Member of the Royal College of Surgeons. 8vo. pp. 128. Underwood, London, 1828.

☞ We shall offer some remarks on this work in our next.

2. Deafness; its Causes, Prevention, and Cure. By John Stevenson, Esq. Member of the Royal College of Surgeons, Lecturer on the Structure, Economy, and Diseases of the Eye and Ear; and Surgeon-Oculist and Aurist Extraordinary to his Royal Highness the Duke of Clarence. 8vo. pp. 262. Henry Colburn, London, 1828.

☞ We shall take further notice of Mr. Stevenson's work.

3. A Rational Exposition of the Physical Signs of the Diseases of the Lungs and Pleura; Illustrating their Pathology, and facilitating their Diagnosis. By Charles J. B. Williams, M.D. 8vo. pp. 191. Underwood, London, 1828.

☞ Dr. Williams has treated his subject in a very able manner. The work is well deserving of perusal.

4. On the Curative Influence of the Southern Coast of England: especially

that of Hastings: with Observations on Diseases in which a Residence on the Coast is most beneficial. By William Harwood, M.D. 8vo. pp. 326. H. Colburn, London, 1828.

☞ This work will form an interesting companion to the invalid, especially if he intends visiting the Southern Coast.

5. Observations and Experiments on the Efficacy and Modus Operandi of Cupping-glasses in preventing and arresting the Effects of Poisoned Wounds. By Caspar Wistar Pennock, M.D. pp. 20. Philadelphia, 1828.

☞ A very interesting pamphlet, containing a great number of experiments.

6. On the Influence of Medicine. An Oration delivered before the Philadelphia Medical Society, pursuant to appointment, by John Bell, M.D. One of the Corresponding Secretaries of the Society; Lecturer on the Institutes of Medicine and Medical Jurisprudence in the Philadelphia Medical Institute. p. 36. Philadelphia, 1828.

☞ Well written, but in rather too florid a style.

7. Medical Guide to Paris.—A description of the Principal Hospitals of Paris, with some account of the Practice of the most eminent Physicians and Surgeons attached to the different Hospitals. Translated from the French of F. S. Ratier, M.D. with considerable Additions, by J. R. Alcock. Burgess and Hill, London, 1828.

LITERARY INTELLIGENCE.

Speedily will be published, Letters on the Medical Effects of a Sulphureous Spring in the neighbourhood of Donegal, Ireland.

NOTICE TO CORRESPONDENTS.

Communications have been received from Dr. Copland, Dr. Foot, Dr. Kennedy, Mr. Lucas, and A.B.

Remarks on Mr. Stone's "Evidences against the System of Phrenology" shall appear in our next. Our able Correspondent says, that "Mr. Stone's representation of the phrenological doctrines, and of the facts on which they are founded, is, in many instances, so grossly unfair as to deserve the exposure and reprehension due to moral delinquencies; his sophistry and mis-statement, indeed, have no parallel except in the indecent and vulgar impudence with which they are promulgated."

An Index to the last Volume of THE REPOSITORY will be found stitched to this Number. The Index shall be sent in future with the last Number of each volume.

The present Number will give our Readers an idea of the plan and scope of the Journal. Each Number will consist of twelve half sheets, five of which will be in small type, and the articles therein condensed as much as possible. Our next will contain several Clinical Reports from the Hôtel-Dieu and La Charité.

*** Communications, and Works for Review, are requested to be addressed to the EDITORS, to the care of Messrs. T. and G. UNDERWOOD, 32, Fleet-street.

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CRITICAL REVIEW.

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I.—*On Difficult Cases of Parturition; and the Use of the Ergot of Rye.* By W. Michell, Member of the Royal College of Surgeons, 8vo. p. 128. Underwood, London, 1828.

That many painful affections owe their existence to the luxurious habits to which civilized nations are invariably addicted, cannot be doubted; but, not only are diseases and death the constant companions of barbarous nations at the present day, it is recorded that in those early ages of the world, also, when the habits of mankind formed all the patterns of simplicity, and when pastoral life was the order of the time, the human species were, nevertheless, not free from the ravages of that inveterate enemy of our race, and one generation after another was compelled to submit to its conquering hand. The imagination of the poet may range through that fanciful age of the world when pain and sorrow were strangers in the land, and feed upon the ideal simplicity so happily combined with his reveries; but the philosopher and the historian, whose research is only in pursuit of truth, will find ample proof, both in the phenomena of nature as presented to their senses, and in early records, that disease and pain have ever been very constant associates of the human species. We shall not at present enter into the speculative inquiry, whether pain be, or be not, as natural as health to mankind; but if it be the great aim and end of the healing art to relieve pain and preserve life, we conceive it to be applicable to these objects in every state of society and in every condition in which man is placed, whether the pain be the effect of natural or of artificial causes.

An attempt has been made of late to cast a stigma on the circumstance of the practice of midwifery being consigned to the hands of medical men, because, forsooth, the pain of

child-birth is natural to the female of our species, and ought never to be interfered with by any means of art. If nature always acted the part of a skilful surgeon, we perfectly agree that there would be no necessity for interfering with her process; but, unfortunately, it often happens that she loses sight of that end which we are so anxious to see obtained. It has been stated as one objection to the practice of midwifery being consigned to the hands of medical men, that the accoucheur cannot bring about delivery sooner than it would take place by the efforts of nature, without using means likely to prove injurious to both mother and child. If by such means is meant the use of instruments, we agree in opinion with those who object to the practice; but every medical man who has had much experience in midwifery must be aware, that, without the use of any other instrument than the hand, great assistance may be afforded in certain cases, and the patient may be saved from several hours of severe pain. The lessons given by midwifery teachers, that cases of vertex presentation ought *never* to be interfered with if the pelvis be capacious enough to allow the head to pass, that the membranes are never to be ruptured until the external parts are dilated, unless there be hemorrhage, or a preternatural presentation, and several other instructions of a similar nature, may answer the purpose of general rules for the guidance of pupils and young practitioners; but he who has devoted a great part of his time and attention to this branch of the art will be guided entirely by the circumstances attending every case; he knows that he can frequently save many hours time to himself and afford much relief to his patient by rupturing the membranes early, when the quantity of liquor amnii is very considerable, and when these membranes are thick and tough; and that, in some cases, he may assist the dilatation of the os uteri, or of the external parts, with considerable advantage to his patient and with saving of time to himself. This assistance may be rendered in cases where nature would be ultimately capable of effecting delivery, and where art tends only to shorten the process. But, were there no further occasion than this for professional aid, the practice might still be trusted, with some degree of safety, in the hands of the midwife, at the expense of a few hours unnecessary pain, occasionally, to the patient. It is not requisite to tell the profession that, in a great proportion of cases, delivery could never take place without the assistance of art, because they are already well acquainted with that fact. What would become of the patients in these cases were the practice of midwifery turned over to midwives? We are told by a weak-headed individual, that "physicians and

hospital surgeons of large intellect" are the only persons qualified to afford relief under such circumstances. We have already given this national slanderer the castigation due to his knavery, and we shall not now revert to the ravings of an individual who has made himself a disgrace to a profession of which he is so unworthy a member. Nothing can be so absurd as to suppose, that, because a person is a scientific physician, or a dexterous surgeon, he must therefore be a good accoucheur. All those who have practised midwifery know well that nothing but extensive experience in that branch of the art can arm the practitioner with the confidence requisite to enable him to overcome difficulties and danger when they present themselves, either in the form of preternatural presentation or in that of uterine hemorrhage, or, lastly, when puerperal convulsions threaten every moment to carry off the patient.

The author of the volume before us remarks, that of twenty-one deaths which have occurred within the last twelve years in the neighbourhood of the place where he lives, nineteen were those of women attended by midwives. Three of these were cases of placental presentation; six of them died from hemorrhage after delivery, and one of ruptured uterus. He has not been able to ascertain the cause of death in the other cases. Of those of placental presentation, it is most probable that not one would have died had there been medical aid at hand. It is an extremely rare thing, except in cases of mismanagement or ignorance, that death takes place from this cause when the patient is attended by a medical practitioner; and it is almost equally rare that hemorrhage after delivery leads to a fatal termination, even in the practice of those who attend hundreds annually. In fact, this branch of the healing art has kept pace in its progress with the advancement of medical science generally, and an unfortunate day will that be to society whereon the practice of midwifery shall be transferred to the hands of females, should that ever be the case.

The present volume is divided into ten chapters, the first six of which treat of labour in its different aspects; and the other four are occupied in a description of the history and properties of the ergot of rye, and in the recital of cases in illustration of its medicinal virtues. We shall take a general view of the whole work, and bring before our readers all those points which we shall consider interesting or instructive. Mr. Michell has evidently had extensive experience in this branch of the healing art, and as we have also not lacked in opportunities of acquiring information in the same branch, we shall be able the more readily and with the more atten-

tion to follow him through a subject of no small importance to the community at large.

Mr. Michell sets out with some remarks on puerperal convulsions. He thinks that this subject "has been most sadly neglected by most of our medical writers." It is true that not much light has yet been thrown on the pathology of puerperal convulsions, and we fear that our author has left the subject in much the same state as he found it, in this respect. He considers this frightful affection to depend upon the blood being determined to the brain, instead of to the uterus, where it is wanted. This view of the nature of the affection has been taken by many before this time, and the treatment has been generally founded upon it; but it is a view in which we can by no means coincide. The phenomena of convulsions are not such as usually attend cerebral *pressure*, but such as result from cerebral *irritation*. The affection most nearly allied to puerperal convulsions is epilepsy; and, although determination to the head may take place during the fit, or sometimes immediately preceding it, in this malady, still we cannot attribute the fit to that determination. The irritation in the brain, or sometimes in a distant part, from whence it is conveyed to the brain, precedes the determination of blood. The engorgement and the fit depend upon the same cause. Whether the term *irritation* be objectionable or not, no doubt can be entertained that the convulsion is brought on by some affection of the nervous or cerebral substance, and that it seldom, if ever, *depends* on engorgement. Every one is well acquainted with the symptoms of cerebral pressure. One of the chief symptoms is stupor. But no convulsions take place from pressure on the brain in one case out of a thousand.

Mr. Michell says, that if we could "throw this excess (of blood in the head) on the uterus, and retain it in that direction until the end of the labour, then as the uterus contracts and becomes unable to receive the whole of the blood sent towards it, it would be thrown on the abdominal muscles and cause them to act expulsively, instead of being driven from the part to the brain by the irritability of the os uteri." To suppose that the irritability of the *os uteri* can determine the blood to the brain is contrary to every thing we know respecting the animal economy. Irritability in any part generally produces a determination of blood to that seat, not to a distant seat; but it may extend to distant parts through the medium of the nerves. This it probably does in puerperal convulsions, and in epilepsy, when the fits are brought on by the epileptic aura.

We are well aware that local determination of blood may

take place when the quantity of fluid in the system is not more than sufficient for its due support; still we find puerperal convulsions occur as frequently in those whose habits of body render them little liable to such determinations, as we do in plethoric subjects. They are often caused by profuse hemorrhage, and they occur frequently in very weak and debilitated women who have been reduced by want or by previous illness. The remedy (musk) which the author recommends as proving almost invariably successful, is quite opposed to his view of the proximate cause of the affection. He says that he has found three doses of this medicine, of a scruple each, invariably to overcome the complaint. We wish every practitioner may find it as successful. It is a remedy of the efficacy or inefficacy of which we can say little from experience in this affection, but in others of an analogous character we have never found much reason to speak in its favour. Although we should be sorry to trust to musk in this complaint if we had opium and camphor at hand, judging from its inertness in affections in which we have seen it administered, we are by no means disposed to condemn it as useless in complaints on which we have not taken an opportunity of observing its effects. Mr. Michell advises "extracting the over-circulation of the brain," before the internal remedy is given "to lull the muscular parts of the body to rest." Abstraction of blood is, undoubtedly, required in many instances of puerperal convulsions, but we meet with cases of this nature, brought on by uterine hemorrhage, or attended by extreme debility, where the use of the lancet would only hurry the affection to a fatal termination. In fact, in the majority of cases of puerperal convulsions, the only remedy which proves successful, is the delivery of the patient, and this should be accomplished as soon as possible. Then the muscular system may be lulled to rest by the use of antispasmodics, since the cause which kept up the nervous irritation is removed.

In the second chapter the author takes a general view of the process of labour, with a particular reference to its expulsive force—of the construction and nature of the uterus—and he observes that the period of natural labour may be earlier or later in different individuals. Neither in this chapter, nor in the next, which treats of lingering labour and its causes, do we find any thing particularly worthy of remark; we shall, therefore, pass on to the fourth division. The author makes here some remarks on the Cæsarean operation and on embryotomy. He thinks that no valid reasons can be alleged for a preference to the Cæsarean operation over the opening of the child's head.

This subject, altogether, is the most important to which the attention of the medical practitioner is ever called, and no other within the scope of his art subjects him to such moral and religious responsibility, leaving out of the question legal responsibility. When he is called to a case, as he often is, where the head of the fœtus is found so disproportionate in size to the capacity of the outlet through which it naturally ought to pass, as to render it impossible for the birth of the child to take place without sacrificing its life or without endangering that of the mother, he is placed in a situation by no means to be envied. What ought to be done under such a circumstance? Ought nature to be allowed to take her course? Or is it our bounden duty, in a moral sense, to sacrifice one life to afford the other a chance of being preserved? If it be, what is it that ought to guide us in the choice of our victim? Is the life of the unborn of less consequence in the eye of divine law than that of an individual who may have run through half of her natural career? Ought certain death to be inflicted on one if there be the remotest chance of saving both? Mr. Michell says, "supposing the infant could be saved, on what plea can we put the life of the mother in comparison with that of the child? If, by a contrary practice, we save one woman out of five, even to the destruction of five children, I conceive the advantage is still on this side. If the increase of mankind be the consideration, the woman saved may afterwards have five children, and these have children as early (within a few years) as the infant, had it been saved."

No doubt the feeling of every practitioner, if compelled to consign either the mother or the child to certain and absolute death, would prompt him to inflict the sentence on a dozen children sooner than on one mother; but the question is, whether he has a right, naturally and morally, to adopt that choice? especially as there is a chance, however distant, of saving the lives of both parent and child. There is one thing to be taken into consideration here, namely, that of all those who are born, one half die before they arrive at the age of maturity, and, in a worldly sense, the life of a child is comparatively useless until he attains ten or twelve years of age. But Mr. Michell's view is erroneous when he calculates upon the probability, or even the possibility, of the woman having afterwards five children born alive, for as the child is seldom required to be sacrificed except where the pelvis of the mother is deformed, the same cause will always call for the same sacrifice in case of conception taking place. A woman who would place herself in a situation liable to lead to such a consequence after witnessing the sacrifice of one of her pro-

geny, and being warned that a similar occurrence must again necessarily follow in case of conception, must be guided more by her natural propensities than by any feelings of humanity or of religion; and it is a question whether she does not, in some degree, forfeit that claim due to her in the important consideration by which the practitioner is to be guided in the use of his art.

It does not appear to us that we have a right, or that our duty as professional men requires us, to sacrifice *five* lives certain, and probably *nine* lives, according to the author's view, for the sake of saving *one*. If the chance of saving the mother's life by embryotomy were only as one to five, we should never hesitate one moment to give preference to the Cæsarean operation; but, happily, the chances in favour of the life of the mother, if embryotomy be resorted to in time, before the vital powers have been exhausted, are much greater than in that proportion. What the proportion of deaths to recoveries from the Cæsarean operation is, we cannot tell, as it is very probable that many of the unsuccessful cases are never published, a circumstance which is much to be regretted; but that several recoveries have taken place after the operation, there is no reason to doubt. As the chances in favour of the mother's recovery after embryotomy has been resorted to in cases of excessive deformity of the pelvis, are very few, we should deem it justifiable in the practitioner, under such extreme circumstances, to attempt to save both lives, by the Cæsarean operation, provided he was certain of the child being alive at the time of the operation.

The most important question to be considered before either operation is decided on, is, whether the child be alive or not. If not, our duty is straight forward and we can perform it without regret. But if, on the other hand, the child be alive and strong, it is worthy of consideration whether or not the mother be affected with any disease likely to lead to a fatal termination within a limited period, even should she be safely delivered of the uterine contents. Should such be the case, there is no moral or political reason why the child should be consigned to certain death when it might be saved, together with a chance, however distant, of preserving the life of the mother for a time. The author considers "the Cæsarean operation a disgrace on the profession of the accoucheur." We admit that it should not be resorted to but in the most extreme cases; but we cannot consider any operation a disgrace whose object is to save life. That the life of the *child* would be often saved by it, if resorted to in time, is unquestionable. It is very probable, too, that a much

greater *number* of lives would be saved if this operation were always had recourse to, instead of embryotomy, when the child is living, and the pelvis of the mother materially deformed, than are saved by the certain sacrifice of the infant and the probable sacrifice of the mother at the same time. We do not adduce this probability as an inducement for any one to give preference to the life of the child to that of the mother. Far from it: we should not hesitate to prefer the latter, provided chances appeared in her favour if the child were destroyed. But to disregard the life of the infant, when it is evident that that of the mother must shortly cease from causes beyond our control, is as contrary to moral duty as it is to political expediency.

In the next chapter, Mr. Michell offers some remarks on the dilatation and separation of the ligamentous union of the pelvis. He notices the fact, which has been observed by every accoucheur, that the first labour, if it occur between the twenty-eighth and thirty-eighth year of the woman's age, is much more difficult, generally, than when it takes place at an earlier period of her life; but he thinks that after forty, labour is generally quick, "the pelvis giving way as soon as the os uteri is fully dilated." The difficulty at the middle period of life is attributed to the unyielding quality of the ligamentous bands uniting the bones of the pelvis; but why these ligaments should become more yielding about forty years of age, is not explained. Indeed we have never noticed that the first labour is more easy when the woman is above forty, than when under that age. Whether this depends upon the unyielding quality of the ligaments of the pelvis, or upon that of the softer parts, we do not pretend to say. We have always attributed the resistance at these ages to the rigidity of the muscles of the perinæum. From the nature of the union of the pelvic bones we can scarcely believe the force of the uterus sufficient to separate them to any sensible extent. Not only would the ligaments resist such a separation, but all the muscles attached to these bones would also oppose it.

Mr. Michell offers some very appropriate remarks on the means proposed by Dr. Conquest for accelerating labour. The Doctor, like some other midwifery teachers, is fond of laying down rules of his own, but which are not found to be the best in practice. Indeed, the conduct of the midwifery practitioner must be guided entirely by his own judgment in particular cases, by his anatomical knowledge of the parts concerned, and by his previous experience. The practice of midwifery is simple to a man of judgment, experience, and confidence; but to one who lacks in any of these

qualities, it is the most complicated and difficult attending any branch of the healing art. In the sixth chapter, Mr. Michell speaks of 'the various causes of lingering labour and its treatment;' and he shows that instrumental aid is rarely necessary. In this opinion we fully agree with him, especially since a remedy has been discovered which is capable of exerting such a powerful influence on the uterus. It is unnecessary to follow him through his remarks on lingering labour, we shall therefore proceed to notice that part of the work upon which its chief value depends, namely, wherein he speaks of the properties of the ergot of rye, and of the efficacy of this medicine in increasing the action of the uterus.

Mr. Michell thinks, that the general introduction of the ergot into practice will supersede the use of the forceps. We almost think so too, for it is, without exception, one of the most extraordinary remedies known. It is as speedy in its operation as almost any of the narcotic poisons, yet it is, so far as it has been hitherto tried, perfectly free from any poisonous properties; its effects on the uterus during labour are most striking, but at any other time it appears to be nearly, if not quite, inert. A remedy that will increase and quicken uterine action at the practitioner's command must be most valuable, especially to the country accoucheur, who is often called eight or ten miles from home, and there detained for hours, or sometimes days, without being able to afford much assistance to his patient, unless he resort to the use of instruments. So confident is the author of the power of the ergot, from a very extensive experience in its use, that in twenty years hence he would 'not be surprised if the forceps be known only by name, as, in cases in which the ergot cannot be administered, turning is all that is required.' We hope that his prediction may be verified. Although we are not *quite* so sanguine as Mr. Michell appears to be in this respect, still we are of opinion that this medicine will continue to maintain its character, and that the accoucheur will no more think of going to a case of midwifery without it than he would now without a phial of laudanum. Mr. Michell, in this part of the work, relates a very curious case, which we shall extract. From this, and some others of a similar nature, he infers that more women would recover if left to the course of nature than if the Cæsarean operation were performed for their delivery. This we doubt very much. The following case, and a few others of the like kind which may occur, are perfect anomalies.

'A woman was taken in labour, and a medical man continued with her all night. The pains continued slight during the day,

and passed off entirely the following night. From this time she felt nothing particular, but continued rather weak for ten weeks, she then applied to me for a pain in the back. The bowels were lessened in size, according to the account of her attendants, but she still insisted that she was with child, although she had not felt it since she said she was in labour. I could not help smiling at the woman's notions. I was again called to her, when she complained of very cutting pains in her back, and soon after I left her, there was (for the first time since the period when she stated herself to be in labour, an interval of thirteen weeks) a discharge of a highly offensive fluid; they called it blood, but I did not see it. A week after this, she called on me with a thigh bone of a fœtus and several small bones resembling the metatarsal; she continued to bring off bones, sometimes flat, sometimes cylindrical, for more than twelve months, walking five miles to market every week during the latter part of the time. She now enjoys perfect health, but has not conceived since. I have not the least doubt that more cases of this kind, where the woman recovers, might be adduced than from the Cæsarean operation. This woman, whose name is Pope, resides at a place called Old Cardynham. Had ergot of rye been then in use, she would have been saved twelve months of great pain and suffering.'

The eighth chapter is headed, 'Ergot—its production from rye and other plants—its general appearance as given by different writers, and observed by the author—medical properties when first observed—difference of opinion with respect to its poisonous qualities.' Rye is not much used now as an article of food. It has been discontinued from its having been found to cause a tendency to typhus fever, to gangrene of the lower extremities, and to other putrescent affections.

This property of the rye depends upon the ergot, or the diseased grain, a great quantity of which is often mixed with the healthy. Rye is still used as an article of food in some parts of England, but more particularly in Wales. This circumstance will probably account for the very putrid and fatal tendency of typhus fever in some parts of the principality, where it usually commits great ravages every year in apparently very healthy situations. The character of the fever in some of the most airy districts is far more putrescent than we have ever witnessed it in the metropolis. This may be owing to the principal article of food (bread) used by the lower classes being composed of a mixture of barley and rye.

The healthy ear of rye bends down when ripe, from the weight of the grain, but an ear which contains many ergotised grains stands erect, as the ergot is specifically lighter than the healthy corn. The genuine ergot presents, internally, a fine white colour, 'with a slight blush of pink;' when dried, and then exposed to the air, it very soon absorbs moisture; it then loses nearly all its medicinal virtues

if kept for any length of time. Mr. Michell says that, 'when allowed to become damp, it is liable to be attacked by a small insect, which will be found to have hollowed out its inside; but after it has been twice subjected to dampness and dried again, it remains enlarged, and no longer produces this insect.' The ergot should be kept in the grain, for when pulverized and left exposed it very soon loses its characteristic medicinal properties. Care should be taken not to use grains which have been destroyed internally by the insect which often infests the ergot, otherwise the practitioner will surely be disappointed in his expectations respecting the effects of the remedy. It is, probably, from using the decayed grains, or those which have been internally devoured by insects, that some practitioners have had reason to speak of the inefficacy of ergot. The medicine is generally given in the form of powder, in doses of from gr.x. to a ℈j. In this form it is apt to oppress the stomach very considerably, and to produce very troublesome vomiting. We agree with the author that it acts more satisfactorily in every respect when administered in the form of infusion. He recommends half a drachm to be infused in four ounces of boiling water, and a little milk to be added to the liquor when poured off. In this form it is less likely to disorder the action of the stomach, while its effects on the uterus are equally satisfactory. We may here suggest the propriety of endeavouring to separate the active principle of the ergot *(ergotine)* from the grosser and inert materials. This would avoid the disappointment which must result from using decayed or decomposed ergot.

The use of this drug has been objected to, from the supposition of its possessing poisonous properties. Did it require any further proof than we before possessed of the erroneousness of this notion, Mr. Michell's experiments on himself sufficiently afford it.

'So much has been said of its injurious effects from continued use, that I determined on making the experiment on myself. With this view I took ℈i in Inf. September 25, 1827, the 26th, 27th, 28th, and 29th. I then increased it to ʒss the 30th and Oct. 1st; the four following days I took ℈ii; the 6th, 7th, 8th, 9th, I increased it to ʒi at each dose, which was repeated twice every day, making in all eighteen drachms in fourteen days, so perfectly convinced was I of its innocency. The only effect or sensation I felt from it was this—The first dose I took felt on the stomach much like a glass of old beer, no tightness nor other symptom of any kind, the same sensation occurred until the last three doses, which produced no more effect than if I had drank a cup of tea. I have felt not the least unpleasant consequence since, nor did I from the beginning, although the smallest quan-

tity I took at any one time, except on the first four days, is the dose I am in the common practice of giving.'

It is rather remarkable that the ergot will not exert its influence on the uterus at any other time than during labour, and that a remedy which has such a powerful effect in bringing on contraction of the organ at this time, when it ought naturally to contract, should not have the same power over it at any other period. It has been administered in amenorrhœa, but without any sensible effect; nor does it appear to render any assistance in enabling the uterus to discharge its contents during the time of abortion.

We know so little of the modus operandi of medicine generally, that it would be no more than speculation to speak of that of a remedy which has not been many years in the hands of practitioners in this country. Mr. Michell, however, attempts to explain the manner in which the ergot acts on the uterus. He thinks that it produces contraction of the vessels of the lower extremities, thereby determining more blood to this organ than its due share. He remarks, that the blood which escapes when the funis is divided is always of a dark colour when the ergot has been administered. The inference which he draws from this is, that it acts entirely through the medium of the blood. In the first place, we have only to observe, that we have seldom, if ever, found the blood of the umbilical cord otherwise than dark coloured, both in the arteries and vein; this appearance of the blood is, therefore, no criterion by which we are to judge of the mode in which the ergot acts. The remedy produces a numbness of the lower extremities. Now, what reason have we to conclude that this numbness is owing to a contraction of the vessels? By destroying the sensibility of the nerves of the part, the same symptom would occur. The ergot, if persevered in for a great length of time, brings on gangrene of the extremities. Privation of nervous influence will produce the same effect. If the crural nerve of a rabbit be tied, gangrene takes place in the limb in a few days, and sloughing follows. By dividing the nerve, and taking a portion of it out, so as to prevent a union from taking place soon, the same effect will be produced. It is true that similar consequences follow the obstruction of blood to the limb; but this fact is not sufficient to lead us at once to conclude that the ergot acts by causing contraction of the arteries of a particular part, thereby determining more blood to another.

Mr. Michell relates twenty-one cases in illustration of the effects of the ergot of rye, and he informs us that these are only a few from amongst some hundreds in which the remedy

has proved effective in his hands. We shall extract one or two of these cases:

'Case 4. February 27, 1827. Was called to K———, of Blisland, at eight *p. m.* She had sharp pains in the back and bowels; having taken thirty drops of tinct. opii, the pains were after a time mitigated; remained with her until seven o'clock the following morning, when I left her. The same night, at eleven, I was called again; the pain had been constant since I had seen her before, but had now returned with greater force. I remained with her, but did nothing until five *a. m.* On examination I found the os uteri dilated about the size of a sixpence; soon after I left the patient. The same evening I was called again at nine o'clock; the distance being five miles, I arrived about ten, found her much as before, had been in pain the whole of the day. I was prepared with some ergot, and made an infusion with fifty small grains, about half a drachm, after standing for half an hour, I poured it off, added a little milk, which gave it the pink hue by which you can judge of its goodness. It was administered at a quarter before eleven; about two minutes before eleven the pains were altered, and at ten minutes after the patient expressed a wish that she had not taken it, the pains continued to increase. At a quarter past eleven, on examination, I found a vertex presentation, the os uteri dilated about the size of a wine glass, with a strong forcing down during the pain, without the appearance of expulsion by the breath, or even the least forcing down, or clenching things with the hands. At half past eleven the stomach ejected every thing; all the sensation she felt was a glow in the stomach. At twelve the pains continued without any cessation, the os uteri quite dilated, the head bearing on the perinæum, which was firm and thick, the parts well lubricated since the pains came on so severely. (The water was discharged on Sunday, 27th of February, at three *a. m.* with a slight pain.) The pain continued without intermission until the child was born; in a few minutes the after-birth was propelled into the vagina, with the same appearance of dark coloured blood. The child was living, and strong. I have not seen the woman since.'

The above case is such as we very commonly meet with in practice. The patient suffers annoying, unprofitable pains for days before the uterus makes any effort to expel its contents. Her strength is reduced and the system falls into an irritable, and often febrile, state, before any regular, parturient pains make their appearance. In country practice, where the distance is frequently considerable, these are some of the most troublesome cases the medical man can meet with. He now and then finds himself obliged to stay with his patient for twenty or thirty hours, without being able to render her any assistance, when nothing more is requisite to accomplish delivery than a few strong parturient pains. The effect of the ergot in such cases is most remarkable. The above forms a very fair specimen of what the practitioner is

to expect from its use in almost every case of a similar nature. The following case is instructing in many respects, and we consider Mr. Michell's remarks on it very correct.

'Case 7. I was called to P—, Clerkenwater, Helland parish, 29th July, 1826; found her complaining of pain, examined, and perceiving a face presentation, with a capacious pelvis, determined, for the sake of experiment, to see the effect of the ergot, whether it would overcome it; I gave ʒss., in sixteen minutes it had the usual effect. The urine, when I arrived, had not been evacuated for nine hours, I passed the catheter, abstracted about three ounces previously to the commencement of the pains. After about an hour the pains were excessive and continued, the os uteri was fully dilated, but the uterus was unable to propel its contents. In three hours after the first took effect I gave a second dose ℈ii. this again roused the dormant uterus, which had not acted for fifteen minutes, and continued for one hour. I did not consider it right to pursue the experiment further, lest it might be serious to the mother, I therefore turned the child, and delivered it in about ten minutes, as is my usual practice in cases of face or ear presentations. This child was born dead. The time from the first administration of the ergot to the birth of the child, was four hours and forty minutes, before the second dose was given all effect on the uterus had ceased from the want of the peculiar stimulus. Here an objection may be taken to turning after ergot has been administered, but I found it not at all more difficult than usual. Again, it may be surmised by those who are adverse to the use of ergot, that this child was killed by the *poisonous effects* of the ergot, and as the whole case affords the strongest possible refutation of such a supposition, it was fortunate that I was induced to make the experiment which I have just related. On laying my hand on the lower part of the abdomen, every part of it appeared as full and tense as before the delivery, and on passing up the finger I found on examination another child in utero. As the pains did not come on, I hesitated whether to have recourse to turning or to give another dose of ergot, but soon decided in favour of the spurred rye, of which I administered ℈ii., in five minutes it had its usual effect, and in nine minutes and a half a fine healthy child was pushed into the world. Now this was five hours and fifty minutes from the first administration of the ergot, and one hour and forty minutes from the second, and nine minutes and a half from the last dose: in all, this patient took two drachms, wanting one scruple. Now the death of the first child would certainly have been attributed to its being ergotised, and thus poisoned. But I consider it a very fortunate answer to those who suppose still-born children to have been injured by the ergot. Such a notion has arisen merely from the circumstance that ergot is seldom given except in cases in which the children are frequently dead-born, either from laborious accouchement, or from the pressure on the child's head. It may be objected, and with great propriety, that I ought not to have given the rye at all in this case, but I was desirous of observing

its effects, if allowed to exhaust itself, and whether any injury would result from it in wrong presentations, and from this case we may observe, that it exhausts itself in about three or four hours. It further proves its usefulness in cases for turning, for it saves the trouble and pain of turning, and the delivery is effected in a very short period when the parts are already dilated. In this case there was great nausea after the dilatation of the os uteri, more particularly after both the periods of taking the ergot. This woman I never heard from after, until a few days since, when she applied to me to attend her on another accouchement, one among very many of the instances I have met with, in contradiction of the nonsensical assertion that a woman will not again become pregnant who has once taken the ergot of rye.'

We have now touched upon the different topics embraced in the present volume. In conclusion, we have only to remark that Mr. Michell's work will be read with much interest by every practitioner of midwifery. However we may differ from him in some of his physiological and pathological views, we consider the facts which he adduces highly valuable. They are evidently the result of very extensive experience, which forms by far the soundest basis for this branch of practice.

II.—*Deafness; its Causes, Prevention and Cure.* By J. Stevenson, Esq. Colburn, pp. 262.

Knowledge we have ever considered as that principle which, in the power of its own resplendence, shall dissipate the darkness which still overshadows many of the most interesting objects, and thereby impedes the progress of the sciences and of the arts. The harvest of truth is truly abundant; but the enemy has sown the tares of error among the wheat of useful information. The labourers most useful in separating truth from error may be reduced into two classes; the one consists of those who, by the gigantic power of their own minds, can deduce general principles which act as testing instruments to the products of errors, and, by a kind of legerdemain quickness, enable us to remove much of the rubbish which stands in the way of attaining the proper nutriment of the mind; the other are those not so powerful, but yet well endowed in one respect, namely, in the capability of describing accurately the features of truth, and thereby enabling us to distinguish it from error. Such a labourer is Mr. Stevenson, and in the work before us, we have a very good illustration of the detail necessary to description. We should, however, have been glad

to see a little more of that philosophic acumen which teaches its possessor to use expressions in accordance with the correct views of scientific discovery. Illustrations of what is meant will be afforded, as we proceed.

In the introduction, the author, treating of the importance of the ear, thus writes. 'It is, in its perfect state, one of the principal instruments of our social intercourse, and conveys to us some of our most sublime and delightful sensations—those of harmony and melody.' This sentence is, we allow, well written; but the notion presented in the words 'conveys to us some of our most, &c. sensations' is not correct. The *sensations* are the result of the mind receiving the *impressions* made by the motions induced in the air, and hence the impressions are, in certain diseases wherein the mind is affected, continually being received, and yet the individual has no *sense* of these impressions, from the peculiar state of his mind. We note this, inasmuch as we are sincerely desirous to perceive in works, not only correct writing, but also correct thinking.

The introductory observations are, in general, good. They are written in a plain, easy style, and we are glad to see that the author considers the ear and hearing, its function, as one of the 'munificent gifts of the Creator.'

The second chapter is occupied by an account of the anatomical structure of the ear, the reason for a chapter being devoted to this subject being, that the work is intended for the general, as well as the medical, reader.

The description given is interesting, and, so far as description can go, correct. It is, however, rather long, extending from the seventh to the sixty-second page, where, we are grieved to find, we are referred to other works for more detailed accounts.

There are two or three passages in this introduction that we must quote. One refers to the peculiar functional character of the ear, and is worthy of being noted as true and distinctive. 'The ear is an organ specifically and exclusively appropriated to the sensation of sound, for we are not conscious of any other office in the animal economy it is capable of fulfilling; whereas, the *skin*, besides conveying the sensation of *touch*, serves likewise as a covering to our bodies, as well as an outlet for perspiration. The *tongue*, whilst it conduces to the sense of *taste*, assists also in speech and in the act of swallowing; and the *nose* is auxiliary to the function of respiration, as well as the seat of *smelling*.'

'Again, the matter or substance which is the primary and sole cause of sonorous vibrations, comes not in contact with the immediate seat of the sense; whereas the agent which excite respectively the sensations of touch, taste, and

smell, are applied *directly* to the part which is formed to receive the impression,' p. 8-9.

Mr. Stevenson then refers to the organ of hearing in birds, and mentions that they want a cochlea, although well provided for in other respects, their heads being sonorous, (the bones of the head, we imagine) and their labyrinth being also very sonorous. The author then adds: 'If to this excellent disposition in birds nature had added a cochlea, they would, in all probability, have been still more alive to harmonious modulations, and, in that case, have had a passion for harmony, as almost all animals have for the indulgence of their sensual appetites,' p. 14. Herein is seen the want of that philosophic acumen referred to above; Mr. Stevenson having considered the organs, by means of which a certain effect is produced, as the cause of that effect. It is not the 'cochlea,' but the mind, that enables birds to sing; the organs are merely the servants of the mind. Every bird sings its own note, whatever be the circumstances of what may be called its education; and birds differing most widely in their musical powers, have the same kind of auditory apparatus.

Mr. Stevenson, in considering the ear, adopts Valsalva's arrangement, namely, the *external,* the *middle,* and the *internal* portions; of this division we approve. Mr. Stevenson denies the existence of any natural opening in the mem-membrana tympani. There is in this chapter, upon the anatomy of the ear, much comparative anatomy, which we are most happy to see. It wears the appearance of an enlarged view of the subject, and communicates a considerable degree of interest to what might otherwise be tedious and uninteresting.

In the third chapter, the author proceeds to the subjects of SOUND, AND THE SENSE OF HEARING. Herein a very good description is given of the nature of sound; many interesting facts are stated; the Abbé Nollet's experiments are presented to the reader; also those of Mr. Clough, of Manchester. It is stated that the latter gentleman 'infers the cranium to be a sensible solid. We know indeed, that a watch held betwixt the teeth, or even applied to the head, can be heard by a person who is deaf to impressions conveyed through the air. It is partly in this way that we can judge whether deafness may be cured by an operation, as depending on some injury of the mechanism of the organ, or whether it be an incurable affection of the nerve or brain itself. For, if the sound be perceptible when conveyed through the teeth, or when a watch is pressed against the mastoid process, we are assured that the internal organ is unaffected,

which assurance may lead us to detect the seat of the disease to be either in the outer passage of the ear, the drum, or the eustachian tube, and to regulate matters accordingly," p. 73.

After considering the NATURE of sound, the author proceeds to 'explain the adaptation of the ear to the perception of sound;' for 'in vain,' adds Mr. Stevenson, 'might the air, agitated by sonorous bodies, *impinge* upon us from all quarters, were we not furnished with an appropriate organ to receive their impression.' We quote this sentence as another illustration of the want of that philosophic acumen which was noticed. The word 'impinge' is improperly applied, it being used correctly in reference to *radiant* matter, and not in reference to undulations. We can say that a ray of light or of heat impinges; but not that an undulation or a vibratory motion impinges. Bad grammar also is to be met with in this passage;—'*their* impression,'—of what impression? 'the air.'

The description of the office of the external ear is good. Treating of the air entering into the cavity of the tympanum, Mr. Stevenson remarks, 'in inspiration, the air presses the membrane outward; and from thence proceeds that clashing or whispering noise by which the hearing is obscured in the act of yawning; for then the air, entering more abundantly through the tube into the tympanum, resists the tremors of the external air,' p. 86.

The following observations are excellent; indeed so much so as to be worthy of quotation. 'In the different gradations of animated existence, where an organ of hearing has been discovered, it assumes a variety of shapes, both in its appearance and organization; some parts of which are uniform, others found only in particular classes, and even in creatures of the same class differing in conformation. The obvious inference is, that the parts universally found are the *essential* means by which sound, be the sense of it delicate or imperfect, is perceived, and that the additional apparatus is intended only to *facilitate* its transmission or to *modify* its action.'

With respect to the use of the four ossicular bones in the tympanum, we are informed, that 'the dislocation, or indeed the complete destruction of the three outer ossicles does not necessarily cause deafness; the result is only a diminution and sense of confusion in the perception of sound. But the removal of the stapes occasions total and incurable loss of hearing, in consequence of the evacuation of the fluid contents of the labyrinth,' p. 99.

We come at length to the subject more important to the

practitioner, namely, the DISEASES of the ear. The author laments that the ear has claimed so little attention till of late; but all things happen in good time, and it is trusted that Mr. Stevenson will give us some light upon this hitherto dark subject. The following remarks are perfectly true. 'A notion, equally pernicious and unfounded, is nevertheless too prevalent, that the diseases of this organ are *generally* incurable, and should, therefore, be submitted to with hopeless patience,' p. 110. Ignorance, we hold to be an evil, if not a crime, and, as such, must necessarily lead to evil consequences; and such are the neglect of, and the errors concerning, the diseases of the ear. Another effect has been, that the scientific practitioner not having attended to the subject, quacks have assumed the character and the appellation of aurists, and have ushered their specifics into the world with the most pompous testimonies. Mr. Stevenson then relates the following anecdote:—'A person of high rank called some time since to consult me on account of deafness; but accompanied the statement of his case by observing, that it was quite indifferent whether I could afford relief or not;' 'for,' added he, good humouredly, putting at the same time his hand into his waistcoat pocket, 'I have here a *dozen certain remedies* volunteered by my noble female friends.'

We admire very much the disgust which Mr. Stevenson expresses against the foolish practice of prescribing formulæ in printed works, as these cannot be rightly used by unprofessional readers.

But to the diseases themselves. And first, with regard to those of the EXTERNAL EAR. After enumerating diseases known to every medical practitioner, the author describes 'an herpetic eruption' of the auricle, which consists of 'numerous small watery pimples, or vesicles, surrounded by an inflamed base.' These vesicles bursting, pour out a copious discharge, which soon becoming fetid and acrimonious, occasions irritation, excoriation, and often ulceration of the affected surface. The disease continuing, the auricle enlarges, the auditory passage becomes stopped, and deafness frequently ensues. The author then gives cases illustrative of his views; and in the choice of these and of other cases, we observe a certain leaning to aristocracy, which we would wish to see avoided in a medical work. The cases are those of nobles, or at least of individuals high in rank. We say, we should like to see this avoided: not that we do not respect 'the powers that be;' by no means; but simply, as the majority of mankind does not consist of those elevated

in rank, we are desirous to have cases which are taken from the mass of society.

In the second section of this chapter, the diseases of the OUTER PASSAGE of the ear are brought into notice.

Speaking, however, of the effect of habit in preventing the injurious agencies of certain causes, we have an anecdote which shows the leaning above noticed.—'To illustrate this doctrine, we may adduce the example of the mendicant boy, who, almost in a state of nudity, was running before the carriage of Louis XIV, during an intensely cold day, apparently unconscious of the inclemency of the weather.' To the humane inquiry of his Most Christian Majesty, whether he did not suffer extremely from this exposure to the biting frost, the urchin cheerfully and archly replid, 'No, and please your gracious Majesty, for I am *all face*.' We quote this for two purposes; first, to show the *penchant* noticed: but we can hardly tell whether Mr. Stevenson is in joke or serious, when he talks about 'His Most Christian Majesty:' and second, to enter our protest against medical writers filling their works with anecdotes such as these. But this is one evil into which those fall who write for the general reader as well as for the medical practitioner: such individuals attempt to please two masters, and generally manage to offend both.

Mr. Stevenson, in the next page (134), comes forward as the champion of beauty against her enemy, fashion. He maintains that 'the *side-locks*,' 'the unrestrained tresses waving from the temples, and hanging gracefully by the side of the face, are the guards which the Creator has appointed for the ears, and therefore should not be removed.' And we think that Mr. Stevenson has the victory, if fine language will gain it: yea, we will add, if reason. However, we do not approve of this playful way of attacking foes.

Mr. Stevenson condemns in addition, and with some propriety also, the practice of wearing night-caps made of flannel, thick cotton, and dense silk. Such coverings of the head induce that oppressive weight and morning headache complained of by many of Mr. Stevenson's friends, from which unpleasant attendants they have been freed by ceasing to use such articles. From the ear having an increased action thus induced in it, and when in this state, being exposed to a current of cold air, otitis very frequently arises; and again, Mr. Stevenson raises his voice against those unnatural habits of the higher ranks of society of turning day into night, and night into day, and of sitting, lightly clad, after the excitement of dancing, at some window, to receive the cool breeze.

The 'otitis externa' is distinguishable from the 'interna' by the heat and dryness of the auditory passage, and the early period at which either moisture or discharge presents itself.

The 'otitis externa' frequently renewed is at length extended to the cutaneous lining reflected over the drum of the ear; an extension indicated, according to Mr. Stevenson, by the membrane becoming thick, dry, and opake, and by a sense of cracking, accompanied with defective hearing. The use of warm and irritating applications is condemned, and leeches, cupping behind the ear, fumigating the passage with the vapour of poppy-head tea, a little hot vinegar being infused, and the meatus afterwards stopped by a dossil of lint imbued with warm salad oil, are the means recommended. When the inflammation has gone so far as to lead to suppuration, different means must be adopted. 'Imbued with warm salad oil' savours of too much of a delicacy, quite unmanly. Why not 'soaked in?'

FUNGOUS EXCRESCENCES of the ear are to be removed by the knife or the ligature, and when removed, the parts to be instantly touched with lunar caustic.

A MORBID SEPTUM is sometimes formed in the passage of the ear, coming on frequently after a puriform discharge (otorrhœa), and indicated by the patient being no longer capable of forcing the air through the external passage.

In childish days we used to hear of gooseberry-trees growing out of persons' backs; and we now are told by our author that the celebrated Fabricius Hildanus and Schenckius give instances of seeds and grains that had been introduced into the auditory passage, swelling, and actually *germinating*, from the heat and the moisture there afforded, p. 161. This information occurs in the section on EXTRANEOUS SUBSTANCES IN THE EAR.

For the destruction of living insects in the auditory passage, Mr. Stevenson strongly recommends oil to be poured in: thus killing them by stopping up their spiracula. This not succeeding, camphorated oil, solution of salt, or infusion of tobacco is to be used.

The *deficiency* of ear-wax is indicated by 'a dry, rustling sound, like the crackling of a distended bladder when handled, particularly during mastication.' Whereas, '*excess* in, and induration of, the secretion are known by a greater or less degree of deafness, combined with a dull, heavy sensation of confused sound, and a sense of clashing, or of the ponderous strokes of a large hammer, which prevail mostly during mastication.'

Mr. Stevenson considers the habit of picking the ears

to be a frequent cause of this latter disease. Syringing the ear with warm water is the best remedy; and this operation, Mr. Stevenson rightly remarks, requires dextrous management; and, as a sign that it is being done adroitly, the patient should feel an *agreeable* sensation.

The seventh section is occupied by some sensible remarks on CONGENITAL DEAFNESS; a disease consisting either in the detention of the 'membrana mucosa' in the ear of the child, or in a thickening of the parts lining the passage; and sometimes in exostosis. When from the first cause, the membrane is to be removed; when from the second, the parts are to be gradually dilated; and when from the last, no remedy is at hand.

The next subject presented consists of the diseases of the MEMBRANE OF THE DRUM: which are *relaxation, tension,* and an *indurated* state of the membrane. The second is indicated by loud noises in a clear atmosphere proving painful, and almost insupportable, and points out an inflammatory state of the brain, according to Mr. Stevenson, and is hence a very dangerous symptom.

Mr. Stevenson again testifies to the important fact, that the hearing remains though the membrana tympani be punctured or even totally removed; also even when three of the ossicula auditûs are taken away; being lost entirely when the 'stapes' is removed, thus closing the passage into the labyrinth.

This fact we have already noticed, because Mr. Stevenson did, and we hope that in future the author will have the kindness not to repeat the same fact twice over. The ear becomes habituated to the sound, and the eye to the words, and the mind to the sentiment; and all are unpleasantly affected by unexpectedly meeting with the same objects again.

Sometimes blood is extravasated in the cavity of the tympanum. The best thing to be done in such a case is to perforate the membrana tympani.

We are now arrived at the fifth chapter, in the first section of which the author treats of PURIFORM DISCHARGE FROM THE TYMPANUM. This section seems to us the best in the whole book; it abounds with good common-sense, and shows considerable reflection on the part of the writer, and well justifies our placing him among the second class of labourers engaged in separating truth from error.

This puriform discharge is stated to be an effect of inflammation neglected. From this neglect suppuration sets in; the membrane of the tympanum ulcerates, and the matter escapes. In scrofulous habits the attack of this disease is

more insidious, and the discharge more unpleasant. Sometimes lymph is effused, occasioning thickening of the parts; this is removed by mercury. Mr. Stevenson points out the error of thinking that it is injurious in the generality of cases to attempt the suppression of this discharge when established; he relates several cases where, from suppression, fatal consequences ensued, and then marks out the cases where such suppression may be, and such where it may not be, attempted. It is of importance to remark, however, that these results occur only in *inveterate* cases. The immediate stoppage of a discharge, however copious, from a *recent* sore, may be effected without inducing any such serious consequences.

The best remedy to stop the discharge referred to is, according to Mr. Stevenson, a simple astringent injection, used night and morning; and we are warned that, should the patient be plethoric, we should, though perhaps no real danger exists, be upon our guard.

In cases of longer standing, Mr. Stevenson recommends the introduction of a seton into the nape of the neck, with occasional doses of hydrargyri submurias.

Sometimes polypi are associated with this discharge. This being the case, the polypi are to be cautiously removed.

The next section is upon OBSTRUCTION OF THE EUSTACHIAN TUBE. This disease, Mr. Stevenson acknowledges, is to be known principally by presumptive evidence. If the patient can inflate the tympanum, it is evident that the tube is not closed; but this is not a sufficient proof, since many have not the tact to perform this piece of art. The tube, however, does become obstructed, and induces, by its ulceration, symptoms very similar to those of consumption. In illustration of this affection, Mr. Stevenson gives the case of a lady, 'residing in one of our fashionable squares.' We cannot conceive, *en passant*, what this residing in a *fashionable* square has to do with the matter. Mr. Stevenson will, we are sure, leave off this weakness.

Our author states an important fact, that the obliteration of the passage is dependent very frequently upon an enlargement of the tonsils; respecting which, he adds, 'and had I permission, I could refer to many of the younger branches of noble families, in illustration of the fact.' We quote this passage, not out of any ill-will, but simply to show the author how his feeling leads him aside. What matters it to the reader whether they be younger branches of noble or ignoble families?

When the eustachian tube is permanently obliterated, the only remedy is to puncture the tympanum; the punc-

ture being made with a small trocar at the anterior and lower part of the membrane.

We have now arrived at the last chapter; in which the DISEASES OF THE LABYRINTH are brought under notice; and as the *causes* of such diseases seem referrible either to *constitutional* or *local* affections, the first section is devoted to the enumeration of the CONSTITUTIONAL CAUSES OF NERVOUS DEAFNESS.

Some of those depend upon a change in the structure and condition of the brain itself, for which, when deafness arises, there cannot possibly be any remedy. Some of these causes are functional, and therefore deafness from them may be cured. At the commencement of this section, we have the following sentence, the sense of which may be guessed at; but if words are signs of things, the writer has chosen those best suited to conceal his meaning. 'Under this head may be included all those causes of deafness which are seated in the brain itself, and may be regarded either as organic and irremediable, or merely functional, which latter, by proper treatment, frequently admit of relief.' Previous to this we have never heard of 'irremediable causes;' the author evidently means that the deafness is irremediable, when arising from such a cause; but this he does not say.

Mr. Stevenson gives examples of deafness as arising from cerebral affections.

The *local* causes are then noticed. Here the author admits that our knowledge is very limited. Sometimes a solid takes the place of the liquid filling the labyrinth; sometimes the membranes lining the internal ear become thickened; sometimes no change can be detected.

The author then sums up the matters treated of in his work, and draws to a conclusion.

We have now presented to our readers, as far as possible, an outline of the work before us. The book has its blemishes and its beauties; some of both we have endeavoured to point out, hoping that the author, in a second edition, will remove the one and augment the other. We admire the arrangement of the work; it is a copy from nature; we are pleased with the descriptions, because they are as diagnostic as, in the present state of our knowledge, they can possibly be; but we do not admire the selection of the cases, and we are not pleased with the lightsomeness of the style and the unscientific nature of some of the expressions. We again conclude, repeating our hope that, in a second edition of the work, the beauties will be augmented and the blemishes removed; and stating our conviction that in endeavouring to point these out, we deserve the gratitude of the author.

III. ***On the sudden spontaneous Obstruction of the Canals of the Larger Arteries of the Body; with some Observations on the Process employed by Nature to prevent or arrest Hemorrhage from Lacerated Arteries****. By John W. Turner, Professor of Surgery to the Royal College of Surgeons, and Consulting Surgeon to the Edinburgh New Town Dispensary.

We sometimes meet with curious instances of sudden cessation of the pulse in some parts of the body. This phenomenon has been attributed, by those who suppose the arteries to be the principal agents in the circulation of the blood, to a want of action, or to a loss of contractile power in these vessels. According to that opinion, one part of the arterial system may *act* whilst another remains inactive. Mr. Abernethy says, in his *Lectures*, that an artery will not always pulsate, although its canal is pervious up to the heart. On the other hand, when the canal of an artery is obstructed at any point, no pulsation takes place beyond the obstruction. It is not our intention at present to argue the physiological question relating to the functions of arteries; this has been already discussed at some length in our Journal, and may still receive some further illustration in the proper place. It is sufficient now to observe, that the cessation of the pulse in any part of the body is, probably, owing, in every instance, to disease, or to injury of the artery at some point. Indeed, the fact that a long portion of an artery is frequently found converted into a cylindrical piece of bone, constitutes sufficient proof that the circulation may be carried on without any motion of the vessel, if the lining membrane be not destroyed or diseased. When, on the contrary, the canal of an artery becomes spontaneously obliterated at any point, some lesion is observable in the membrane which lines it.

If a ligature be applied so tightly round an artery as to produce a rupture of the internal coat, and be then immediately removed, the vessel will generally become impervious at that point. When inflammation takes place in a part of the vessel, so as to give rise to exudation of lymph from the lining membrane, the tube contracts, and the canal becomes obliterated. Erosion or ulceration of the internal coat is found to occasion similar consequences. These causes may act in two ways in producing the obstruction; first, the

* Transactions of the Medico-Chirurgical Society of Edinburgh, Vol. III, Part I.

inflammation usually attending the lesion tends to diminish the calibre of the vessel at the point where it resides; second, the unevenness, or roughness, occasioned by the injury or disease, tends to entangle a part of the blood moving through, thereby allowing it to form a coagulum. The presence of a false membrane, or of coagulable lymph thrown out on the internal surface, owing to inflammation of the coat, will also contribute to produce the same effect.

These and other similar causes will sufficiently account for the spontaneous cessation of the pulse in particular parts, without calling to their aid the loss of contraction in the artery. But, when a rupture of the lining membrane of the vessel takes place, the edge of the distal portion of this membrane falls down into the canal, or is pressed down by the blood being driven between it and the middle coat, so as to act like a valve in obstructing the flow of the blood through the tube. The object of Mr. Turner's essay is to prove that this is one of the most common causes of the sudden apontaneous cessation of the pulse which is now and then observed to take place.

A gentleman, about 40 years of age, of a full habit, was exposed to cold, on the 1st of January, 1814, which produced a feeling of chilliness, succeeded by a febrile affection. For this he was bled, and treated according to the antiphlogistic plan, by which means the fever was reduced in some degree. In about a week, after fatigue, he was again attacked by rigors, accompanied by a feeling of great depression, and an affection like globus hystericus. This was succeeded by feverish heat, and the pulse ranged between 94 and 112. On the 11th of February, the pulse suddenly fell to 70, without, however, any abatement of the other symptoms; it was weak, and beat twice rapidly in succession after every fifth stroke. On the 13th, he had three copious evacuations from the bowels, which brought him excessively low, and the pulse became very quick and feeble. During this last attack, a hard circumscribed swelling, slightly painful, was observed on the inner side of the tibia. This disappeared spontaneously in a few days. On the 5th of March, when the patient was nearly convalescent, on raising himself in bed by resting on the palms of his hands, he experienced a sensation as if something had given way at the elbow-joint of the right arm. This was immediately followed by numbness of the fore-arm and hand, and a sensation of circumscribed tightness over the fore part of the elbow-joint. The hand became cold, and he discovered that the pulse had ceased at the wrist. On examining the arm, it was found that no pulsation existed in the arteries of the fore-arm below the inser-

tion of the biceps muscle. Above this joint, especially opposite the elbow-joint, the pulse was stronger than in the other arm. No tumour or swelling could be perceived at the point where the pulse ceased to be felt, but the patient felt pain of a pricking kind there. On the 6th, the pulse at the wrist had returned a little, but it was very weak, and it continued so.

On the 9th of March, about midnight, in moving his right leg, he experienced suddenly a sensation of numbness and weight extending from the ham downwards. On examination, no pulsation could be discovered in any of the arteries of the foot, or in the ham. In the femoral artery, the pulsation was very strong. The foot was cold, and he complained of occasional cramp-like pains in the calf of the leg. On the following day, there was pain, on pressure, along the course of the femoral artery. The morning after the attack, the foot was pale and cold, and entirely devoid of sensation. The next day, several purple patches appeared on the instep. In fine, mortification took place in the foot and leg, and the patient expired on the 27th of March.

Mr. Turner gives a very minute description of the morbid appearances observed on post mortem examination; but we shall only shortly notice those connected with the vessels which were affected in so extraordinary a manner.

The brachial artery, opposite the fore part of the elbow, was found imbedded in a hard mass, composed of the cellular substance, veins and nerves. The vessel was impervious immediately above where it divides into the radial and ulnar branches. Its calibre was much contracted, and filled by a cylindrical clot of firm lymph. The radial artery was plugged up in the same way to the space of an inch and a quarter. The obliteration extended only to the origin of the ulnar branch, the internal coat of which terminated in a distinct edge, which proceeded about half an inch downwards, in an oblique direction from the obliterated part. On tracing the vessels of the thigh, considerable hardness and adhesions were found where the femoral artery perforates the tendon of the triceps muscle, and in the upper part of the ham. An avoid sac was discovered immediately after the vessel passed through the tendon. This contained a hard, solid substance, resembling lymph, of the size and shape of a nutmeg. The coagulum was unconnected with the sac, except at its upper extremity, where it adhered very firmly. Immediately above this sac, the tube of the artery was obliterated to the extent of half an inch. Its coats were much thickened, and its parietes were in contact, and adhered to each other. There was a coagulum both above and below the obliterated por-

tion. Below the lower coagulum, the vessel was empty to the extent of about two inches. Below this again, there was another obliteration to the extent of an inch and a half, caused by lymph effused into the cavity of the vessel. The coats of the anterior tibial artery, at its origin, were so much thickened as nearly to close its cavity. The upper part of the posterior tibial was filled with lymph for nearly two inches. One portion of the peroneal artery was so thickened that its canal was almost closed. The plugs of lymph found at all the obliterations terminated opposite to the origin of a branch given off from the trunk.

The most remarkable circumstance connected with this case is the sudden manner in which the pulse ceased in the arm and foot. The vessels were found plugged up by coagulated lymph; but we can hardly suppose the plug to have been formed all of a sudden, so as to obstruct the motion of the blood totally *in an instant*. The second case related by Mr. Turner is that of a gentleman, 52 years of age, who, while turning his hand behind his back, to put it in his coat pocket, experienced an acute pain at the bend of the elbow-joint, and a sensation of numbness in the hand and fore-arm. No pulsation could be felt in the fore-arm for a few days after; it, however, returned. But, after a few days more, a similar accident occurred; the pulsation in the fore-arm never returned again. The patient died in a few weeks, from a complaint not immediately connected with the affection of the arteries. On examining the artery at the bend of the arm, it was found obliterated, the internal parietes adhering firmly together. Immediately below the obliteration, the inner coats appeared to terminate in an abrupt edge, and they could also be seen terminating in a distinct margin at the upper part.

The appearances discovered in the latter case throw some light on the nature of the affection, and they will enable us to account for the sudden cessation of the pulse beyond the part affected. The idea suggested itself to Dr. Thomson (who attended the subject of this case, and who was present at the examination of the body), that the obstruction was produced by the laceration of the internal coat of the vessel, and, consequently, of the projection of its edge into the canal of the artery, thereby detaining a portion of the blood till it coagulated. The obliteration was then completed by the adhesive inflammation which took place consequent on the lesion. This is, in fact, the only way in which we can well account for the phenomenon. It is well known that a torn vessel will not bleed the same as a cut vessel. The blood in the mouth of the

former is entangled by the flaps of the torn membrane, thereby giving rise to the formation of a coagulum, which soon stops up the orifice; whereas the artery, when cut across, can only stop the hemorrhage by contracting so far as to obliterate its canal, unless allowed to retract within the sheath of cellular membrane which surrounds it.

Mr. Turner is inclined to believe that a rupture of the internal membrane of the arteries is the most common cause of their spontaneous obliteration. When the obliteration takes place so suddenly as in the two cases already noticed, it is difficult to account for it without attributing it to this cause; but the obstruction sometimes takes place in situations where a rupture of the lining membrane can scarcely be suspected, unless we suppose it to be caused by the force with which the heart propels the blood into the arteries. There are instances recorded where the aorta was found impervious high up in the chest. We can scarcely suppose any motion of the body capable of stretching the vessel so much in this situation as to give rise to laceration of its inner coat. At the bend of the arm, or in the ham, where the motion is considerable, and where, consequently, the vessel is subjected to extensive elongation, sometimes very suddenly, the lining membrane may give way, if already diseased; but in parts where scarcely any motion takes place, and where, therefore, the artery is not liable to be stretched (as is the case with the aorta), the obliteration is, very probably, brought on by some other cause than laceration of its internal coat.

Now the arteries possess the power of contracting in such a manner as to render their canals impervious. We need no further proof of this, than the fact that hemorrhage from the surface of a wound ceases after the vessels have been left exposed for some time. We also know that the lining membrane of these vessels is subject to inflammation, and is liable to throw out coagulable lymph. These two causes are sufficient to render an artery impervious. The inflammation and the irritation attending it dispose the vessel to diminish its calibre in the inflamed seat; and lymph being effused at the same time, concretes, and forms a nucleus for the formation of a coagulum. So far as an analogy may be drawn between parts performing different offices, we find the analogy here in the canal of the urethra. In gonorrhœal inflammation, the contractile tissue of the urethra is drawn together, so as to form a temporary stricture, and this stricture becomes permanent from effusion of lymph into the interstices, and, probably, into the canal also. From our knowledge of the properties of the arteries, the same cause

may act in producing an obliteration of their cavity. Indeed, we know of no other cause than this which can give rise to it spontaneously, besides a laceration of their lining membrane.

Before a spontaneous rupture of the inner coat of the arteries can take place in the common movement of the limbs, the membrane must be in a state of disease. This coat is highly elastic, in the longitudinal direction, and cannot be supposed to give way in any extension of which the limbs are capable, if it be in a healthy state. The laceration may be easily accounted for in cases of dislocation of the joints, when the end of the bone is driven with great violence against the vessel, or when the artery receives a blow or any other external injury. Several instances of this kind are recorded, where the pulsation in the arteries was found to disappear, after the injury, in the parts beyond the seat on which the injury was inflicted. Mr. Turner relates two cases of this kind in the supplement to his essay. In one of these the artery was torn right across. In the other, laceration took place in the internal coat, and the other coats may be regarded as in the act of lacerating. But these facts, when the laceration was produced by external violence, causing a dislocation of the joint, will not account for the spontaneous obliteration of the arteries in seats where no violence can be applied to them, or even in cases like the two already described. If laceration takes place at all, and facts bear testimony that it does in some instances, the membrane must be in a previously diseased state, and must have lost a part of its elasticity.

Mr. Turner remarks, that obstruction of the canal of the vessel does not always take place as a consequence of laceration of its internal coat. We hear of instances where sudden and acute pain has been felt at a particular spot in the course of an artery, and where, shortly after, an aneurism has appeared, the vessel being pervious both above and below the dilatation. He infers from this, and perhaps correctly, that a spontaneous rupture of the lining membrane occurs, allowing the vessel consequently to dilate and to form aneurism.

Our limits will not permit us at present to enter upon the subject of aneurism, although it is intimately connected with that under consideration. It appears to us that the plan proposed by Mr. Wardrop, of tying the vessel *beyond* the tumour, when the ligature cannot be applied between it and the heart, is likely to establish a very important principle in the art of surgery. It has been very much attempted, hitherto, to make physiology and pathology as mysterious as astro-

logy has ever been; and those who have been foremost in mystifying them, have endeavoured, generally, to persuade the profession that it is only a waste of time to pry into this part of the secrets of nature, for that very little is ever likely to be known respecting them. They would persuade us that the sciences of physics have nothing to do with physiology and pathology; that the latter obey no law but that of life, and that of this we know nothing. This is the most comfortable cloak that empiricism has ever been clothed in; for it brings the whole science of medicine (if it can be called a science, according to such narrow views) within a nutshell. But in truth, we cannot philosophically account for any phenomenon observable in health or in disease without resorting to physical causes, and without observing its connexion with other natural phenomena, if we understand any thing about these phenomena. We notice the commencement of an aneurism, and perceive that it grows slowly at first, and that the pulsation in it is comparatively trifling to what it is when the tumour has acquired the size of the fist. When the tumour has attained a certain magnitude, its growth is very rapid in proportion to what it was at first. These facts are easily explained upon physical principles, when we know that the force or pressure on the internal surface of the aneurism is in proportion to the extent of that surface, or so much to the square inch. If the area of the neck of the aneurism forms only two inches, the whole weight pressing on the side of the artery on that space, had there been no aneurism, would be only eight pounds, according to the highest calculation; but as the aneurism often expands considerably from its neck, and forms an internal surface of thirty or forty square inches, and sometimes more; and as the pressure is necessarily the same on each of these inches as it is on every inch of the artery, the force which tends to dilate and burst the tumour is tremendous. This force will, of course, increase in the same ratio as the aneurism increases in size. It is no wonder, therefore, that the pulsation in a large aneurism is almost frightful.

Now when an artery is tied at any point, the vessel becomes obliterated all the way up to the branch next above the ligature. When the ligature is first applied, the blood between it and the next branch above, stagnates, and forms a coagulum. If a ligature be applied in the same way beyond an aneurismal tumour, and if no branch is given off between that ligature and the aneurism, or in the body of the aneurism, the same effect will occur. There will be a stagnation of the blood in the sac, and a coagulum will be formed, so as to fill it up entirely. The current will find its way in-

to the collateral branches, which are open for its reception, and can only dislodge a part of the upper surface of the fluid resting in the sac. As it is the property of blood to coagulate very soon when allowed to be at rest, it will begin to form a coagulum in the bottom of the aneurism, or against its parietes, almost as soon as the ligature is applied. This coagulum will go on increasing as the collateral branches enlarge in calibre, and the pressure will be thereby taken off the internal surface of the sac.

The circumstances which are likely to act unfavourably to this operation, appear to us to be, first, that a principal branch may happen to be given off between the ligature and the aneurism; second, that the vessel may be diseased where the ligature is applied, or all the way between the aneurism and where a principal branch is given off; third, a branch or branches may be given off in that part of the vessel occupied by the aneurism. Any one of these causes would evidently render the operation nugatory; but these ought not to militate against the principle of the practice. There would be a greater chance of avoiding them by operating before the tumour has attained much size.

Additional facts are necessary to establish the utility of this operation beyond any doubt; but, judging from analogy, the principle appears to be sound. We know that a coagulum is formed above the ligature applied to an artery, and hat the vessel becomes impervious up to the next branch. A coagulum is even more likely to form in an aneurismal sac, because the fluid there is less easily dislodged by the current from above, than in a vessel of even calibre.

IV. *Clinique de l'Hôpital de Troyes—Péripneumonies Gangreneuses.—Observations on Gangrenous Peripneumony.* By M. Pigeotte, Physician to the Civil Hospitals and Prisons of the Town of Troyes.

No subject of inquiry is more interesting to the medical practitioner than that which relates to the numerous variety of external causes contributing to give rise to disease. With few exceptions, medical topography, the influence of the seasons on the human constitution, the state of the weather, the course of the wind, and other meteorological observations, are subjects which have been very much neglected by modern practitioners. These are causes which never cease to act on the human system, and whose influence tends continually to modify its functions. The diseases of every country have

their peculiar seasons, and the characters of each vary considerably according to the different circumstances connected with the season in which it prevails. If we examine minutely the general causes of disease, we shall find that a very great majority of the maladies presented to our observation owe their origin to the numerous changes which take place in the state of the atmosphere, or to the certain conditions in which it exists at particular times and seasons. The experience of mankind generally, and the lessons conveyed from one generation to another, have taught them to choose those articles of food which have been found least pernicious to the system. Owing to this, internal causes of disease are, in some measure, avoided. But the action of external causes, physically allied to the animal body, never ceases to modify its functions and to bring about changes in its condition, varying in degrees from mere predisposition to disease, to the total destruction of life. If the peculiar characters of any malady depended entirely, or chiefly, upon circumstances connected with local situation, the profession, generally, might not find that degree of interest in devoting their attention to that malady, which those would who are likely to be called upon to apply their remedies to it; but it should not be forgotten that, however peculiar the circumstances attending a local situation may be, many other situations, attended by analogous circumstances, are to be found; and every practitioner is liable to be called upon to use his judgment founded upon this analogy. But various other external causes, not immediately dependent on local position, exert their influence on the system, and form very interesting subjects of medical inquiry. These, the author of the essay at present before us has not altogether neglected. He traces the origin of a very fatal disease of the pulmonary organs to a long succession of external causes acting on the system, and bringing it ultimately into that state most favourable for receiving the attack of the malady.

The wind continued to blow from the south and the south-east during all the summer, the heat was very powerful, and although rain fell in abundance, the atmosphere was not much refreshed thereby. The heat continued until the middle of September, when the wind became very variable, and the rain, which continued to fall, rendered the nights, the evenings, and the mornings very cool. The wind blew from the north on the first days of October, and the weather became dry without being cold. The season continued as fine as could be desired until the end of the month, when it became *all at once* quite autumnal; the evenings and mornings *became foggy*, the wind blew with great impetuosity

from the north-west, and frost commenced. During the month of December, the temperature was cold; the wind from the north, north-west, and west, blew constantly, attended with frost, with cold rain, and with very thick and fetid fog. The plain, on the middle of which stands the town of Troyes, was not the only place exposed to this weather; the same temperature was observed at the time by the physician to the hospital at Langres, and by the meteorologists at Paris.

The weather continued much the same throughout the winter. The cold was very intense, and the atmosphere never ceased to be humid; the wind blowing at different times from the north, north-west, and west, until the month of March, when it settled in the north. The humidity with which the air and the earth had been so long impregnated now gave way to sharp, dry, cold weather.

The diseases observed during the summer presented nothing remarkable in their appearance; they consisted chiefly of gastric bilious fevers, of double tertian, of erysipelas, of gastric pains, of bilious fluxes, and, towards the termination of the season, of adynamic dysentery among the military. Towards the middle of October, the air having become cold, and the fogs prevalent for some days, catarrhal affections of diverse forms made their appearance, such as pain in the ears, swelling of the glands of the neck, and rheumatic pains in the muscles of respiration and in the joints. But towards the end of November many cases of inflammation of the respiratory organs presented themselves at the civil hospital under M. Pigeotte's superintendance, and the characters of this inflammation were so unusually severe as to fix his particular attention. In addition to symptoms of inflammation of the pleura and lungs, often of both sides, which manifested themselves immediately after the invasion of the malady, there came on, on the second or third day, those 'of a morbid state, known by the ancient physicians under the name of *putrid*, and of *adynamic* by the moderns.' Soon after these made their appearance, the inflammatory symptoms disappeared, or became much less evident than at first. The adynamic symptoms increased very rapidly, and the patients generally died before or towards the end of the first week. No remedy which was tried appeared to make any impression on the disease, or do any thing to prevent, or even retard, the total extinction of the vital forces. On examining the bodies after death, the pleura and lungs were found in a sphacelated state, to an extent more or less considerable. Those parts of the lungs which were not gangrenous presented a very compact texture, and the red colour common

to the first degree of inflammation of these organs; or they presented a state of very remarkable softness and flaccidity.

During the months of December, January, and February, M. Pigeotte continued to meet with this remarkable species of pleuro-pneumony in the wards of the hospital, as well as in the town, among all classes of society. The disease prevailed also in the suburbs to the south and south-west of Troyes, as well as in a neighbouring village, which is situated amongst numerous stagnant pools, and which is enveloped during three-fourths of the year in constant humidity.

M. Pigeotte relates six cases as examples of the plan of treatment pursued in this epidemic, and of the morbid appearances discovered on dissection. We shall give an abridgement of two or three of these. That nearly all the patients should die under such inefficient treatment as was here adopted, is nothing wonderful; indeed it would have been much more wonderful had they recovered.

Pierre Nicolas Berthan, aged 44, was suddenly seized, on the morning of the 27th November, with a cold shivering, which lasted three quarters of an hour, attended with cephalalgia, particularly over the eye-brows, and general pain. These symptoms were succeeded by excessive heat, which terminated about eleven at night in very abundant perspiration. The fever soon increased, accompanied with cough, without any expectoration, and an acute pain in the left side of the chest, just under the breast. The patient continued in this state during the day and the night following, and he entered the hospital on the morning of the 29th. The disease then manifested the following symptoms:—Cheeks of a reddish violet colour; eyes shining and humid; restless looks; more heaviness than pain in the head; tongue charged with a thick coating of a lemon-yellow colour; bitter taste in the mouth; respiration short and laborious; pain in the left side of the chest during inspiration; pulse quick and frequent, but not hard. *Fifteen grains of ipecacuanha and one grain of tartar emetic for two doses. Infusion of elder flowers with oxymel; abstinence.* State of the bowels at this time not noticed. However, the emetic produced vomiting twice, and two intestinal evacuations. *Quieting potion in the evening.* He continued very restless during the night; the cough and pain in the side, which appeared to have ceased after the emetic, again returned; the patient expectorated a great quantity of aqueous, reddish phlegm; the pulse very quick, soft and feeble.

On the morning of the following day (fourth day from the first attack) the pain in the side much relieved, but respiration is laborious; pulse more regular and not so quick;

cheeks highly coloured; expectoration very copious, and received on linen, it resembled the reddish serosity generally discharged from sanious ulcers. *At nine in the morning, a drachm of cinchona in wine and water: ether potion, of which a spoonful is to be given immediately after the bark: at eleven o'clock, a repetition of the same medicine: at noon, two grains of camphor and three grains of nitrate of potass in pills: these pills were to be continued every four hours.* At five o'clock in the evening, the eyes appeared more brilliant; expression of speech short; respiration more free; the pain in the side no longer felt. At nine o'clock, great restlessness; cough dry; pulse quick, frequent, and small; heat of skin much augmented.

At eight o'clock in the morning of the fifth day, pulse more developed than on the evening before; the matter expectorated was grey, but the spots produced by it on linen were of a reddish colour. At seven in the evening, the pulse quick, but very weak; prostration of strength very great; the intellectual faculties disordered; unpleasant dreams during the night. *The same treatment.*

On the morning of the sixth day, *râle*. Death at six in the evening.

Examination of the body eighteen hours after death.—Effusion of reddish serosity in the left thoracic cavity; adhesion of the base of the lung to the diaphragmatic pleura of that cavity; the upper part of the viscus compact, but presenting a red colour, and a friable texture; the lower portion was equally firm, but of a brown slate colour; the right lung and pleura were of a livid slate colour, and their texture was flaccid and putrified; puriform serosity ran out of the pulmonary parenchyma, but no ulcerated cavity could be discovered which could have furnished it; right cavities of the heart full of black blood; the liver of a flabby texture, of a slate colour, and friable; gall-bladder of the same colour; the tissue of the duodenum was soft in some parts, and its aspect gangrenous; the vessels of the omentum gorged with black blood.

The second case was that of a man, aged 34, drummer to the national guards of Troyes. He entered the hospital on the fourth day after the attack. The symptoms were very similar to those attending the case already described. M. Pigeotte ordered him a drachm of cinchona every two hours, with a spoonful of ether potion immediately after each dose. At five in the evening, increase of the fever. *A grain and a half of kermes added to the potion.* The symptoms much aggravated during the night; great fulness of the vessels of the conjunctiva, &c. About nine in the evening his chest

was wrapped in flannels steeped in camphorated liniment. The patient perspired very copiously in the night, and towards morning the fever began to abate a little.

On the fifth and sixth days, the same remedies were continued; the disease appeared to gain ground. On the seventh day he had epistaxis, and that, with a copious secretion of urine which came on at this time, relieved him very considerably. The patient continued to mend, and was convalescent on the fourteenth day. We may truly say that Nature cured the patient in spite of the doctor in this case. The other four cases recited by M. Pigeotte terminated fatally. The bodies were examined in two of them; and the thoracic viscera presented appearances very similar to those described in the first case. It is sufficient to notice that the treatment adopted in these cases did not differ much in principle from that already described.

M. Pigeotte informs us that blood-letting was had recourse to in some cases, but that it generally proved ineffectual. This is by no means improbable, if the remedy was employed in the same manner as it generally is by our continental neighbours. In this country, as well as in any other country, English practitioners endeavour to put a check to acute inflammation of any vital organ, and particularly of the lungs, at the very onset of the disease, by the abstraction of from twenty to forty ounces of blood at its very commencement. Having done so in as short a period as possible, they lose no time in using other remedies of an active nature, and of known antiphlogistic character. The merest tyro would never neglect to administer some active cathartic, in order to clear out the contents of the intestinal canal. Bleeding and purging, at the commencement of acute inflammation of an internal organ, constitute such a straightforward practice among us, that no one ever forgets these whatever he may do afterwards, or however confined his views may be respecting the general nature of disease.

The practice of a French physician is very different in this respect. Instead of abstracting thirty or forty ounces of blood the very first day from a robust man who has inflammation of the lungs, if he bleed at all, he will perhaps abstract six or ten ounces the first day, and repeat the same quantity the second and third day, &c. We have witnessed this plan followed by some practitioners in this country, and have always had reason to consider it worse than useless, even in purely phlegmonous inflammation. When the quantity of blood taken away at a time is not sufficient to give a decided check to the disease, it serves only to reduce the strength of the patient, while the malady is gaining ground

as rapidly as if no blood at all had been abstracted. The patient may be in this way drained, day after day, of almost all the blood in his system, and the fluid will constantly exhibit the buffy coat to the very last, but the disease will regularly gain ground, and produce disorganization of the tissue, unless arrested by some other means. In epidemic inflammations this is more particularly the case. It may, perhaps, be said, without much impropriety, that, in diseases having a putrid tendency, the greater the mass of blood on which the malady has to feed, the greater will be the putrescency. Whether this constitute an explanation of the fact or not, experience proves that the abstraction of blood at the very commencement of the disease, in epidemic inflammation of the internal organs, prepares the system for the reception of internal remedies; and that, even when bark and other tonics become necessary in the course of the malady, their effects are much more favourable than if no blood had been previously abstracted.

In the cases related by M. Pigeotte, in the essay before us, the state of the alimentary and biliary secretions appears to have been entirely disregarded. Those on this side of the Channel who have the greatest aversion to the use of mercury, would not hesitate to administer a few mercurial purgatives in a disease bearing the characters of that described by the author. Judging from analogy, founded upon cases similar to those whose history we have before us, we do not hesitate to give an opinion that, after a copious abstraction of blood immediately, or as soon as possible, after the occurrence of the attack, a very free administration of mercury would have proved serviceable in this epidemic. These remedies ought to have been assisted by leeches applied to the chest, and by blisters. Blisters were, certainly, applied in one or two instances, not to the chest, but to the *legs!*

The epidemic continued to rage with great virulence until about the 20th of February; but after that period it sensibly diminished, and it ceased altogether about the beginning of March, when the northerly wind had blown for some days without rain, and the atmosphere had become dry and clear. The mortality caused by it was very great: of 2650 inhabitants, forming the population of the district in which it prevailed, 120 perished. M. Pigeotte remarks that subjects possessing strong constitutions were no more spared by the disease than those whose constitutions were of the reverse character, and that death did not appear to make particular choice of his victims from those who had been previously reduced by illness, more than from among the robust. M. Pigeotte is of opinion that the morbid characters of the disease

in this epidemic, such as the inflammation, mortification, general fever, stupefaction, &c., were neither the effects nor the causes of each other, but were all the effect of one cause, namely, the impression of an atmosphere, impregnated with deleterious effluvia, on the whole organization, and principally on the pulmonary organs. In this opinion we perfectly agree with him. This is probably the case in every epidemic where symptoms of internal inflammation or congestion make their appearance during the progress of the malady. It does not follow, however, from this circumstance, that the local affection should be totally neglected, and allowed to go on to produce mortification of important organs. It may be often necessary to support the system by nutritious diet, or even by tonics and stimulants; but we ought, at the same time, to employ remedies for subduing the local malady, as well, indeed, as the general affection. We may ask, upon what principle abstinence from food is enjoined, while bark, wine, and ether are given as fast as the patient can swallow them? If the system is to be supported, surely nutritious food forms the best support which it can have, and the least likely to aggravate the disease. By abstracting blood at the commencement of the attack, or as soon as the patient applies for relief, we certainly take away a portion of a diseased mass, and by then allowing a mild, nutritious diet, we do something towards supplying the remainder of this mass with comparatively healthy materials. Experience has never yet favoured the supposition that bark and stimulants, in *acute diseases*, have the property of changing the whole mass of blood from the diseased into the healthy state.

Although we agree with M. Pigeotte, that all the anatomical characters of this malady were produced by the peculiar state of the atmosphere, and other circumstances connected with local situation and the season of the year, still we are not disposed to assent to the supposition, that all the structural changes observed on dissection took place simultaneously. The symptoms, as described by him, would lead us to infer that the primary affection of the pulmonary organs was *inflammation*, and that *gangrene* did not take place until a subsequent stage had occurred. In describing the symptoms, the author notices that the pain in the side of the chest was, at the *commencement* of the disease, acute. This acute pain subsided in the course of two or three days from the first attack, and expectoration of a sanious serosity came on. We should be inclined to attribute the acute pain, felt by the patient at the first onset, to inflammation, and the cessation of this pain to the termination of the inflammation in gangrene. The morbid condition of the lungs sufficiently supports this

view; for, as much of the organ as was not in a gangrenous state was highly inflamed, firm, and friable. There is little doubt but that the mortified portions also had been in a similar state before gangrene took place. In fact, the morbid appearances described by the author, as forming the anatomical characters of this disease, appear to us to be perfectly analogous to those usually observed in gangrene of a limb, consequent on compound fracture, or any other local injury. The parts in which the inflammation first took place, or had been most severe, had run into mortification, and the rest were running their course towards that state, and some of them would, in all probability, have attained it, had the death of the patient not put a stop to the progress of the local disease.

Gangrene of the lungs is a disease so rarely met with, that scarcely any thing was known of its symptoms, or of its anatomical characters, before the celebrated and indefatigable Laennec gave a description of it, in his work on diseases of the chest. He informs us, that in the course of twenty-four years he only met with it twice; and that he only knew of five or six cases of it that had occurred in the Parisian hospitals during the same space of time. The disease described by Laennec under the term, 'uncircumscribed gangrene' has nothing in common with that whose history M. Pigeotte gives us, but the gangrenous state of the lungs. In the cases related by the former, the local malady appeared to depend upon local or accidental causes; whereas, in the cases forming the foundation of the essay before us, the local disease was brought on by a general cause, and the malady pervaded the rest of the system as well as the pulmonary organs. In M. Laennec's cases, the disease of the lungs made a gradual progress, and the patients survived under its influence for many days, or sometimes months; whereas, in the cases related by M. Pigeotte, the course of the malady was rapid in the extreme. To show the malignancy of this epidemic in a still clearer light, we shall, in conclusion, translate one case more, in which the pleuro-pneumony terminated on the third day, in sphacelus of both lungs, and of some of the abdominal viscera.

A strong, robust, young man was out at work on the 15th of February, during a very rainy day. In the evening, he was seized with a very violent shivering, to which succeeded great heat, intense cephalalgia over the eyebrows, pain in the throat, a suffocating pain in the side, and an inclination to vomit. On the morning of the second day, a neighbouring surgeon gave him an emetic, composed of two grains of tartarized antimony and twenty grains of ipecacuanha. The

symptoms increased; the night was passed in low delirium and extreme agitation. *A large blister to the side, and to both legs.* The third day, the patient could scarcely breathe; the *râle* had commenced; the pulse small and weak, very quick and irregular; the vital forces generally had sunk. Death took place at four o'clock on the following morning.

Examination of the body ten hours after death. The corpse exhaled a most fetid odour. Green and livid spots on the anterior and lateral parts of the neck, and under the hypochondria. A greenish tint of the skin covering the lateral parts of the thorax. Sores made by the blisters brown and black. The glottis and epiglottis presented gangrenous eschars, two or three lines broad. Both lungs and pleuræ costales were of a slate colour, flabby, livid, and of a putrid appearance; the lungs were sunk in; their parenchyma was of a green colour, and they appeared as if they had been macerated for fifteen days. The fleshy fibres of the diaphragm were also brown and green; the peritoneum lining the abdominal muscles was of the same colour; those portions of it, also, covering the liver, stomach, and spleen, as well as the omentum, were in a similar state. The membrane was very soft and flabby. The gall bladder and stomach had lost their elasticity, and appeared sunk in, as in a putrified body.

ORIGINAL COMMUNICATIONS.

I. *Remarks on the Circulation of the Blood**. By C. E. Lucas, M.D.

The only mode of vital action of the moving fibre, with which we are acquainted, is that of contraction, derived, in some way, from the nerves. That the blood-vessels are endowed with this power, which, from its similarity to that of the muscles, has been called muscular power, has not only been generally admitted, but has been recently proved, by Dr. Hastings, in his work on Bronchial Inflammation, by a body of evidence perfectly irresistible. Assuming, then, the existence of this vital action, I will only observe, that, though

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* Most of our readers are, probably, acquainted with Dr. Lucas's very ingenious and useful work 'On the Principles of Inflammation and Fever,' wherein he discusses the subject of the present essay at some length, and applies his views of the circulation to the pathology of those diseases. Those who have not read that work, and who feel interest in these subjects, would find themselves well recompensed for the time devoted to its perusal.—Editors.

possessed by all the vessels, it is more strongly evinced by the capillaries.

But this vital action of the vessels receives the support of another power, of great importance in the maintenance of the circulation—namely, the mechanical one of elasticity, which is inherent in their structure. This, like the former, differs in its relative proportions in the different orders of vessels, being found to predominate greatly in the larger arteries. The importance of this power seems by no means to have been duly appreciated, and its office, even in the circulation, is but little understood. These two powers of the vessels acting in unison with, and in subservience to, the vital action of the heart, are mainly conducive to the support and regulation of the circulation, the varying conditions of which are only to be explained by this active co-operation; though the mere fact of their existence may be deemed sufficient evidence that the vessels cannot be passive instruments in that function.

It is then with surprise that I find your very able correspondent, Mr. Davies, in his 'Principles of Physiology,' contending for the exclusive action of the heart, and denying all active participation of the vessels in the circulation of the blood. This I understand him to do on the grounds, that, first, the heart is fully equal to the task, alone; and, secondly, that the exertion of a contractile power on the part of the vessels, beyond that of an uniform accommodation to their contents, would impede rather than promote the circulation through them. This, like every other question in physiology, is best answered by facts. For this purpose it might be sufficient to adduce the paramount one, that we find the blood in motion in the vessels, not only after the apparent death of the animal and cessation of the heart's action, but even after the absolute removal of this organ from the body. Dr. Philip (Vital Functions, second edition, Experiments, 24, 62, 63) saw the circulation continue in the web of a frog's foot, and in the mesentery of rabbits, for a considerable time after the excision of the heart; and Dr. Hastings has observed the same in several instances. The circulation was, indeed, in these cases often irregular, 'the blood oscillating in the arteries, and, in the veins, taking a retrograde course;' this, however, is so far from militating against the active influence of the vessels upon the motion of the blood, that it directly negatives the supposition that it might still be the effect of the last impulse of the heart, and is indeed precisely what must be expected to take place after the presiding influence of the heart is withdrawn. The familiar fact also of the larger arteries being found empty after

death is a further proof of this power of the vessels over the circulation. But in the living body, also, we have proofs of the same. Mr. Hunter has observed an artery upon simple exposure to the air contract so as to become impervious; and Dr. C. Parry, though arguing on the opposite side, admits, that when a ligature is placed on an artery, or any other interruption to the circulation takes place, the blood moves in a retrograde current. In these instances we find the vessels exerting a contractile power sufficient even to overcome that of the heart.

To disprove the second position, that the exertion of a contractile force on the part of the vessels would rather impede than promote the circulation, it will be sufficient to state, that as all reflux of the blood into the heart after it is thrust out by the ventricles is effectually precluded by the valves placed at the origin of the arteries, it is certain, that whatever pressure is made by the contractile powers of the vessels upon the column of blood within them must force it onward in the only direction open to it.

With facts then to show, that whatever force may be exerted by the vessels upon the blood must promote its circulation, and that they do exert a force, when deprived of all assistance from the heart, equal to the emptying of the larger arteries, can we doubt that these powers are applied to the support of the circulation; or, when we see them actually carrying on the motion of the blood after the cessation of the heart's action, can we believe that they do not assist it during its continuance? When indeed we consider the obstacles to the force of the heart, from the length and tortuousness of the vessels, the innumerable subdivisions, &c. we may well doubt whether the unassisted impulse of this organ alone would be equal to the propulsion of the blood through the whole course of the vessels. It is true, that, in the erect position of the body, little more would be required on the part of the heart than to throw the blood over the arch of the aorta, as the force of gravitation would be sufficient to carry it through the vessels of the trunk and lower limbs, and return it to its level at the right side of the heart. A greater power, however, would still be wanted to carry it through the upper parts of the body. But these advantages would be lost where the body was recumbent; and, therefore, where rest was required to restore the wasted powers, more labour would be thrown upon the heart. If the blood also were brought round to the right side of the heart by the action of the left ventricle alone, then a cessation of this, as in syncope, would prove fatal; but if its motion be carried on by the vessels, then the failure of a supply of blood to the heart is effectually provided against.

From what has been stated, a strong presumption at least will arise, that the task of maintaining the circulation cannot be left with the heart alone. A further consideration of the subject will show that the vessels, so far from being passive in it, are very principal agents in carrying it on, with the important advantage also, that the assistance derived from them is, in a great measure, obtained without expenditure of vital power. To show this, let us consider that the heart throws the blood with a given force into an elastic tube, diverging into numberless channels, which again converge into two at the opposite side of the heart, and which, for the present, we will suppose to be there closed. It is plain, that this system of vessels being filled, *the receiving vessels will be brought to that point of distention at which the resistance of its elasticity will balance the force of the heart,* whatever that may be. If we now remove the obstruction, and suppose that the blood enters at one side of the heart as fast as it is thrown out at the other, the matter is only changed by the establishment of a circulation—the distention remains the same, and must do so, as long as the force of the heart on the one side, and the resistance of the capillaries on the other, also remain the same. Of course, any variation in either of these opposing forces will produce a corresponding variation in the distention of the elastic coats of the artery; but the vessel must needs be in a state of distention—it must, under the given resistance of the capillaries, be filled beyond the point at which the medium of its elasticity would keep it, unless *this* be such as the force of the heart is unable to overcome; in which case it would be *relatively* incompressible. Now, if the heart had not power to alter the diameter of the arteries, all power of accommodation to a varying plethora of blood would be lost; no dilatation of the vessels could take place, and the increased volume could only be circulated by increasing the velocity of the current. We know that this is not the case. We know, however, that a necessity exists for a contractile effort of the artery immediately to succeed that of the ventricle, for, without it, it would be impossible to shut the valves on the side of the heart. To do this by the *vital contraction* of the vessel would require the exertion of a force which we are now supposing the heart to be incapable of, and which we can, with little reason, therefore, attribute to the vessels; for the resistance of the elastic force must be equal on either side of the scale. But, under a diminished plethora, the difficulty would be still greater, as it would be impossible for the vessels to contract upon their contents without the permanent existence of such a force as we have been describing. Such exertion, were it possible, must soon terminate in fatal ex-

haustion of vital power; for it is to be observed, that the necessity for it would increase with the inability of the system to support it. It is indeed probable that it is in this way that hemorrhage proves fatal.

From the foregoing considerations, we might conclude that the circulation requires a settled preponderance of the power of the heart over the resistance of the elastic structure of the vessels. But we have surer grounds to go upon; we have facts to prove that such is actually the case, and that in a healthy state of the circulation the vessels are kept in a state of forced distention. In Dr. Parry's work on the 'Arterial Pulse,' it is abundantly proved by a number of experiments, that, in sheep and horses, the circumference of the arteries was diminished above one-fourth after death. As the exposure necessary to the measurement of the vessels was generally followed, after a time, by some contraction, the fallacy, if any, arising from this cause, tends only the more strongly to confirm the result of these experiments. It is curious that, having ascertained the fact, Dr. Parry should not have deduced the important advantages derived from this distention of the arteries in the steady, permanent force thus brought to bear upon the circulation. Some idea of the amount of this force may be formed by the vehemence of the first gush of blood from a wounded artery, and which is only to be explained by the united pressure of the elastic force from all sides being directed to the point from whence the pressure is removed, and which obviously could not take place were not the arteries in a state of forced distention. The experiments upon which Mr. Davies has arrived at a contrary conclusion, are, obviously, in error, by comparing the vessel in the living body with its measure when *injected* after death. Now, the question is not as to the distending power of the injecting syringe, but whether the measure of the vessel during the circulation exceeds that to which it is brought after death by its elasticity. By this arrangement, then, of the relative forces of the heart and vessels, the effectual support of the circulation, by a power not subject to exhaustion, is provided for, and which admits at the same time of the greatest latitude of fluctuation in the fulness of the vessels compatible with life, an arrangement perfectly consistent with the wise economy of nature.

Thus, the aorta and its branches being distended to the point at which their resistance balances the power of the heart, will react upon the column of blood, by their elasticity, (with a force equal in the first instance to that of the distending power, but declining with the diameter of the vessel) thereby at once shutting the valves behind, and pro-

pelling the blood forward in a continued current. And here we may ask, whether the equal flow of blood in the capillaries does not show that it is impressed with an equal force, or nearly so, during both the systole and diastole? The jerking stream from a divided artery will form no contradiction to this, as the first gush of blood will empty the vessel so far as to remove at once all propulsive influence of the elastic force upon the current, and make it dependent on the heart alone. We may conclude, then, that the blood flows through the arteries in a continued stream, and, consequently, that the quantities passing out during the systole and diastole of the heart will be determined by the time they respectively occupy. Thus, if the diastole occupy double the time of the systole, and the latter send forth two ounces of blood, it is plain that the diameter of the vessel during the former will be reduced by the displacement of two thirds of two ounces of blood. The return of the systole will restore the vessel to its previous state of distention, one third of the blood sent out by it passing on, and two thirds restoring the lost diameter of the vessel. Now if we look at the capacity of the aorta, even in its undistended state after death, we shall at once see to what small extent the quantity above stated can raise its diameter. How then shall such dilatation be visible in the distant arteries? We cannot expect to find it so beyond the root of the aorta, where we know it may be seen. But, although the pulse be not thus sensible *to the eye*, in the smaller arteries, yet the declension of impulse upon the blood, during the diastole, will make the succeeding increase of it, upon the return of the systole, sufficiently so *to the touch*, especially when the diameter of the vessel is narrowed by the pressure of the finger.

The question of the amount of the influence of comparative vacuum at the heart, over the venous circulation, will call but for little observation here. The supposition of Dr. Barry, that the blood returns into the auricles of the heart during inspiration only, is sufficiently refuted by the fact of the alternate contraction of the auricles and ventricles, and of the want of all concordance as to frequency and duration between the respective movements of the heart and lungs. When we are told that 'the blood passes through the greater veins during inspiration only,' we should also be told where the *vis a tergo*, which is so manifestly impelling it through the smaller, terminates; as its effects ought, on the contrary, to become more visible by the increasing velocity of the current as its channels become narrowed towards the heart. As, however, the resiliency of the lungs, whatever it be, must operate in relieving the internal parietes of the chest of so

much of the pressure of the atmosphere, which must be extended also to the heart and great vessels, as being within that cavity yet external to the lungs, it must, *pro tanto*, assist the return of the blood into the cavities of the heart; and if this advantage be further increased by the mechanical enlargement of the sinus venosi during inspiration, as stated by Dr. Barry, the effect will be more considerable. But, although we shall not find in this arrangement the paramount influence ascribed to it over the venous circulation, we shall yet find an ample vindication of its utility, in the support it is calculated to afford to the important functions of the thoracic organs—to the circulation, in the support it will yield to the heart at all times, and particularly under dangerous exhaustions of the vital power—and to respiration, in the complete relief of the moving powers of the chest from all exertion during the act of expiration.

Hatfield, July 4th, 1828.

II. *On the Injurious Effects of Purgatives, frequently repeated, in simple Stomach Disorders.*

Having witnessed some injurious effects to arise from the use of purgatives, given in strong and repeated doses, in simple disorders of the stomach, and knowing that it is a very common practice to administer a five or six grain calomel pill over night, and a strong black draught in the morning, in these affections, and, moreover, that patients themselves are often in the habit of resorting to these remedies when they feel any dyspeptic symptoms, I hope I may be permitted to offer a few brief remarks on this subject. The few short hints which I have occasionally transmitted to the London Medical Repository, have been readily inserted; and I hope that, although the Journal has now undergone the ordeal of a second christening, it will still be conducted with that liberality and independence which have hitherto characterized it.

The symptoms which denote disorder of the digestive organs are so well known to every medical practitioner as to render it unnecessary to describe them at present very minutely. Few persons there are, whose habits are studious or sedentary, who have not experienced them at times; but those who live in the metropolis and other large towns, and who seldom have the sight of a green field or a quick-set hedge from the beginning to the end of the year, are best acquainted with these symptoms. Beginning in the morning, and ending at bed time, the symptoms of simple dyspepsia

usually follow in regular succession, thus: great drowsiness before getting up in the morning, with, generally, a slight headach; tenderness on pressure at the pit of the stomach, especially when the patient is lying on his back; and when the breath is drawn in deeply, a soreness is felt in the chest. Immediately after getting up, giddiness comes on, and the patient is glad to throw himself down across the bed for a minute or two; this giddiness is followed by nausea, and, sometimes, retching, without being attended by any vomiting, excepting, now and then, a little slimy mucus, occasionally combined with a small quantity of bile. The patient has no appetite at all for breakfast, especially if he sits down to it soon after getting up. Two or three hours after, he feels a craving hunger, and he fancies that he can eat an enormous quantity of food, which he occasionally does at this time of the day; but, generally, when he has eaten a few mouthfuls his appetite is gone. He generally can eat a good dinner, but he has no sooner finished eating than he begins to feel uneasy at the stomach; there is a sensation of fulness there; belching of sour gas, and a feeling as if all the contents of the stomach were sour. These uneasy sensations generally go off after tea, and the patient feels tolerably well in the evening. He can often eat a good supper, and if he take a little stimulus with it, he frequently feels better after this meal than after any other. He is generally restless during the first part of the night, but when he once falls asleep, he sleeps heavily, and awakes in the morning to feel the same regular succession of symptoms as he did the day before.

I have paid particular attention to the effects of cathartics in these complaints. They appear to afford temporary relief only, but this they do more strikingly than almost any other remedy. A dose of calomel, followed in the morning by a cathartic draught, will, generally, tend to remove the dyspeptic symptoms for a day two when first administered, but unless the cathartic be repeated at the end of that period, the uneasy sensations return in an aggravated form. They will again diminish after a repetition of the dose, but the interval of ease becomes shorter after each purging. After a while, a purgative dose will be required almost every day, at furthest every other day, and the bowels become so accustomed to the use of cathartics that they will not act without them. If the patient goes two or three days without taking any opening medicine, his sufferings become miserable. The mucous membrane of the alimentary canal, having been stimulated to secrete a preternatural quantity of fluid, and brought into a kind of erythematous state by the irritation of the cathartics, now ceases to secrete, and there is a sensation as if the

bowels were quite full of fecal matter. They have lost their tone from previous over excitement. These are the usual effects of cathartics in cases of dyspepsia, so far as I have been able to observe. They leave the patient in a much worse condition than he was in before taking them, and this is more especially the case when the purgatives used are of a saline nature, such as Epsom salts. These irritate the mucous coat of the bowels, and produce an erythematous blush on its surface, thereby rendering it highly sensible to the contact of the ingesta, and deranging its secretory functions. The bile which is secreted becomes thin and unhealthy, and loses altogether the dark yellow colour and consistence of healthy bile.

As my object is merely to show the ill-effects of cathartics in simple disorders of the stomach, and not to write a treatise on Dyspepsia, I shall not allow my remarks on the treatment of these affections to take up much room in your Journal. I may be permitted briefly to observe that, in addition to small doses of blue-pill, or hydrargyrum cum creta, at bed time, and a little vegetable aperient, combined with aromatics, occasionally, I have found small doses of tinct. iodinæ, given twice a-day in some aromatic water, to act more beneficially than any other remedy I have ever tried in these complaints. The effects derived from this medicine are permanent. I have also found cubebs to produce very beneficial effects in dyspepsia attended by flatulence at the stomach.

CHIRURGUS.

London, July 3rd, 1828.

III.—*Severe Case of Colica Pictonum, with unusually great distention of the Colon.* By JAMES COPLAND, M.D. Consulting Physician to Queen Charlotte's Lying-In Hospital, and Senior Physician to the Royal Infirmary for Children, &c.

I WAS requested by Mr. Barnewell, the able practitioner of Windham-street, Bryanstone-square, to accompany him to a painter and plumber, living in the vicinity, who had been ill for several days of colica pictonum, and to whom he had been called but a short time previously. The following are the notes which I made of the case after my visits:—

23d March, 1828, *One o'clock, p.m.*—The patient is of a spare habit of body, sanguineous temperament, fair complexion, and about forty years of age. He complains of very urgent pain of the abdomen, increased in paroxysms of great severity, and shooting to the back, loins, and limbs, with extreme distention and tenderness of the whole belly. The

tenderness and distention are particularly remarkable about the cœcum, and transverse arch of the colon; also about the sigmoid flexure of this viscus. His bowels have not been evacuated for several days. Medicines and every thing else have been thrown off, as soon as received into his stomach. The retching is at present very urgent, and the distress occasioned by it is greatly increased by flatulent distention, and frequent, but difficult, eructations. He was blooded yesterday to the extent of about twenty ounces, without further relief than in reducing the volume of the pulse; and enemata have been administered, but have been returned without benefit. Mr. Barnewell very judiciously prescribed an injection with the oil of turpentine, but it immediately came away without producing any effect. The urine is extremely scanty and thick. Tongue deeply furred, and coated with a thick, dirty mucus. Pulse at present 126, very soft and weak. Complains of great debility, anxiety at the epigastrium and præcordia, and general distress, with pains in the lower limbs, and paralytic tremors of the arms and hands. Countenance anxious and collapsed. He has not enjoyed any sleep: has experienced several attacks similar to the present, but none nearly so severe.

℞. Hydrarg. Submur. gr.xx.
Camphoræ rasæ, gr.v.
Opii puri gr. jss.
Conserv. Rosarum, q. s. M.

Fiat bolus statim glutiendus; et, horas post tres, habeat haustum sequentem.

℞. Olei Terebinthinæ,
—— Ricini, āā ℥ss.
Aquæ Menthæ Piper. ℥iss. M.

Fiat haustus ut supra capiendus.

℞. Mist. Camphoræ, ℥vjss.
Magnes. Sulphatis, ℥j.
Tinct. Sennæ, ℥ss.
—— Jalapæ, ℥ijss.
Spirit. Æther. Sulph. Comp. ℥iij.
Olei Caryophyll. ♏ iv. M.

Fiat mist. cujus capiat cochlearia iij ampla tertia quâque horâ. Primam habeat dosin horâ tertia post haustum supra præscriptum.

℞. Decocti Avenæ, ℥xij.
Olei Terebinthinæ, ℥j. M.

Fiat enema horâ septima *p. m.* injiciendum si non prius plené soluta sit alvus.

24th. Three o'clock, p. m. The bolus immediately allayed the irritability of the stomach, and the draught and mixture have been retained. The injection was also administered.

The medicines have operated most copiously; two chamber pots having been filled with watery, feculent, and pale discharges, containing large lumps of hardened feces. He has passed much more urine. The abdomen is very much reduced in size, and much less tense. There is still slight tenderness, especially about the epigastrium and transverse arch of the colon. Pulse 104. Tongue still much loaded; some thirst; no sickness, and much less anxiety; there is a slight return of appetite.

Repetatur bolus horâ somni, et continuatur mistura.

℞. Linimenti Terebinthinæ,
——— Camphoræ Comp.
——— Saponis cum Opii, āā ℥j. M.

Fiat linimentum cum quo illinatur abdomen ter, quaterve quotidie.

Sago and arrow-root, or weak mutton broth, if they be desired.

From this time the patient recovered rapidly. The calomel given in the bolus slightly affected his mouth. The bowels were copiously acted upon for some days. As weakness of his arms continued, Mr. Barnewell, at my request, gave him the extract of nux vomica, but he left it off before sufficient trial had been given it.

The simple detail of this case may supersede any remarks. I may, however, state, that it furnishes an example of the mode of treatment which I have usually adopted, with such modifications as particular circumstances may have suggested, in cases of this description, and that it has been always successful, as far as my own experience has extended.

Bulstrode-street, 10th June, 1828.

IV.—*Practical Observations on the Use of the Colchicum Autumnale.*

The following communication was sent to us by a very intelligent and diligent medical practitioner. As the remarks are the result of the personal observation of a gentleman of high respectability, who has been upwards of twenty years actively engaged in the profession, they form a valuable testimony in favour of this potent remedy, and cannot fail to be acceptable to our readers:—

I will endeavour to answer your queries, respecting the use of colchicum, and whatever I say will be from my own experience and observation; but you must bear in mind that I am writing about a favourite remedy.

1st What is the best form of administration?

The form which I have used for some years past is a tincture, in the proportion of ℥iij of the dried *seeds* (not bruised) to ℔j. of proof spirit; digest for fourteen days and strain. In this preparation of colchicum, I feel the most confidence.

2d. To what extent have you ever carried it in a constitution of ordinary powers?

Fifty minims of the above tincture every four hours, and that continued for three days. My general dose is gutt. xxx. every five hours.

3d. Have you ever depended upon it solely in cases of severe inflammation of any important viscus or tissue?

Yes—I have administered it in many cases of severe pleuritis, and it generally succeeds in removing the disease without any other aid. Should the symptoms run very high, I have recourse to one large bleeding. In other cases, when there is pain remaining after the acute symptoms are over, I apply a blister over the part affected; but either bleeding or blistering is so seldom necessary, that I should find some difficulty in calling to mind a case where I have thought it necessary to employ them. If success in practice be any criterion of the efficacy of remedies, my plan may lay some claim to notice, for I have not lost a single patient from pleuritis for many years past, and, in a practice averaging nearly 3,000 cases annually, including all kinds, there must be many of that disease.

4th. What cases is it most suited to?

Pleuritis, particularly of the sub-acute form—acute rheumatism—gout—in the early stage of inflammatory fever, and in the commencement of inflammatory diseases in general, with the exception of gastritis and enteritis.

5th and 6th. What are the chief cautions required in its use, as respects the patient, or in its action? and what are the symptoms of an over dose, and how are they to be treated?

The unpleasant effects which occasionally follow the exhibition of colchicum, are, nausea and purging, with a feeling of general debility or sinking which the patient complains of, accompanied by a peculiar, moist, whitish fur upon the tongue, which I can scarcely describe; and a disagreeable taste in the mouth, also peculiar.

I have never carried its exhibition further than the production of these symptoms; when they arise, I direct the patient to abstain from the medicine until they have subsided, and then, if the disease be not removed, its use is resumed cautiously, and in smaller doses. During the presence of the above named symptoms, the disease, for which

the colchicum was given, generally gives way, and I have never had occasion to have recourse to antidotes. After its use, tonics are very grateful to the patient.

Colchicum produces very different effects in different constitutions; in some it purges severely; in others, the bowels become confined during its use. Our friend, R., had acute rheumatism affecting the diaphragm. I ordered him gutt. xxx of the tincture every five hours, in a little water; after three doses the pain abated materially; three doses more produced nausea, purging, and the other etceteras which I have mentioned; the medicine was left off for a time. When the effects had disappeared, a little uneasiness and pain being still felt, a few doses more, given cautiously at longer intervals, accomplished his cure. At the same time, a female patient was suffering under a severe attack of lumbago; she took the tincture in the same doses and intervals; the pain was relieved by a few doses, and she soon got well; but in this instance the bowels became confined under its use, and it was found necessary to administer a purgative to procure alvine evacuations. In both the above instances, at the time the patients commenced taking the medicine, the bowels were regular.

As a general rule, I wish to have the bowels acting freely during the exhibition of colchicum, and if the remedy be not sufficient in itself to produce that effect, I unite it with the sulphate of magnesia.

T. G.

V. — *Case of Obstinate Constipation relieved by Injections per Anum.* By John Epps, M.D.

In looking over a late Number of the Repository, some remarks made on the use of injection gave rise to the following brief sketch of a case:—

Early one morning I was called to attend a gentleman, whom I found complaining of great pain in the situation of the cœcum; the pain being so violent, that the medical gentleman, who had been previously called in, imagined that inflammation of the bowels existed. On examining the abdomen, I found the colon and cœcum distended with feculent matter, which, together with the medicines that had been taken for the purpose of relieving the constipation (of some standing), had induced so much irritation, that the least touch on the abdomen, in the situation of the cœcum, induced the pungent pain. Leeches were ordered to be applied over the parts most painful, and an injection of castor oil to be given;

an injunction being added, that should the injection not operate, common barley water injections were to be exhibited every hour until an effect be produced. It should be remarked, that the patient had taken so much calomel previously, with the view of opening his bowels, as to be most effectually salivated. Indeed, the salivation was excessive. Besides calomel, he had taken saline draughts, manna, and rhubarb mixtures, but all to no purpose; castor oil also had been taken by the mouth. Eight common injections were administered, but without any effect. On seeing my patient in the evening, I ordered another castor oil injection, with twenty-five drops of the tinct. opii, and adding, that, should not this operate, the common injections should be administered as before. The castor oil injection did not operate; the common injections were administered, and it was not until sixteen injections, in the whole, had been administered that the bowels were opened. The patient was unwilling thus to persevere; but as the orders were imperative, and as the friends, and even the patient himself, were alarmed, attention was given to them, and the result was favourable. The gentleman in a week or two was perfectly recovered; his bowels being afterwards kept regular by the pil. rhei. comp., prepared according to the Edinburgh formula.

This case shows the advantage of injections. Daily experience convinces me that these medicinal agents are too much neglected. In children, in particular, I have seen the most unpleasant symptoms relieved by a mild injection; and the quantity of impure feculent matter that comes away is so great, that the attendants often express their astonishment. Physiology also supports the use of injection. When we consider the structure of the colon, cœcum, and rectum, and when we remember that, in these intestines it is that the fæces are most frequently accumulated, how reasonable is it to apply the evacuating power directly to the part affected. How far better is this than irritating the whole intestinal canal by exhibiting medicines by the mouth. Many other facts might be stated, showing the immense utility of injections; but this subject will afford us another opportunity of offering a few confirmatory remarks on some future occasion.

46, South Audley-street, July 14, 1828.

VI.—*Remarks on the "Evidences against the System of Phrenology.* By Thomas Stone, Esq.;" 1828.

WHOEVER has seen a lump of stone hurled into a tranquil pool, and marked the rude and momentary sputtering which accompanied its disappearance, may, perchance, be able to figure to himself the character of these 'Evidences,' and their ultimate destiny. With a sort of unessential honesty, their author withholds all pretension to zeal for the increase and extension of useful knowledge: his exclusive aim is to 'put down' phrenology. Inflated with this magnificent conception, he denounces the science itself as an incongruous tissue of error and delusion, and reviles its advocates as a set of dull, credulous, hypocritical imposters. Presuming, even to insolence, also, on the unparalleled moderation of the phrenologists in discussing the merits of previous systems, he makes theirs a perpetual object of contumelious ribaldry, and themselves a butt of the most unjust and vindictive detraction. At the same time, he refuses them all credit for their progressive endeavours to improve the definitions and illustrations of their principles; and ceasing, blindly or wilfully, to discriminate between the inaccurate and the defective, he selects, with the eagerness of profligate malignity, the imperfections of phrenology, and keeps worrying them as manifest and pernicious errors. His representation of the phrenological doctrines, in fine, and of the facts whereon they are founded, is, in many instances, so grossly unfair, as to deserve the exposure and reprehension due to moral delinquencies; while his sophistry and mis-statements have no parallel, except in the indecent and vulgar impudence with which they are promulgated.

Notwithstanding the extraordinary and stubborn disregard of uprightness which distinguishes the 'Evidences,' and renders them, both in spirit and matter, so superlatively despicable, there may be advantage in an examination of their importance; for in them is incorporated every thing that heretofore has been stated in the shape of reasonable objection to phrenology, together with the impure mass of railing, misrepresentation, and calumny—all, in short, of sense, nonsense and absurdity, wherewith the science and its votaries have been so profusely bespattered, since the days of Dr. Gordon, to those which Sir William Hamilton has made remarkable by the demonstrations of his own priggishness and discourteous pervicacity. Previously to entering on such examination, however, and with reference to the general question, it may be stated that the *kind* of evidence, and the

mode of induction, whereon the phrenologists found their system, are, in all respects, identical with those which give authority for placing the prevalent doctrines concerning the existence of caloric, light, life and mind, among the principles of natural philosophy; and, by consequence, have equal claims to be held legitimate and conclusive.

Having, after his own manner, stated three 'several propositions' of the 'new theory of philosophy,' as he calls it, Mr. Stone 'proposes showing that these several propositions are untenable, and directly controverted by the evidence of observation and the testimony of recorded facts.' Moreover, by way of prelude to this grand enterprize, he undertakes, first of all, 'to prove that, so far from the teachers of this system being entitled to *any praise* for the originality of their views, they have only been reviving and promulgating doctrines that were taught in the earlier ages, and which, having been rejected by the most enlightened of those times, fell into that oblivion, from whence, within the last thirty years, they have been rescued, without the slighest acknowledgment or reference.' Conceding due homage to the hackneyed scraps of latinity wherewithal the book of 'Evidences' is ostentatiously bedizened, and, at the same time, acknowledging that they form a contrivance perfectly adapted to the purpose of exciting astonishment in the congenial minds of tyros and dunces, let us try to discover how far this confident engagement has been accomplished.

At the very outset, then, p. 2, we meet with the following statement, in the construction of which the ingenuity of pure imposture is manifest. 'Aristotle,' we are told, 'first assigned different operations of the mind to different parts of the brain.' No doubt; but the subtle attempt to charge the phrenologists with having rescued from oblivion the doctrines which express this assignment, will be made apparent by a sketch of what this great philosopher has advanced regarding the mind and the brain. Aristotle taught, that the first or anterior ventricle of the brain, which he supposed to look towards the front, was the ventricle of common sense, because from it, according to him, the nerves of the five senses branched off; and into it, by the aid of these nerves, all smells, colours, tastes, sounds, and tactile affections were brought together. The second ventricle, connected by a minute opening with the first, he fixed upon as the seat of the imagination, judgment, and reflection, because the impressions from the five senses are transmitted from the first ventricle into it, as a second stage, in their progress through the brain. The third ventricle was sacred to memory, because it was commodiously situated as a storehouse, into

which the conceptions of the mind, digested in the second ventricle, might be transmitted for retention and accumulation. Now, if we apply the principles of philosophy to these views, we shall perceive them to be evidently nothing more than the fictions of an exuberant fancy. Dissection shows that there are ventricles in the brain, but the keenest eye can perceive nothing in them resembling either sensation, imagination, or memory. *Observation* is never hinted at as the foundation on which they rest, and *Consciousness* throws no light upon the subject. The assignment, therefore, of functions to them, connected with these faculties, is altogether gratuitous. With him, the ventricles or *cavities* of the brain are mere habitations of imaginary mental faculties; according to the phrenologists, the organs by whose instrumentality the various affections of mind are experienced and manifested, do essentially consist of perfect fibrous *substance*. That person, indeed, must be either a fool or a knave who could ask us to recognise an affinity between this doctrine of Aristotle's and the doctrine of the phrenologists, on the organization and functions of the brain. Aristotle, we all know, advanced speculations upon the heart, arteries and veins; and, of course, described the organic distribution and functions of the vascular system: with him, for instance, the arteries were vehicles for air! What an egregious pilferer, then, must Harvey have been, when he revived the doctrine of the blood's circulation 'without the slightest reference or acknowledgment!'

Again, 'Aristotle also speaks of the faculties being indicated by certain forms and projections of the skull, which passage has been quoted with reprobation by Pliny, who seems to wonder why Trogus Pompeius, his predecessor, 'a most accurate writer,' should have copied from Aristotle such 'frivolous remarks.' The objection of Pliny was that of a philosopher, and rested on their induction being founded on the observation of a single part, instead of the whole system.' Now, the author of the 'Evidences,' in making these assertions, reckoned too much on the credulity of mankind. Pliny does not quote any passage of Aristotle's including such a doctrine, either with or without 'reprobation:' nor does Pliny 'wonder why Trogus should have copied from Aristotle such frivolous remarks;' nor, in fine, does Pliny state any objection, of any kind, to 'their induction,' for he terminates his chapter with the quotation from Trogus, on which he does not make a single observation.

Pliny, at the place referred to,* expresses surprise that

* Caii Plinii Historiæ Mundi, libri xxxvii; folio, Lugduni, 1561: lib. xi. cap. 52.

Aristotle should, not only have believed, but even taught that ‘ aliqua præscita vitæ’—any indications of character—can be found in ‘ corporibus ipsis’—*bodies themselves;* and then, with modesty, declares the notion to be foolish and not without bad tendencies. According to him, Aristotle regards wide-set teeth, very long fingers, a leaden colour, and many variable lines on the hand, as ‘signa’—indications—of short life; and, on the other hand, round shoulders, two long lines on one hand, more than thirty-two teeth, and large ears, as signs of long life. On these conceits, he remarks, ‘ nec universa hæc, ut arbitror, sed singula observat; frivola, ut reor, et vulgo tamen narrata;’ to which may be added, that the head must have been endowed amplis auribus prælongisque which imagined any degree of affinity between such fancies and the doctrines of phrenology. With this uncertain implication, Pliny passes from Aristotle altogether, and proceeds to say, ‘ addidit morum quoque aspectus simili modo apud nos *Trogus*, et ipse autor severissimus, quos *verbis ejus* subjiciam.’ What follows in the rest of the chapter is given, as he has just told us, in the precise words of Trogus himself; and these imply, that a large forehead denotes cowardice: a small one, fickleness: and a round projecting one, irascibility: when the eye-brows are overhanging, they indicate effeminacy: when deflected upon the nose, a disposition to austereness: when reflected towards the temples, a propensity to sarcasm: and when ‘ in totum demissa’—very low—a temper remarkable for malevolence and envy: persons with ‘ largi’—prominent—eyes, are mischievous: they in whom the internal angles of the eyes are fleshy, entertain malice: impudence prevails in those who have the white of the eye very large: habitual twinklers are inconstant: magnitude of the ears is significant of loquaciousness and folly. These, then, are some of the ‘ doctrines’ which Mr. Stone falsely accuses the phrenologists of having revived and promulgated, ‘ without the slightest reference or acknowledgment.’

Another ‘ Evidence,’ particularly apposite and essentially just, stands on the same page, and in these words: ‘ he,’ not Pliny, ‘ names the science Metoposcopy; and adds the curious fact of its having been applied, almost as we see it in modern times, to the portraits painted by Apelles.’ Then follows a batch of the most egregious drivelling, the end of which is to show that ‘ the ancients always considered metoposcopy a *vulgar* superstition.’ Metoposcopy literally signifies ‘ inspection of the *forehead,*’ and was held to be the art of discovering the temperament, inclinations, and manners of persons, by inspecting their *features* and the

lines in their *faces,* and especially in their *foreheads.* 'Cicero,' as Mr. Stone himself says, p. 3, 'alludes to *the same doctrine* when he mentions Zopyrus, the physiognomist, who pretended to decipher the dispositions and characters of individuals from their persons, eyes, countenance, and forehead.'* It might have been added, though, perhaps, with inconvenience, that Ciro Spontoni declares, in his essay on metoposcopy, that 'there are seven principal lines to be considered in the forehead, each of which has its peculiar planet.' Metoposcopy, then, or inspection of the *lines* in the face and the forehead, is another of the 'doctrines' with the revival of which, without acknowledgment, the phrenologists are charged.

The next 'Evidence' of phrenological plagiarism stands thus, at p. 3: 'Albertus Magnus pointed out the supposed sites of the several mental faculties; and Peter de Montagnana published a plate, representing their several relative positions and sizes. Vesalius, writing in 1542, condemns such notions, as being arrogant and impious; and denominates the phrenologist of that time a 'would-be Prometheus' and a 'forger upon the great impress of the Divinity.' He quotes Thomas Aquinas, Scotus, and Albertus Magnus as the most reprehensible authors of these *doctrines;* and, very truly, denies that the cerebellum 'forms any part of that *prominence* by which the vulgar calculate the powers of memory and ingenuity.'

Vesalius was the father of anatomy;† and, on whatever relates to the improvement of that art, his opinions justly

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* In a foot-note to p. 3, Mr. Stone turns pedant for the purpose of telling us, that 'the *frons* of the ancients extended to the vertex, and therefore, comprehended the twenty principal organs of modern phrenology.' Now, in doing this, he is just practising one of those little antiphrenological tricks which the conscientious mind abhors as attempts at intentional deception. *Frons*, with the ancients, as with the moderns, signified the brow, the forehead; the part of the face which reaches from the eyes upwards to the hair—that part of the face in which *shame visibly operates.* With them, also, the vertex denoted the upper part of the head which is parallel with the horizon when the person is erect: it extended from the occiput to the forehead; and this last comprehends not more than five or six '*principal* organs' of phrenology.

† Were it not that knavery is always odious, there might be amusement in exhibiting the unworthy expedients whereby the sense of Vesalius has been perverted in the 'evidences,' so as to make it conducive to the support of a particular argument. Vesalius, for instance, uses the words 'ex cujus *gibbo*'—by whose *convexity;* but this did not coincide exactly with Mr. Stone's views, and he, being a regenerate bumpist, saw no degree of fraud in the petty circumstance of changing them into 'ex cujus *tubere*'—by whose *knob or bump;* presuming, of course, that his reader might not know how a surface can be perfectly convex, and at the same time quite free from every thing in the shape of a knob, bump, tuber, or part rising abruptly above the rest. The 'would-be Prometheus' and the 'forger upon the great impress of the Divinity' are tiny bits of poetry emanating from the same plastic spirit.

merit the greatest deference, and his character the highest veneration. Inestimable, however, as are his anatomical writings, and constituting, as they do, an immortal monument of his industry, observation, sagacity, and descriptive powers, they nevertheless include no one doctrine on questions purely physiological and metaphysical, which a modern wrangler has any right to propose as an authority. His own mode of philosophizing, opposed by himself to the 'arrogant and impious' fictions of Michael Scott, Thomas Aquinas, Albert of Ratisbon, and the scholastic theologians, stands in support of this judgment. This celebrated anatomist, then, informs us, that the air which we breathe, penetrating through the cribriform process of the ethmoidal bone, and through the eustachian tubes, is, by rarification, rendered fit for the brain, and then insinuates itself into the first and second ventricles, where it is formed into *animal spirits*. These then pass into the third ventricle of the brain, and thence into the ventricle of the cerebellum. From this ventricle, no small portion of them is admitted into the medulla oblongata and into the nerves propagated from it. The other portion of the spirits, 'ad divinas principis animæ operationes utitur'—is exhausted in the divine operations of the imperial mind, and is likewise transmitted from the ventricles of the brain to the nerves of sense and motion. Thus, we find Vesalius substituting a fantastic theory of his own, instead of that advocated by the scholastic theologians, whom he censures for inculcating a doctrine which, for the most part, includes Aristotle's division of the mind's functions, and distributes the brain into parts corresponding to their arrangement of the mental powers. According to them, imagination and judgment have their habitation in the second ventricle, and memory in the third; but Vesalius confutes this hypothetical disposition, by the fact, that the parts of the brain which the theologians made subservient to the rational faculties are found, in the lower animals, to correspond nearly with the same parts in man. Again, he accuses the same persons of having taught the opinion, that the vermiform processes of the cerebellum serve as the means of communication by which the 'phantasms' of the mind pass into the dwelling-house of memory, and thence 'by stealth' into the middle ventricle, where judgment resides. Against this notion, he repeats the former argument, and concludes, that if such be their functions, these processes must, in the lower animals, have been made without a purpose,—a supposition altogether inadmissible, since the Divine Being gave origin to their existence, and qualified their structure to execute per-

fectly all its requisite functions. Speculations nearly similar to these appeared to have constituted, during the middle age, the accredited philosophy of the brain and the mind; and it is remarkable, that no one seems to have thought it necessary to inquire whether any evidence, substantial or imaginary, had ever been adduced in support of their plausibility or their truth. It is evident, however, that they possess no affinity whatever to the principles of phrenological induction: they never were revealed by Dissection; Consciousness cannot perceive or disclose them; and Observation is utterly incapable of apprehending that which is unreal, or retracing influences to an inefficient cause.

Passing, for a time, the scheme of Bishop Albert and the picture of Peter de Montagnana, let us attend to Saunders' 'Physiognomie, Chiromancie, and Metoposcopie,' from which three 'Evidences,' made emphatic by the garniture of italic typography, are produced in support of the statement, p. 5, 'that many of his axioms will be found strictly in accordance with the fundamental propositions of the present system' of phrenology. They are thus expressed:—

Axiom I.—'Now, in our science of physiognomie, the form, proportions, and dimensions of the head are to be considered; for by it and its form we judge of the mind contained therein.' It seems scarcely necessary to premise, that this 'curious work' is nothing else than a rambling English version of the notions entertained by the peripatetics, metaphysicians, 'scholastic theologians,' physiognomists, chiromancers, and metoposcopists of former ages, respecting the mind's faculties and its corporeal organs. As the title implies, and as Mr. Stone himself quotes it at p. 10, this book professes to explain those 'high parts of philophy' which constitute 'the noble art of interpreting the characters, actions, and destinies of men,' by examining the features of the countenance, the lines in the hands, and the figure of the forehead. A noble art truly! and, of course, quite worthy of more distinguished *revivers* than the insignificant phrenologists! With regard, then, to the first 'axiom,' it is a mere general assumption altogether, and artfully separated from the mass of abstruse, hypothetical notions in which, for ages, it had been most unphilosophically involved. As it is, will any antiphrenologist, even the most practised in misrepresentation, venture to assert, that the *principles* on which the metoposcopists founded this 'axiom' contain anything, either of resemblance or identity, in common with the *principles* from which the phrenological doctrine is deduced?

Axiom II.—'The brain, one of the noblest parts of the

body, is according to the form of the cranium.' With this 'axiom' the phrenological 'proposition'—that the skull derives its shape originally from the brain, whereof it presents, both internally and *externally*, the exact configuration—is not in very 'strict' accordance. Neither is it in strict accordance with the 'axiom' of Vesalius, who is quoted, in the 'Evidences,' as strengthening it with his authority. His words are—'Calvariæ igitur cavitas externæ cerebi superficiei imaginem commonstra'—the inside of the skull exhibits a perfect representation of the external surface of the brain. Here, then, the strict accordance is somewhaat discordant, but let that pass; misrepresentation is a rather prominent feature of the antiphrenological character.

Axiom III.—The well formed head is like a mallet or sphere, there being some eminency before and behind; the form of the middle ventricle should be a little compressed, so the cogitative faculty is the more notable. If the forepart be depressed, the man is of no judgment; if the hinder, he hath no memory. This vague 'axiom,' as is manifest, differs in no respect from the 'absurd notions' of Aristotle and Adamantius, and the multitude of their servile imitators; and the nature of its contrariety to the phrenological 'proposition' has already been discriminated. It is, therefore, needless to retrace the medley of physiognomy, palmistry, and metoposcopy, dispersed over the sixth, seventh, and eighth pages of the 'Evidences,' farther than to say, that 'the object of these abstruse sciences,' as we are told, p. 10, 'was to interpret the characters, actions, and destinies of men by the symmetrical proportions of the body;' whereas, no one of the phrenologists ever pretended 'to interpret the *characters, actions, and destinies* of men,' by any mode of inspecting the symmetrical proportions of the body, or other means whatever. The proposition of phrenology, which is senselessly charged with being the revival only of a superannuated assumption, is—that the *dispositions* and mental *capacity* of men may be ascertained by observation, according to *definite rules*, of the size and configuration of the Head. As it is possible, however, that the author of the 'Evidences' may really have believed to be accurate, as it is not, what he has advanced on the sameness of the ancient and modern systems, we shall concede to him, that an error of judgment, evidently occasioned by headstrong zeal, may have been the cause of his overlooking the distinction between verbal and *essential* identity On the other hand, since this writer has often and expressly quoted the works of Dr. Gall, and also the 'Phrenological Journal,' it is impossible to regard his charging the phrenologists with having

rescued the ancient doctrines from oblivion 'WITHOUT THE SLIGHTEST REFERENCE OR ACKNOWLEDGMENT,' in any other light than that of wilful and malevolent falsehood. Dr. Gall distinctly and expressly states and reviews the speculations which Aristotle, Erasistratus, and the peripatetics, as well as Albertus Magnus, Peter de Montagnana, Vesalius, and many other anatomists and physiologists had promulgated, *before himself,* on the mutual relations of the mind and the brain.

Having done this with unusual candour and impartiality, he proceeds to explain the difference between his own and the antecedent metaphysical doctrines. To the sections of his work he prefixes a minute history of the progress of knowledge on the subject whereof he treats; and, with the firmness of conscious rectitude, makes this declaration *: 'For the purpose of exhibiting the opinions of *each* author, in all their force, I have almost always quoted his own precise expressions; this being the case, no one can complain of my having mutilated or disfigured his ideas; and every reader is, by this means, enabled to compare my opinions with those of others, as well as to form for himself an impartial judgment.'

Again, in the 'Phrenological Journal †' is an elaborate article, entitled 'Historical Notice of early Opinions regarding the functions of the Brain,' accompanied with a sketch of heads. Now, in this article 'the notions' of Aristotle,

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* Anatomie et Physiologie du System Nerveux en general et du Cerveau en particulier; 4to. Paris, 1801-18, Tome I, Preface, p. xl.; and also Sur les Fonctions du Cerveau et sur celles de chacune des ses parties; 8vo. Paris, 1822-25; Tome V. p. 495-525; Tome II, Sect. II et III, p. 276-363; Tome III, Sect. II, p. 136-221. Now, these very volumes are repeatedly quoted by Mr. Stone; and, in them, he must have found Dr. Gall asserting "Je n'ai jamais manqué de produire *textuellement* les opinions" des auteurs. Among these authors, antecedent and cotemporary, the following are named, and their 'doctrines' appreciated—Aristotle, Hippocrates, Pythagoras, Plato, Erasistratus, Anaxagoras, Herophilus, Appollonius of Rhodes, Galen, Quinctilian, Gilbert, Gassendi, Bacon, Van-Helmont, Wepfer, Willis, Leibnitz, Fred. Hoffmann, Haller, Barthez, Casimir-Medicus, Reil, St. Augustine, the peripatetics and Arabians, Gregory of Nice, Albertus Magnus, Carpus, Vockerodt, Mundini, Servetto, Peter de Montagnana, Lud. Dolci, Vieussens, Lancisi, La Peyron, Charles Bonnet, Van Swieten, Boerhaave, Plattner, Malacarne, Chanet, Wrisberg, Daubenton, Blumenbach, Richeraud, Cuvier, Degerando, Sœmmering, Ackerman, Malebranche, Helvetius, Locke, Condillac, Buffon, Spreugel, Herder, Huart, Bichat, Pascal, Polignac, Lavater, Tracy, Ancillon, Kant, Fluenbach, Sonnenfels, Pinel, Fodéré, Laurens, Dioemerbroeck, Fichte, Hufeland, Walter, Rudolphi, Portal, Dumeril, Dumas, Everard Home, Esquirol, Van-der-Haar, Tissot, Formey, Larrey, Stahl, Auranti, Des Cartes, Warthon, Schelhammer, Drelincourt, Bontekoe, Sabatier, Roger, Darwin, Le Roi, Vicq. d'Azir, Georget, Tiedemann, and Flourens. As Mr. Stone figures, from first to last, as a spiritless cringer to authority, it may be presumed that he ought to regard the preceding list with some degree of deference.

† Phrenological Journal, Vol. II, p. 378. Edinburgh, 1825.

Adamantius, Rhazes, Bernard, Gordon, Vesalius, Dolce, Willis, Porta, Albertus, Lavater, Des Cartes, Hartley, Darwin, Priestley and others, are distinctly specified, and shown to be *not* in 'strict accordance with the present system' of phrenology. Such being the case, the charge stated in the 'Evidences,' that the phrenologists have only revived the 'doctrines' of their predecessors, 'without the slightest reference or acknowledgment,' is a palpable and unjustifiable misrepresentation.

Let us now return to the physiology of Albertus Magnus and Peter de Montagnana; and, in it, we shall find evidence, not of the dishonesty and ingratitude of phrenologists, but of the inherent obliquity of their accuser. At p. 3 of the 'Evidences' it is said, 'Albertus Magnus pointed out the supposed sites of the several mental faculties; and Peter de Montagnana published a plate, representing their several relative positions and sizes.' So far, however, from reviving the speculations of these writers 'without the slightest reference or acknowledgment,' Dr. Gall notices them and many others, in his section 'On the plurality of the Organs of Moral Qualities and Intellectual Faculties,' and gives a fair outline of their opinions regarding the head, in specific terms. 'Albertus Magnus,' he observes, 'in the thirteenth century, sketched a head, in which he marked the seat of the different intellectual faculties. He placed the *sensus communis* and *imagination* behind the forehead, or in the anterior cavity of the brain; the understanding in the second cavity; and *memory* and the *powers of motion* in the third cavity.' 'In a work of Pietro Montagnana, published in 1491,' he adds, 'is an engraving, on which are represented the *sensus communis*, the *cellula imaginativa*, the *cellula estimativa seu cogitativa*, and the *cellula memorativa*.'

Thus, then, there is manifest injustice in saying that Dr. Gall does not *refer* to these persons and their 'doctrines,' or that he withholds '*acknowledgment*' of their having allotted, the one a *cavity*, the other a *cell*, as a *residence* for each of certain imaginary faculties of the mind. He concedes full value to the pretensions of them and of all his predecessors; and, in the end, claims for himself the merit of having conceived and demonstrated the peculiar principles, with the inductions from them, which distinguish the phrenological, from every other, system of mental philosophy.

Having concluded his citations from Aristotle and Albertus, with those from their copyist, Saunders, the metoposcocopist, our collector of 'Evidences' proceeds to say, p. 8, 'These facts are as well authenticated and important as any of those that have been recorded in the *numerous* phrenologi-

cal journals now before the public; and the inferences deduced from them are, in every respect, as warrantable.' This is Mr. Stone's opinion, and, of course, must be quite unexceptionable: together with the episode of Galen's ass *, it makes a suitable tail-piece to the charge of phrenological plagiarism, and is, in all respects, as correct. Different, however, is the statement, p. 8. 'that the greater number of the phrenological *faculties occupy* the same region of the brain now as they did in the time of Vesalius.' They do so indeed; and they will do the same thing at the time of the 'last man.'

Mr. Stone, p. 10, regards the 'history of phrenology as unparalleled in the annals of modern science.' This may possibly be true: the modern sciences are neither numerous nor exemplary. All the *exact* sciences, however, advanced precisely as phrenology has done: speculative systems usually undergo their first exhibition in all the beauty and symmetry of apparent perfection; true science results from the progressive discovery of detached facts and their application as the elements of philosophical induction: objections to any scheme of scientific doctrine, founded on the *history* of its *discovery*, are childish and impertinent.

Another misrepresentation of the phrenologists stands at p. 11 of the 'Evidences,' where it is stated that 'Dr. Spurzheim, however, has, within the last four years, without assigning any sufficient reason, changed the name, and dignified it with the more specious and imposing title of '*Phrenology*,' or *the Doctrine of the Mind*, although it is one of their avowed and reiterated acknowledgments, that the theory has been devised and established without any in-

* Mr. Stone gives this in the form of a precise quotation from the seventh book of Vesalius's anatomy, and his version of it is instructive. 'Since even the ass, a creature of little sagacity, has its brain laid out into numerous folds, though by *theory*, it should have this organ the very reverse of complicated, Erasistratus should have concluded, with more justice, that *intellect is in proportion* to the proper mixture, or *variety of structure* in the organ, whatever those may be which produce intelligence.' Vesalius, when treating, not of 'the various mixture of white and brown matter, and of diverging and converging fibres in the individual organs,' but 'de cerebri anfractuum usu,' cites the very words of Galen, which are these: 'Quum asini etiam admodum multipliciter cerebrum habent complexum, quos deceret, quantum ad morum ruditatem attinet, omnifariam simplex, et minimè varium nancisci cerebrum. Melius autem arbitraretur bonam substantiæ temperiem corporis intelligentis, (quodcunque hoc fuerit) prudentiam sequi, et non varietatem compositionis.'—Whereas even asses have the brain exceedingly complicated, although in them, 'from the rudeness of their nature, it ought to have been found in all respects simple and in no degree diversified; it should rather be supposed, however, that sagacity ought to result from proper disposition of the substance of the intelligent body (whatever that may be), and not from variety of its composition.' Such perversions of an author's sense might be made amusing, but for their criminality.

vestigation into the nature or phenomena of the thinking principle. Bacon, Des Cartes, Locke, Leibnitz, Kant, are all, with their acute reasonings, formally denounced by the phrenological usurpers.' The falsity here is craftily disguised; the phrenologists do *not* investigate 'the *nature* of the thinking principle,' but they do investigate the '*phenomena*;' and in conducting such investigation, each individual employs reflection on his own consciousness and observation of the mental manifestations in mankind.

Neither have the 'phrenological usurpers formally denounced Bacon, Des Cartes, Locke, Leibnitz, or Kant,' as their writings testify. These 'usurpers' hold Bacon and Locke in the highest veneration; though, at the same time, they describe respectfully the circumstances wherein they differ from the doctrines of all those celebrated philosophers. Moreover, although their *principles* are essentially distinct from those of every other system of mental science, they, nevertheless, 'acknowledge' that, of 'the thirty-five special faculties,' as they are scoffingly designated, *twenty** have been recognised and defined, though on *principles different* from the phrenological, by the metaphysicians.

By the preceding remarks, then, and by the authorities wherewith they are established, we are manifestly qualified to conclude: —

1. That Dr. Gall has discovered, and the phrenologists are endeavouring in the most unobtrusive manner to mature, a system of mental philosophy, which, in its essential and inductive elements, is dissimilar to the systems of all other metaphysicians. These, on the vaguest grounds, allot *places* in the brain for *seats;* those, by definite laws, assign *portions* of the brain itself as *organic instruments* of determinate faculties of the mind; and, therefore, in as far as difference constitutes distinction, so far does the discovery of what makes the dislikeness of the phrenological to every other system, entitle it to the merit of originality.

2. That the phrenologists have honestly *acknowledged* and *referred* to the opinions entertained by their predecessors, regarding the cerebral and mental intercommunications; and, consequently, that the unrighteous expedients employed by Mr. Stone, for the purpose of depreciating their labours, are in every way disgraceful. In fine, it is impossible to reflect upon the unbecoming assurance wherewith misrepresentation has been exercised in his 'Evidences,' without experiencing feelings of astonishment and humiliation: it is to be desired, however, that such scandalous practices

* Phrenological Journal, Vol. IV, p. 30—31; Edinburgh, 1827.

may never again contaminate the order of 'Esquires,' nor ever be allowed to 'stigmatize' the dignity of the medical character.*

(To be continued.)

MONTHLY SYNOPSIS OF PRACTICAL MEDICINE.

1. *Pleuritis, succeeded by Pneumo-Thorax and effusion into the cavity of the Chest; treated by* Professor Chomel †.—Daru, a baker, aged 20, possessing a strong constitution, and enjoying habitually a good state of health, had suffered from cold for three weeks, when, on the 16th of February, 1827, he felt generally ill, with a violent pain in the head, and more oppression than usual, without, however, being obliged to leave off working. Six days after, he was seized with violent shivering, followed by an acute pain in the right side of the chest, which compelled him to take to his bed. The same evening, February 22nd, the expectoration became bloody, and the patient was taken to the hospital. Sixteen ounces of blood were immediately abstracted, and on the morrow, after a quiet night, he had the following symptoms:—expression of suffering in the countenance; acute pain in the right side of the chest; respiration short, performed thirty-six times in a minute; cough frequent and painful; expectoration copious, mucous, viscous, of a pale red colour, and streaked with blood; sound clear at the posterior part of the chest; respiration equally good on both sides; sound and respiratory murmur natural in the anterior part of the left side; on the right side, sound heavy, respiratory murmur nearly extinct altogether at the lower part; opposite the nipple, respiration feeble, accompanied by a slight sonorous rattle; no resonance of the voice; tongue whitish; thirst moderate; no symptoms of affection of the abdominal viscera; skin hot; pulse full and resisting, beating ninety-two times in a minute. The blood taken from the vein forms rather a loose coagulum, and has no appearance of the inflammatory crust.—V. S. ℥x.; *infusion of violets, sweetened; solution of gum. Abstinence.*

February 23rd.—The bleeding produced a notable debility; he is otherwise in much the same state as on the day before; pulse the same; respiration forty-two in a minute; auscultation and percussion give the same signs as before; the blood taken last presents a slight inflammatory buff.—V. S. ℥x, &c. 24th.—Cough less frequent; expectoration no longer bloody, but simply viscous and transparent; thirty-two respirations; the same results

* The very able author of these "Remarks" has undertaken to scrutinize minutely the objections which have been raised to Phrenology, and he intends to extend his criticism to Dr. Thomas's New Doctrine of the Temperaments. These subjects, so ably treated, cannot fail to prove interesting to our readers. The essays will be hereafter acknowledged.—EDITORS.

† *Clinique de la Charité.*

from auscultation and respiration; pulse 80, and not so strong.—*Sweetened infusion of violet flowers with nitre; solution of gum. Abstinence.* 25th.—Violent pain in the right side of the chest, rendering percussion extremely painful, and lying on that side impossible; general anxiety; respiration short, very frequent, (42 in a minute); cough augmented and painful; expectoration mucous, a little viscid, and covered with froth. In the right side of the chest, in the posterior and middle region, crepitation scarce and humid, but drier more anteriorly; in the inferior part the respiratory sound has ceased, and this region gives a dull sound on percussion; pulse 86, rather full.—*Forty leeches over the seat of the pain, to be followed by a large cataplasm, &c.*

26th.—The same symptoms; respiration 46; pulse 94.—*Bleeding to the amount of ten ounces, &c.* 27th.—Pulse and respiration much the same; pain in the side quite gone; a little cough; expectoration mucous, opaque, not viscid; sound on percussion dull at the posterior part of the right side; respiration null; no resonance of the voice. At the anterior part, respiratory murmur, accompanied by a sonorous rattle. The left side gives the same signs as in the healthy state; decubitus dorsal; anxiety; visage pale; suffering; agitation of the *alæ nasi;* thirst moderate; complete loss of appetite; abdominal organs present no symptoms of disease.—*A blister six inches in diameter to the right side of the chest, &c.*

The patient continued in very nearly the same state until the 11th of March. At this time, the pulse became more frequent, beating from 100 to 110 in a minute; his general anxiety increased, and diarrhœa came on, which was arrested by a few doses of diascordium.

16th.—Expectoration very copious (lbj. in 24 hours), of white opaque matter, of a purulent aspect, without odour, mixed with mucus, and giving an ambiguous tint to water; cough very frequent, without pain; sound dull on the posterior inferior part of the right side; *bruit respiraoire* altogether null; respiration obscure in the middle part; it is natural at the upper part; pulse 120.—*Pectoral tisan with nitre; gum mixture.*

The patient continued to have nearly the same symptoms until the 20th, when he felt, on moving, the sensation of fluid in the chest, and the presence of fluid was also supposed to be recognized on succussion. On the 24th, its presence was very evident; the posterior aspect of the right side emitted a duller sound on percussion than it did previously, and auscultation proved the respiratory murmur to be weak, accompanied by a slight mucous rattle, almost crepitous; no resonance of the voice; expectoration less copious; the expectorated matter is mixed with air without having much the appearance of being purulent; five or six liquid stools a-day; pulse rather less frequent; a little appetite; sleep calm; expression of the countenance more natural; general feeling of improvement by the patient. 26th.—The patient ate some apples, which, in a few hours, brought on vomiting; the matter ejected consisted of from six to eight ounces of blackish fluid,

easily recognized as blood, containing several pieces of coagulum; a short time after, he discharged some dark fetid matter by stool; soreness of the epigastrium; visage sunk; great debility; pulse 130 and small; the same physical signs relative to the chest.—*Rice tisan with syrup of quince, eau de Rabel, sixteen drops to the pint; gum mixture. Abstinence.*

27th and 28th.—Several ounces of blood were passed by vomiting and by stool, which produced extreme debility. On the three following days no blood came away, and the vital powers appeared to return a little, but not sufficient to admit of the patient being auscultated; he said that he felt the motion of fluid more evidently on the right side of the chest than he had done before. The hemorrhage again returned, both by vomiting and by stool, on the 11th of April, and the patient died on that day.

Sectio Cadaveris, 48 hours after death.—Contents of the cranium healthy; the right side of the thorax contained a quantity of very fetid gas, with about two pounds and a half of thick, whitish, homogeneous fluid, having a very disagreeable odour; the right lung was covered all over by a thick, false membrane, adhering above and below to the pleura costalis, and leaving a space in the middle for the fluid and gas which the cavity contained. On examining this lung externally, two orifices were discovered near its lower edge, one leading into an interlobular space, and the other terminating in a cul-de-sac. The pulmonary tissue was condensed, flabby, scarcely crepitous, and did not contain any accidental production. The bronchial tubes had no communication with the bag of the pleura; their mucous lining was of a dark red colour. The left lung was crepitous and healthy throughout; the thoracic cavity of this side contained about a pound of sanguinolent serosity; no false membrane or adhesion. The heart was healthy. Uniform redness of the mucous lining of the large extremity of the stomach; the rest of it was whitish; it was generally thickened, and its aspect remarkably granular. That lining the intestines presented reddish spots in some places.

2. *Empyema, with Erosion of the Pleura Pulmonalis; treated by* Professor Chomel *.—Larsonore, porter, aged 60, stong constitution, usually enjoying good health, although almost always drinking. After tiring himself in running, he sat under a tree to repose himself, and whilst in this situation, he was suddenly seized with an acute pain in the right side of the chest, which obliged him to send for a vehicle to convey him home. In the night there came on a cough, followed by a sanguinolent expectoration; he entered the hospital on the morrow, 6th April, 1827. The pain in the side was still severe; the cough frequent, expectoration viscid, transparent and tinged with blood; the chest gave a dull sound at the inferior part of the right side; in the same region the respiratory murmur was null, but above, the mucous and crepitous rattle were evident; pulse 96, large and full. *Two bleedings of*

* Clinique de la Charité.

ten ounces in twenty-four hours; infusion of violets and gum mixture. Abstinence.

8th.—Thoracic signs much the same; the patient is incoherent and delirious, which renders it necessary to fasten him to the bed; the visage is flushed, the eye lively, and the features animated; pulse the same as before. As this man had been in the habit of drinking immoderately, it was thought proper to allow him some wine and water, in the proportion of one-fourth of wine to three-fourths of water. *Fifteen leeches applied to each side of the neck.*

9th.—Delirium continues; pain and heaviness of the head. V. S. ℥vj; *sinapisms to the feet, &c.*

10th.—The intellectual faculties nearly perfect; no agitation; pulse 72, and a little irregular; tongue rather dry; thirst; slight tension of the abdomen; no stool for two days; a little cough; expectoration merely mucous; sound still obscure, and the respiratory murmur very feeble in the right side of the chest. *Wine and water; infusion of violet flowers; gum mixture. Abstinence.*

The patient continued in this state for some weeks. He quitted the hospital on the 15th of June, but he was not materially better at this time than before; his respiration became more oppressed, and his cough more frequent; the vital forces diminished; fever returned, and on the 13th July, after coughing violently, he expectorated a great quantity of pus. On the morrow, the expectoration was white and thick, and on the 15th he returned to the hospital. At this time the right side appeared fuller than the left; the sound on percussion was dull, and respiration was completely absent in the lower two-thirds of the right side of the chest; whilst the upper third was sonorous on percussion, and respiration was present, but feeble. Respiration was puerile on the left side. There was no longer any resonance of the voice. With the exception of a few vomitings of a greenish fluid, there were no symptoms of disease of the digestive apparatus. The pulse was small and rather frequent; and slight shiverings occurred occasionally. *Pectoral infusion; gum potion; two bouillons.* The above symptoms increased daily in intensity; the expectoration did not become much more copious, but, mixed with water, it gave it a turbid, milky appearance; respiration became more and more difficult; marasmus in the last degree, and the patient died on the 29th of July, the signs furnished by auscultation and percussion being the same to the last.

Sectio Cadaveris, sixteen hours after death.—Contents of the cranium healthy. Remarkable fulness of the right side of the thorax; the anterior wall of the chest being raised, the anterior part of the right lung was found distended with air, projecting beyond the costal cartilages, instead of receding as usual; it adhered all along its lateral surface to the pleura costalis; this adhesion being destroyed, exposed a large cavity behind, occupying all the rest of the side of the chest, and completely filled by a cream-like, whitish, perfectly homogeneous fluid, having an extremely fetid odour; on blowing air into this lung, several bubbles rose to the surface of

the fluid, proving a communication between the bronchia and the cavity of the chest. The lung had diminished in size; its external surface *(entirely deprived of its serous membrane)* plainly exposed the pulmonary tissue, which was of a dark-grey colour, soft, flaccid, and slightly granular; there were here found seven or eight orifices, from a quarter to half a line in diameter, corresponding to the bronchial branches. The pleura costalis appeared to have acquired a line or two in thickness, and was covered with several eminences. The left lung, the heart, and the abdominal viscera, were perfectly healthy.

3. *Strangulation of a portion of Intestine, owing to its adhesion to the Omentum—Death by Suspension; treated by* Professor Chomel *.—Pardreau, aged 24, cartwright, possessing a strong constitution, and usually enjoying good health, was taken, at the end of January, 1827, after a debauch, with diarrhœa, which continued about eight days; on the 1st February, he was seized with a shivering fit, followed by burning heat, pain in the head, and a slight pain in the abdomen. In about eight days, the abdominal pain, particularly fixed round the navel, increased rapidly, and became very violent It was soon followed by hickup, and vomiting of a greenish, bitter matter. A great number of leeches were applied to the abdomen and arms, but they produced no relief, and the patient entered the clinical ward on the 13th February. He then presented the following symptoms: dorsal decubitus; countenance altered; expression denoting great suffering; anxiety; no sleep; abdomen so tender as not to bear the slightest pressure, but no distension; tongue natural; thirst; frequent hickup; vomiting often repeated; pulse 88, small and hard; heat of skin moderate; a little cough, followed by mucous expectoration. *Fifty leeches to the belly; emollient cataplasms; emollient lavements; syrup of gum; lemonade. Absolute abstinence.*

On the 14th and 15th he continued much the same; eight ounces of blood were abstracted on each of these days. 16th. Features much changed; augmentation of the abdominal pain, which extended all over the belly; the abdomen was hard but not distended; it emitted a clear sound on the left side, but the sound given by the right side was dull; frequent vomiting of greenish matter; hickup; no evacuation from the bowels; pulse much as before, both in frequency and in hardness. *Gum water; Seltz water; emollient fomentations to the belly; soap suppository.*

During the two following days, the symptoms continued to increase; thirty leeches were applied to the abdomen on the 17th, and a blister on the morning of the 19th. On this day the pain in the abdomen was so violent as to make the patient desirous of destroying himself; but towards the evening he became calm, and appeared resigned to his sufferings. In the night, however, between two and three o'clock in the morning, he put an end to his existence, by suspending himself to the cord which hung from the top of the bed, put there for the purpose of assisting himself to

* Clinique de la Charité.

move. When found, his knees were on the bed, and his neck in a noose, formed at the end of the cord. Resuscitants were tried, but all in vain. The penis was not in a state of erection, but there were sufficient marks, both on the glans and on the bed, of seminal emissions having taken place.

Sectio Cadaveris, thirty-one hours after death.—The mark of the cord round the neck was evident; the cuticle was detached where it had been applied, but the muscles underneath were not injured, and none of the cervical vertebræ were displaced. The vessels of the brain were much injected with black blood; otherwise this organ presented a natural appearance. The lungs were very full of blood, and the bronchia loaded with frothy mucus. The heart was of its natural size, but there was slight hypertrophy of the left ventricle, without any dilatation. The right side was full of black fluid blood; so was also the aorta. There were two or three ounces of serous fluid found in the bottom of the pelvis. The upper three-fourths of the small intestine was distended and of a rose colour; whilst the lower fourth was of its natural colour and dimension. The great omentum, injected and very red, was rolled in the form of a cord from one side to the other, representing a triangle, the top of which adhered very strongly to the ileum, about an inch above the valve of the cœcum, and forming with it a kind of ring, in which was engaged and strangulated a portion of the ileum. This portion was pale externally; it contained only a small quantity of whitish mucus; its mucous membrane had a uniform red tint, while that of the dilated, upper portion, was pale, without any trace of injection. The fecal matter contained in the latter was fluid, and of a yellow colour. All the other parts were healthy.

4. *Putrefaction of a portion of the Placenta in the Uterus—Adynamic Symptoms, &c.; treated by* Professor Chomel *.—Julia Hue, aged 20, of a good constitution, having had a child two years previously, entered the hospital on the 11th May. She now said that she had been ill fifteen days, consequent to a second accouchement; that she had given birth, in her sixth month of pregnancy, to a still-born child, which the midwife supposed to have been dead about four weeks; that since her accouchement she always had a fever, and weakness of the lower extremities; that her breasts were swelled; that the lochia disappeared on the third day, and that she had felt, ever since, a pain in the left iliac region; that she had been subject to diarrhœa for the last five or six days, and for the last three or four days she had been troubled with deafness.

12th.—She had the following symptoms:—She appeared dizzy; she said that she had no sleep; when spoken to in the ordinary tone, she paid no attention; tongue very red and dry, appearing to have a few cracks; thirst; anorexia; no pain in the stomach; abdomen a little volumnious, without being hard or inflated; tenderness on pressure in the left iliac region; four or five liquid stools daily; pulse small, beating 104 times in a minute; respira-

* Clinique de la Charité.

ration rather difficult and accelerated. The patient preferred lying on her right side; the breasts painful; the skin dry and hot. On examining the uterus, M. Chomel found that its mouth was open, and he discovered in the opening a foreign body, soft, of a conical form, and about ten lines in diameter, which he pronounced to be, probably, a portion of the placenta.

13th.—The deafness continues; the patienth as tinnitus aurium; the lochia have reappeared; she says she feels no pain in any part; her breath is fetid; breasts less tender; tongue less chapped, and moister; four or five stools; pulse and respiration as before. An examination per vaginam was made by MM. Deneux and Chomel, and the foreign substance was still found to remain in the os uteri; small portions of it were extracted, and they appeared like some debris of altered placenta, and their smell was very fetid. During the succeeding five days, the patient continued to get worse; frequent shiverings came on; the deafness never ceased; the pulse and respiration increased in frequency, and on the 19th she died. This was the twenty-third day since her accouchement.

The remedies employed were cataplasms to the abdomen, and injections of infusion of bark; the internal remedies consisted of syrup of gum, tartaric syrup, and other *innocent* articles of a similar nature.

Sectio Cadaveris, forty-five hours after death.—The brain and its membranes were rather injected with blood, and there was a little reddish serum in the lateral ventricles. There were two small cavities found in the lungs, one in each. The membrane lining the cavities of the heart was of a dark red colour. The texture of the uterus was firm and whitish; its interior was covered by a sort of blackish lining, which was extremely fetid. Towards the right side, this lining was thicker than in the other parts, and denoted the situation where the placenta had been attached. The uterus appeared, in other respects, as it usually does at a similar period after delivery. Towards the end of the ileum, the follicles of the mucous membrane were red and tumified, and from eight to ten small ulcers were discovered on this part of the membrane.

5. *Extirpation of a Cancerous Tumour from the Axilla* *.—Aimé Lesme, shoemaker, aged 30, of a lymphatico-nervous temperament, and of a weak constitution, born of healthy parents, entered the Hôtel-Dieu, under the care of professor Lallemand, on the 11th of October, 1827. He had always enjoyed good health until February, 1827, when he felt a severe pain in the whole of the right superior extremity, with a difficulty of moving the member. A tumour of the size of a nut appeared soon after in the right axilla. Emollient cataplasms were applied to it, but it did not diminish in size; on the contrary, it rapidly increased in volume, and the pain in it became lancinating. A fragment of caustic potass applied to it made an opening, which gave issue to pus, and the

* Clinique de l'Hôtel-Dieu de Montpellier.

tumour appeared to reduce a little, but the skin began to change. The patient went to the hospital of Lyon, where he used injections of chloruret of lime, and had a portion of the skin removed. When he entered the hospital of Montpellier he was in the following state: his general functions went on regularly; he was very lean, and felt slight shiverings at intervals. A tumour of the size of an orange occupied the arm-pit, and extended from the fifth or sixth true rib up to the clavicle; a great part of it was uncovered by skin; the skin covering the rest of the tumour was loose and everted, of a red colour. This gave M. Lallemand an opportunity to examine the state of the parts. By introducing his fore-finger, he found that the tumour extended high up, but that the cellular tissue uniting it to the neighbouring parts was loose, and that it was thus quite isolated. Having discovered the nature of the tumour, M. Lallemand set about removing it, on the 8th of October. He made an incision of the skin along the anterior boundary of the axilla just to below the clavicle, and divided successively the two pectoral muscles, which were very vascular. The vessels were secured immediately after being divided. When the division of the great pectoral was made, there occurred hemorrhage, accompanied by a noise like that of a tap when turned open. It was supposed at the moment, owing to the force of the hemorrhage and the noise which attended it, that the axillary artery had been divided; but it was soon discovered that the blood came from the acromial artery, or *thoracica humeraria*, which was very voluminous and which arose very near the origin of the axillary artery. The tumour was then detached anteriorly from the surface of the pectoral muscles. This part of the operation was rather difficult and protracted. M. Lallemand at last arrived at the axillary artery; he dissected very carefully round this vessel, and appl ed a ligature loosely round it, close to the clavicle, in case it should be injured in further proceedings. One part of the tumour was situated before, and another behind, the axillary plexus; and the deepest part extended between the subscapulary and great serratus muscles. The plexus was dissected as if it had been for an anatomical demonstration. The tumour was entirely detached; two small glandular bodies of a suspicious character, which still remained, were removed.

The wound having been dried, three points of suture were used, and the parts were brought into perfect contact. The arm-pit was filled with lint, which was secured by compresses and a bandage. The tumour was of a lardaceous texture, soft in many parts. The patient recovered without any untoward accident: the wound had completely cicatrized on the thirty-third day after the operation.

6. Cancer of the Testicle, complicated with Hernia—Operation *.—M. George Sarrasin, lieutenant of the 43rd regiment, aged 38, born of healthy parents, entered the Hôtel-Dieu on the 19th October, 1827. He is endowed with a strong constitution and a

* Clinique de l' Hôtel-Dieu de Montpellier.

bilioso-sanguine temperament. In September, 1826, he hurt his right testicle in mounting his horse, which made him feel very excruciating pain in the part, and he discovered soon after that this testicle was larger than the other. It was left to itself for some time; it continued to increase in size, and began to grow hard. M. Sarrasin entered the hospital of Perpignan, where antiphlogistic and anti-syphilitic remedies were administered for more than two months. The tumour became troublesome, from its weight, and it produced a dragging sensation in the loins. It had been stationary for about four months, when the patient placed himself under the care of M. Lallemand. The tumour was, at this time, of the size of the fist, ovid, smooth, and indolent. At its internal and posterior part was a small tumour, like the testicle. The larger tumour ascended in the form of hydrocele, up towards the inguinal ring.

October 20th.—M. Lallemand plunged a trocar into the tumour; only a little purulent matter, mixed with blood, escaped through the canula. As the canula was being withdrawn, two or three spoonfuls of serum ran out. The tumour was then enveloped in a large cataplasm. On the morrow, the patient had an excruciating pain in the lower part of the abdomen; excessive heat of the skin; icteric tint; tongue yellow, thick; nausea; anxiety. He presented all the symptoms of acute peritonitis, with great derangement of the biliary functions. *Entire abstinence; emollient fomentations and cataplasms.* 23rd.—The same symptoms; the patient vomited a certain quantity of bile in the night. Gas is developed in the right lateral region of the abdomen as high as the ribs. M. Lallemand ordered fifteen leeches to be applied over the right inguinal ring; semicupium; emollient fomentations; a spoonful of saline mixture every half hour; abstinence. On the following day he was better in every respect.—*Twelve leeches along the course of the spermatic cord.* On the 25th, the patient was convalescent.

26th.—M. Lallemand proceeded to remove the tumour in the following manner:—It was circumscribed by two semi-elliptic incisions, and dissected; the vessels were secured immediately after being divided. The operator found that the peduncle of the tumour which contained the spermatic cord, was very large. On cutting into this part a hernial sac was discovered, full of pus. Having returned the portion of omentum and intestine engaged in the ring, into the abdomen, the operator proceeded to separate the tumour from the hernial sac and the cord of spermatic vessels. The arteries were taken up with the tenaculum and tied. The edges of the wound were then brought together by sutures, and dressed in the usual manner. The patient left the hospital on the 7th of December, completely recovered.

The tumour was composed of cerebriform substance, arrived at a state of softness which rendered it almost fluid. It was enclosed in a very thick membrane; the testicle was entirely destroyed; there did not exist the slightest trace of it.

7. Cancer of the Lip—Amputation of a part of the Lower Jaw.*—Camman, aged 40, husbandman, very irascible, of a lymphatico-sanguine temperament, and of a good constitution, was free from any complaints during his childhood. In 1824 he perceived, in the middle of his lower lip, a small, indolent pimple, which he constantly picked. This was frequently cauterized with nitrate of silver, but it kept constantly returning during the space of about three years. The separation of the scab was always followed by a discharge of blood. In February, 1827, the pimple ulcerated; it invaded the neighbouring parts, and was attended with an acute, lancinating pain.

On the 16th September, the patient was admitted into the Hôtel-Dieu, under the care of Professor Lallemand. At this time, the lower lip was destroyed, altogether, by an ulceration, whose edges were uneven, hard, and everted. The ulcer extended from one angle of the mouth to the other, and exposed to view the anterior part of the body of the inferior maxilla. The skin surrounding the sore was red, hard, and uneven. The ulcer was of a greyish colour, furnishing a copious discharge of fetid sanies, and was the seat of lancinating pain. The neighbouring glands were apparently unaffected. M. Lallemand, having examined the nature and extent of the ulcer, proposed its removal, together with a portion of the lower maxilla, as the only means of saving the patient. To this proposal the patient consented, and he bore the operation with great courage, which was performed on the 22d September.

The patient was held in a sitting posture by assistants. After the extraction of some of the molar teeth, the first incision was commenced at the left angle of the mouth, carried a little upward at first towards the cheek, then downward to below the chin, so as to circumscribe the whole extent of the ulcer on that side. Ligatures were next applied to the divided arteries. A second section was then made, in the same manner, on the right side, and brought down to meet the other under the chin, forming an angle very acute with it. The maxillary bone was thus freely exposed. An assistant pushing back the tongue, and the muscles fixing it to the maxilla being detached, M. Lallemand sawed the bone through with great rapidity, both on the right and on the left side. An excessive pain made the patient cry out as the saw passed through the dental nerve. A needle, armed with thread, was passed across the soft parts which fixed the tongue; by means of this, an assistant keep the organ from reverting whilst ligatures were applied to the vessels. M. Lallemand next cauterized deeply the whole extent of the new surface, and covered it with lint. The whole was then covered by adhesive plaster and a bandage. Immediately after the operation, the patient took a draught composed of syrup of poppies and orange-flower water. He was calm during the day; the dressing became wet from the flow of the saliva.

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* Clinique de l'Hotel-Dieu de Montpellier.

23rd.—Had no sleep in the night; pulse full and hard; headach. The dressing was entirely renewed. In the evening, febrile reaction; at nine o'clock, profuse hemorrhage, which appeared to proceed from the buccal artery. A ligature was applied to this vessel, and the hemorrhage ceased. 24th.—Headach continues: symptoms of bronchitis. *Bouillon morning and evening; barley water, sweetened with syrup of poppies.* 25th.—Cough, pain in the head and in the throat continue; the tongue tumified, and projecting from the mouth. *The same remedies.*

The patient continued to recover from this time. By the end of two months the wound had completely cicatrized.

8. *Extirpation of a Cancerous Excrescence from the margin of the Anus*.*—Pelat, aged 23, of a good constitution, came from the venereal ward, where he had been treated, for syphilis, with corrosive sublimate. An excrescence of an extraordinary size grew on the margin of the anus; it had a cauliflower aspect, and it covered the orifice of the anus entirely; it had the texture of a fibrous tissue converted into carcinoma, and it emitted an odour peculiar to cancer. The expulsion of the feces was difficult and painful. The patient was very desirous of having the tumour removed. Professor Lallemand thought that the syphilitic virus had been subdued by the sublimate, but that there remained a new product, which could only be removed by an operation.

August 17th, 1827, M. Lallemand excised the tumour by means of a pair of crooked scissors, cutting round the verge of the anus gradually, and cauterizing the part as he went on. The operation lasted rather long, but the excrescence was ultimately entirely removed without the occurrence of any hemorrhage. On dissecting the tumour, its tissue presented cancerous characters in many points.

A piece of lint was introduced into the rectum, and spread over the surface of the wound. Compresses, introduced one after the other, were applied to prevent internal hemorrhage. A certain quantity of lint, and a T bandage completed the dressing.

The patient did well; no unpleasant symptoms appeared, and he left the hospital, on the 3rd September, perfectly cured.

9. *Complete Retention of the Fecal Matter for six months—Death* †.—Mademoiselle J. B., aged 24, of low stature, and of a very delicate complexion, was unable, at the time of her birth, to pass the meconium. A midwife who examined her, thinking that there was a contraction of the lower part of the rectum, introduced a soap suppository without consulting any other person. During her childhood, the patient always found great difficulty of passing the feces. Various remedies were administered without success; but when the catamenia appeared the bowels began to act naturally. They continued in this state for about two years; the patient improved in health, and she considered herself com-

* Clinique de l'Hotel-Dieu de Montpellier.
† Ephemerides Med. de Montpellier.

pletely relieved from her old infirmity. But at this period the malady again returned, and Dr. Thune, of Drôme, was called upon to give his advice respecting her case. Dr. Thune found that she had a considerable tumefaction of the abdomen, the more prominent parts being just to the left of the umbilicus; she had an acute pain in this part, which extended towards the epigastric region. As the patient would not submit to be examined, and as Dr. Thune was ignorant of what had occurred in her infancy, he was unable to discover the true nature of her affection. He suspected, however, that there was a contraction of the rectum, and a medical friend of his, whose counsel he asked, being of the same opinion, they proposed a vegetable regimen, emollient fomentations, semicupium, and purgative lavements. The catamenia being suppressed, leeches were applied to the vulva. But these remedies, which produced momentary ease, were afterwards quite inefficacious. With a view to overcome this obstinate constipation, which had continued for six months without permitting the patient to have an evacuation, an ounce of castor oil was administered in a small quantity of liquid. She had scarcely swallowed this when she was seized with a violent colic, vomiting, hickup, and other symptoms of misery. She died after eight days of inexpressible suffering.

Sectio Cadaveris.—The abdomen was found very hard and enormously distended. An incision was made along the linea alba; but scarcely was this commenced below the sternum when it ran on of its own accord, accompanied by a noise like the explosion of a fire-arm. The intestines, being no longer supported by the abdominal muscles, gave way, and a considerable quantity of fecal matter was discharged with great force. The liver adhered to the arch of the colon. The stomach and the small intestines were empty and injected. The large intestine was three *décimètres* and twenty *millimètres* in circumference, and it contained about thirty or forty pounds of substance resembling dry dirt. The rectum was thickened and inflamed. Its cavity was obstructed about three inches from the anus, by a sort of transverse partition, in the middle of which was an aperture scarcely large enough to admit the extremity of the little finger.

Had cathartics been administered by the mouth in this case, and a rectum bougie used, the patient would, in all probability, have recovered and done well. What was done amounted to nothing. It was evident enough, from the symptoms of the case, that there was a mechanical obstruction in some part of the intestinal canal.

10. *A Woman delivered of five Children**.— A woman, living in the village of Loukin, district of Balakhniu, in the government of Nijegorod, aged 25, of small stature, robust constitution, was married when seventeen years of age. The second year of her marriage she was delivered of a daughter, who died when fifteen days old. The fourth year, she was again brought to bed, in the

* Bulletin des Sciences Med.

eighth month of her pregnancy, of twins, one being a boy, who lived only five days, and the other a girl, born dead, after six days of the most cruel suffering to the patient. In the month of November, 1824, this same woman was delivered of *five* children; she brought into the world successively a daughter on the 9th, 10th, 12th, and 13th, of the same month, and on the 16th, a boy, born dead. Each of the children was about eight inches long. The four females died the sixth day after their birth. The mother recovered perfectly, and was in good health at the end of a month after her accouchement. During her pregnancy, nothing particular was remarked in her state, with the exception that the belly was extraordinarily large, that the feet swelled, that she was troubled with violent pains in the head, and that she had frequent hemorrhage from the mouth and nose during the latter months. Neither her family nor that of her husband ever presented such a prolific example.

11. *Historical Note on the Origin of Syphilis.* By Dr. Beer.—An opinion very common among physicians respecting the origin of syphilis is, that the Jews, who were expelled from Spain under the reign of Ferdinand the Catholic and of Isabella, were affected by that disease, and that they conveyed it to the other countries of Europe. C. Spreugel appears to approve of this opinion in his History of Medicine. Dr. Beer adduces some historical points which render this improbable, and to support them he notices a passage from Isaac Abarbanel, born at Lisbon, in the year 1437, a man of great learning, holding some important posts at the Court of Alphonso V, of Portugal, and author of a Commentary, in Hebrew, on the prophets of the Old Testament. In this work, the author remarks on an account given in the prophet Zachariah, where it is mentioned that a certain malady affected all those who fought against Jerusalem. This disease was called *Zarfosim*; he considers it to be the same as syphilis, and that it did not exist among the Israelites, but among those who fought against them.

Very little reliance can be placed upon an inference like this. It is well known that the genital organs are subject to a variety of diseases, and as long as we have no regular description of the characters of those ancient maladies, we cannot with any propriety conclude that they were identical with those of the present day. There is even at the present period some difference of opinion respecting what is syphilis and what is not; what dependence can then be placed upon the result of a comparison drawn between modern syphilis and an undescribed disease which existed between two and three thousand years ago?

12. *Peculiar Predisposition to Hemorrhage in two Children**.—An account of these cases is given by Dr. Schreyer, of Vogtsberg. Among five children of a family, the first, having bit his tongue, died of hemorrhage; the second and fourth were healthy; the third and

* Zeitschr. für Natur-und Heilkunde.

fifth, on the contrary, had a remarkable tendency to hemorrhage. All of them were of the male sex.

The third and fifth, the one aged five years, and the other fifteen months, presented, at various periods, on the legs and thighs blue spots, which swelled to the size of pigeons' eggs; they then assumed a greenish yellow hue; these did not bleed unless mechanically opened, but when this was done the hemorrhage did not cease until the children were quite reduced, and their bodies had become as pale as a corpse. The blood which came away first was red; it, towards the end, appeared like the washings of flesh, when the spots would disappear. The hemorrhage could only be arrested by pressing with the finger on the opening for about twenty-four hours. The blood never formed a coagulum so as to stop up the orifice of the wound. The children recovered their strength slowly after these attacks, and they continued pretty well and strong until the return of the hemorrhage. At one time, the elder of the two had hemorrhage from a carious tooth, which brought him very low. The younger child was not quite so subject to it as the other. None of the relatives of these children had ever been affected in a similar way.

13. *Ligature on the Common Carotid Arteries.* By Professor Langenbeck *.—A bronchocele, supposed by Professor Langenbeck to be of a rare variety, which he denominates aneurismatic bronchocele, furnished an indication for a ligature on the superior thyroideal artery. He commenced by tying that of the right side; but on the eleventh day after the operation, hemorrhage came on, which was so profuse that Professor Langenbeck found it necessary to apply a ligature to the common carotid of both sides. The patient died on the following day.

On examination of the body, the right hemisphere of the brain was found resting on a bed of exuded matter; the vessels were not unusually full on this side; but they were so on the left side, where no exudation existed. The internal surface of the carotid was found inflamed from its origin all the way to the brain. The author thinks that a ligature on the thyroideal artery is of no great practical utility, especially as the disease for which such an operation is indicated is extremely rare, and as the operation can only be incomplete; for, the inferior thyroid must always dilate when the upper is obstructed; the size of the bronchocele diminishes but little; and a ligature on the common carotid, should it become requisite, as in the present case, is not without danger. Every one who has witnessed this operation will agree with Professor Langenbeck in this opinion. It has seldom proved of much service, and it, perhaps, has never succeeded in curing the bronchocele.

14. *On the Injection of Medicines into the Veins.* By M. Dupuy †.—M. Dupuy has obtained great and speedy success from injecting emetic substances into the veins of horses when the stomach was distended in such a manner as not to be able to receive any drink,

* Neve Biblioth. für die Chirurg. u. Ophth.
† Journ. Pratique de Med. Veterinaire.

and when all the symptoms announced the approach of death. In order to distinguish the effects of the vehicle from those of the medicaments, M. Dupuy has commenced by directing his researches to the injection of water into the venous system. He at first injected eight pounds of water; on the morrow, six pounds; on the day after, twelve pounds; and, on the fourth day, fifteen pounds, into the jugular vein of a horse which had the glanders. The principal phenomena which have followed each injection have always been, an augmentation in the respiration and circulation; slight colic, a notable augmentation in the secretion of urine and in the pulmonary perspiration; these symptoms disappear gradually, and the animal returns to its natural state. Bleeding has produced a sensible relief, and has hastened the disappearance of the symptoms. This experiment, which has been repeated on several animals, has been constantly followed by the same results. M. Dupuy, wishing to know the effects of sub-carbonate of ammonia on glanders, injected twelve grains of this salt, dissolved in twelve pounds of water, into the jugular vein of a horse on which the previous experiment had been performed; in a few minutes the mucous membranes became remarkably pale; the pulse became small, irregular, and scarcely sensible; respiration short and accelerated; the swelling of the sublingual glands disappeared; so did also the discharge from the ulcers of the nasal membrane. Four days after, the animal was put to death, by bleeding. On examining the body, a commencement of a false membrane was found in the vaginal tunic; infiltration of a reddish serosity in the kidneys; the intestines pale and infiltred; the lungs emphysematous, with whitish hepatization of the lower margins; a commencement of a false membrane on the pericardiac and costal pleuræ; injection of the internal surfaces of the cerebral ventricles, and of the spinal marrow, and a slight rose-colour of the pneumo-gastric nerves. The mucous membrane lining the frontal sinuses and nostrils was much injected; that which covered the inferior cornet of the left side presented superficial ulcerations; the lymphatic glands about the neck were pale and hard.

15. *Injection of Opium and of Acetate of Morphine into the Veins.*—M. Dupuy observed, in 1818, that a horse, into whose jugular vein 48 *grammes* of opium of commerce had been injected, moved forward, marching as if by some impulse, and that when it encountered any obstacle, it placed its head against it, and pushed with great force. A fresh dose having been injected, the animal soon died, after having shown extreme difficulty of breathing. On examining the body after death, the thoracic portion of the pneumo-gastric nerves was found to be of a bluish colour, and the meningeal vessels were highly injected. This result had been previously observed, in the experiments with acetate of morphine, performed by MM. Deguise and Leuret. In 1827, M. Dupuy injected 36 grains of acetate of morphine into the jugular of a horse; he observed the following phenomena:—Convulsive movements; apparent state of drunkenness; at the end of ten minutes, the animal walked forward involuntarily, and by starts; at the end of

twenty minutes, he tottered more and more, and it was impossible to make him move backward; some minutes after he appeared to have lost his sight; two hours after, the experiment, fits of vertigo stronger and oftener; the animal was now killed, by the insufflationof air into the jugular vein.

Sectio Cadaveris.—Pneumo-gastric nerves of a pale-yellow colour; injection of the cerebral mass, principally of the anterior lobes; ecchymosis of the cerebral mass in the parts forming the superior boundary of the great ventricles; the same alteration of the pituitary gland and of the cornua ammonis. Nothing remarkable in the rest of the cerebrum; cerebellum somewhat firmer than in the natural state. M. Dupuy adduces these experiments and facts in support of those of MM. Magendie, Bouillaud, and Legallois, who arrived at the conclusion that the functions of the cerebrum and those of the cerebellum are in opposition to each other. He thinks, however, that we may conclude, that it is the anterior lobes of the brain which preside over the movement backward, since, when the cerebellum is compressed, retrocession only takes place. In vertigo, when the anterior lobes of the brain are affected, animals have a remarkable tendency to move forward. M. Dupuy finishes his remarks by observing, that the terms *quieting, narcotic, irritant, debilitant,* are improper for explicating the action of opium, for all we can say of this medicine is, that it acts directly on the anterior lobes of the brain, whose functions it paralyses when administered in a strong dose.

16. *On the Treatment of Old Ulcers of the Tongue and Pharynx.* By M. Magendie*.—Placed, as M. Magendie is by his office at the Hôpital de la Salpetrière, among patients whose maladies are reputed incurable, he leaves scarcely any remedy untried for the relief of the infirmities of those unhappy females consigned to his care. Cancerous affections, especially, which have been submitted, in Paris and elsewhere, to all kinds of surgical operations, to internal treatment, and to empiric remedies, particularly attract his attention. It would be a happy event to humanity if, by chance, a remedy should be discovered capable of arresting the ravages of this hideous and most cruel disease. M. Magendie at present places some confidence in the hydriodate of potass in large doses As a proof of its efficacy, he relates the following cases of old ulcers reckoned incurable, and placed as such in the ward under his care.

Case First.—A woman, of a lymphatic constitution, enjoyed good health until she arrived at the age of 30. The catamenia began then to appear less regularly; each return of them was attended by very serious symptoms. Their approach was announced by epileptiform fits; they were very copious, and the body was covered with livid spots on the last days of their duration. This dismenorrhœa increased, and other symptoms, of a more serious nature than the first, made their appearance. In many parts of the body, on the thighs, legs, over the breasts, on the

* Journal de Physiologie Experimentale, &c.

forehead, on several parts of the head, and on the face, there broke out large ulcers. Nodes also were developed on some parts of the right tibia, and on the radius of the same side; and, through the spontaneous openings which formed in these, some fragments of bone were discharged. The aspect of these large ulcers, the tumefaction of the periosteum, vegetations of the mucous membrane of the pharynx and tongue, in fine, the large ulcerations which were not long in appearing on this last part, induced the physician, who then saw the case, to suppose that a constitutional venereal affection was the cause of all these disorders. However, one important circumstance to be considered in this case is, that although the hope held out to the patient of a certain cure if she explained clearly the first cause of her malady, she always gave the same account of it, and avowed that she had never contracted the venereal disease. After so formal a denial, M. Magendie thinks that it may be permitted to doubt that the complaint was of a syphilitic nature. The patient was, however, submitted to a regular mercurial treatment. The affected members were plunged every day into a sublimate bath; mercury and sudorifics were also given internally. The ulcers of the lower members, and those of the breasts, got well; but they again returned. Those of the tongue remained, and all the right edge of the organ and the half of the superior surface of the same side were covered by a large ulceration. By little and little the patient lost her voice; this aphony came on without much previous pain in the larynx. It was believed, however, that ulcerations, similar to those which existed on the other parts of the body, had now destroyed the vocal chords.

Such was the state of this unhappy woman when M. Magendie was first put in charge of the incurables, where she was. For nearly a year she was subjected to this treatment, which had produced such doubtful effects—the cicatrization of some ulcers, and the breaking out of a greater number. One day, when she complained of a dyspnœa more violent than usual, M. Magendie ordered 24 drops of the solution of hydriodate of potass, in a draught, with the view of promoting the more copious flow of the catamenia, which were on at the time; but, hoping to derive a double benefit from the employment of this remedy, he persisted in its administration, increasing the dose gradually at the same time. After six days, it was carried so far as 36 drops. The happy effects of the medicine soon became evident; the surface of the ulcers became rapidly cleaner; and in fifteen days, that which covered the tongue, and the extent of which was very considerable, was perfectly cicatrized. Those of the other parts of the body, in consequence of their greater extent, took a little longer time to heal. However, on the thirtieth day, there remained no more than a fistula in the right wrist, in the bottom of which the radius could be perceived, denuded of its covering.

The patient had been three weeks in this favourable state, when she was suddenly seized with a violent ophthalmia, and an extreme difficulty of breathing.

As it was thought that the cicatrization of the old ulcers had given rise to these affections, an issue, which the patient had had for a long time, and which had been allowed to heal, was re-established. But, as this difficulty of breathing was only an exaggeration of a habitual morbid phenomenon, M. Magendie directed leeches to be applied to the anus, and revulsives to the lower extremities. However, a more strict examination on the following day led him to discover the cause of these disorders; and, although the patient complained of no pain in the larynx, M. Magendie easily perceived that the difficulty of breathing arose from a defect in the aperture of the glottis. This was supposed to be owing to the œdema of the glottis. Recourse was now had to antiphlogistics, although the patient had no symptoms characteristic of inflammation. Tracheotomy was not performed, though that operation appeared to be indicated. The patient died on the eighth day, of true and slow asphyxia.

Sectio Cadaveris.—Stomach and intestines healthy; the lungs livid and gorged with blood; the bronchia full of mucus to their most minute ramifications; their mucous membrane, as well as that of the trachea, was very red; but this redness suddenly ceased in the larynx. In the interior of the ventricles of the larynx, on the vocal chords, and in all the space comprised between the glottis and epiglottis, the mucous membrane was covered by hard, whitish vegetations; the glottis was scarcely large enough to admit the pipe of a quill.

Case Second.—Madelaine Petibon, aged 41, was treated, four years before, at the Hôpital Saint-Louis, for large ulcers, with which she had been troubled for a very long time, on the legs. She was no sooner cured, and gone out of the hospital, than she began to feel a difficulty of breathing, a sensation of suffocation, a sharp pain in the region of the larynx; the tone of the voice changed, and she became ultimately unable to speak, except in a whisper. Whilst these symptoms were present, there took place large and deep ulcerations on the face, nose, and neck; others appeared over all the upper surface and point of the tongue.

After being subjected to divers modes of treatment, this patient was admitted into the infirmary of the Salpetrière, on the 29th March, 1827, three years after the ulcers of the face and tongue first made their appearance. The ulcerations of the neck were entirely cicatrized. The nose, destroyed in a great part, presented a very disfigured cicatrix. Five or six thick, yellow scabs, from six to eight lines in diameter, covered the soft, fungous excrescences existing on different parts of the face. An ulcer of uneven surface, and possessing hard and elevated margins, occupied all the upper surface of the tongue. Fungous excrescences shot up from different points of this surface; deglutition was extremely difficult; breathing very troublesome; articulation of sound almost impossible. June 27th, the patient began to take the solution of hydriodate of potass. two *gros* to the dose, in a draught. Few days sufficed to produce a remarkable amelioration; the ulcerations became clean, and assumed a better aspect; in fine, July 21st, the twenty-

fourth day of the administration of the solution, the ulcers were completely cicatrized; but the scabs on the face still existed. February 1st, 1828, the cure of the ulcerations remains perfect; there has not been the least appearance of a relapse. The crusts on the face still remain; but they are visibly improved. March 1st, All the scabs have fallen off, and the face is completely cured. There remain no longer any scabs or ulcers. The dose of the hydriodate of potass never exceeded eight grains a-day.

17. *Two cases of Injury of the Head, accompanied by a loss of Brain.* By Professor Sewall *.—The maxim, that Nature does nothing in vain, though founded upon *general* observation, still is taken very much upon faith with regard to some objects. The brain, though considered the most important organ in the animal body, has, however, been occasionally punctured, smashed, and a part of it altogether lost, not only without occasioning death, but also without producing a loss of any faculty, either physical or moral. Numerous cases are now upon record, where, in consequence of injuries of the head, portions of the brain have escaped, and the patients have recovered perfectly in every respect. Dr. Sewall has added two more to the number.

Case I.—In February, 1827, Dr. Sewall was called to a coloured man, aged fifty years, who, in a rencounter with another individual, had received a severe blow on the right side of the head with a sharp spade. When Dr. Sewall arrived, which was only a few minutes after the accident, he found him bleeding profusely, and already so much exhausted from the loss of blood, as *scarcely* to be able to support himself. Though not insensible, he had lost his reason, and appeared not to know how he came by the injury. On examination, Dr. Sewall found a deep wound dividing the integuments, the whole of the temporal muscle penetrating the cavity of the cranium, and extending horizontally, from an inch above the external angular process of the frontal bone, through the parietal bone just above the squamous suture, forming a fissure of three inches in length. The lower portion of bone was considerably depressed, and the two edges separated about half an inch.

Two branches of the temporal artery were taken up; when, on a more critical examination, it was ascertained that the dura mater was divided for an inch in extent, and the brain penetrated some way into its medullary portion, which was easily distinguished from its cortical part.

Suitable dressings were applied, and he was conveyed home, about one mile distant, and placed in bed, with his head and shoulders considerably elevated. From the great loss of blood, his pulse was feeble, and his extremities cold. Warmth was applied to the limbs; he soon became sensible, and complained of severe pain in the head, and vertigo. The most rigid antiphlogistic course was enjoined, and the patient placed under the immediate care of an intelligent student, who was directed to bleed and to purge in

* American Journal of the Med. Sciences, May, 1828.

proportion to the reaction of the system, and with a freedom that should prevent any bad effects from subsequent inflammation. He was bled and purged daily for a considerable time, the circulation equallized by warmth applied to the extremities, and by gentle diaphoretic remedies given internally.

During the process of suppuration, the brain protruded and sloughed away, and, subsequently, portions were removed by a spatula.

A few days after the accident, a second wound was discovered, which penetrated the integuments of the frontal bone near the median line, and about one inch from the coronal suture. This wound was apparently made by a small spear-pointed instrument, and was so large as to admit a probe to pass through the skull.

For about ten days after the accident, the patient complained of constant, and sometimes severe, pain in the head; and, on one occasion, was affected with a slight spasm of the muscles of the face, neck, and extremities. The wound healed, and in six weeks the patient was quite well. He has since followed his occupation, that of scavenger, and has not manifested any deviation in the functions, either of body or mind, from their ordinary healthy condition.

Case II.—September 18th, 1827, Lewis Pool, aged five years, while playing in the street, was kicked by a horse, and taken up in a state of insensibility. Dr. Sewall arrived a quarter of an hour after the accident, and found a semicircular wound in the integuments of the head, and corresponding with this, a large fissure in the frontal and parietal bones, about three inches above the external angle of the right eye. Through this fissure a portion of brain protruded, something larger than a walnut, and was composed both of cortical and medullary matter, which were easily distinguished. This was so far separated from the parts beneath, as to be removed without any violence.

Light dressings were applied, and the patient placed in bed. The pulse was slow and intermitting, the pupil dilated, and the skin cold. Very little blood had been lost from the accident. In a few hours he became sensible; the pulse rose, and he complained of pain in the head. He was bled to fainting.

Particular circumstances prevented the subsequent use of the lancet; but he was purged actively and daily for two weeks, and the pulse kept down by nauseating doses of the tartrate of antimony. Extensive suppuration came on, with a copious discharge of pus; the wound gradually healed; and in about five weeks the child was quite well. He has since remained in perfect health.

18. *Case of enormous Scrotal Tumour, successfully extirpated.* By Dr. Wells, of Maracaybo, Colombia*.—Carmilo Ballestero, a light-coloured, married negro, 30 years of age, a labourer on a plantation of San Pedro, had been affected with yaws about three years previously to this report. At the time the cutaneous ulcers began to

* American Journal of the Med. Sciences, May, 1828.

heal, he perceived a thickening and hardness come on in the skin covering the lower part of the scrotum. His general health remained unimpaired. His virile powers gradually diminished as the scrotal tumour increased. The tumour, when the patient applied to Dr. Wells, measured twenty inches from its base to the symphysis pubis, and thirty-six inches in circumference. Its surface presented the same knotty, scaly, rough appearance, as is seen in the legs of those affected by elephantiasis. The veins of the scrotum were varicose. The prepuce was so involved in, and dragged down by the weight of, the tumour, that the orifice from which the urine flowed was nearly in the middle of it, and the penis was entirely concealed. The spermatic cords could be distinctly felt at the upper part of the tumour, of the natural size and feel. The inguinal glands were not enlarged. The stream of urine was perfectly free. From the general aspect of the tumour, Dr. Wells concluded that the disease was an elephantiasis of the scrotum, accompanied, probably, with hydrocele; he therefore proposed its removal, which was consented to by the patient. April, 19th, Dr. Wells, assisted by Dr. Duffy, of New York, proceeded to operate.

The parts having been shaved, the patient was placed upon a table properly secured, and the tumour supported upon a folded sheet. The parts exhaled a very offensive smell, obviously from a long neglect of cleanliness; for, from the apprehension the patient entertained of washing, Dr. Wells's directions to cleanse himself had not been attended to.

Dr. Wells commenced the operation by an incision about three inches long on the anterior inferior part of the tumour, where there appeared to be a fluctuation, with the intention of evacuating whatever fluid might have been contained, and then introducing his finger or a director, and cutting upon it; but after continuing this incision to the depth of six or eight inches through the diseased cellular substance, he found no collection of fluid whatever, but a limpid liquid oozed from all points of the divided parts, and coagulated shortly afterwards. He therefore carried the knife upwards to the pubes, and then cautiously dissected through a great thickness of diseased substance down to the tunica vaginalis, which, with its enclosed testicle, was perfectly sound, and nearly in its natural situation; the spermatic cord being but little lengthened by the weight of the tumour, although the tunic adhered with great firmness to the surrounding diseased cellular substance. After freeing these parts carefully and entirely from their diseased connexions, Dr. Wells proceeded to dissect out the penis, cutting off the elongated prepuce, and then extricated the other testicle, which was in the same natural condition as its fellow, and the penis. Giving these to be held out of of the way, he next formed four suitable flaps from the healthy part of the integuments, sufficient to form a new scrotum and covering for the penis, and, finally, with large and rapid incisions, removed the whole of the diseased mass.

The morbid parts appeared to possess little sensibility, but on cutting close to the testicles and penis the patient complained

that the operator hurt him in those parts. The arteries were few and small, and it was only necessary to apply a ligature to one of them; but the veins were numerous and enormously large; and although Dr. Wells completely divided them immediately on their being tied, the hemorrhage from them was considerable. One of these veins was as large as the vena cava, and, on cutting down to it, presented an appearance so nearly resembling a convolution of intestine as to startle the operators for a moment, although, from the state of the parts at the upper portion of the tumour, they felt satisfied that nothing of the kind could exist. The penis and testicles were enclosed and secured in the flaps of the integuments by twenty-five stitches. The patient bore the operation very well, but was a good deal exhausted by loss of blood.

The tumour weighed upwards of fifteen pounds. It contained no collection of fluid, and consisted principally of a kind of semi-cartilaginous, gelatinous substance, apparently unorganised coagulated lymph, with which the cells of the cellular tissue were filled and distended, giving to the mass a white, glossy appearance, and a firm, yet trembling consistence. The skin in some parts could be separated from this mass without much difficulty, and appeared of firmer texture, thicker, less elastic, and less vascular than natural; in other parts it was firmly united to the subjacent substance, and of a cartilaginous consistence.

It is sufficient to notice, that the patient did remarkably well after the operation—an operation which does much credit to Dr. Wells. All the sutures were removed on the 28th; the principal part of the scrotum had adhered. On the 17th July, the patient returned to the country: the penis erected, and he was capable of coition.

19. *Case of Extra Uterine Fœtation, in which the Fœtus remained in the Abdomen forty years* *.—Venus Collins, a coloured woman, emancipated in November, 1796, by Sarah Zane, late of the city of Philadelphia, became pregnant with her seventh child, which she bore until her death, which occurred in the summer of 1825. As near as could be ascertained by a reference to the records of the clerk's office, and the statements of her fellow-servants (one of whom was her daughter-in-law), she was from seventy to seventy-five years of age, and carried the fœtus forty years. During this period, and in particular the latter part of it, she enjoyed remarkably good health for one in her situation, being only occasionally incommoded by a sense of weight and bearing down in her right side, which was sometimes accompanied by slight pain. In the early part of her pregnancy, she had hydropic effusions, for which, as well as Dr. Heiskell could ascertain, she underwent the operation of paracentesis abdominis. She had no show of the menses after this period, nor did she afterwards conceive again. For several years before her death, the infirmities attendant on old age, and the difficulties of providing for herself, rendered her re-

* Dr. Heiskell, American Journal of the Med. Sciences, May, 1828.

moval to the poor-house necessary, where she remained until her death, which happened in consequence of an attack of dysentery.

Sectio Cadaveris.—On making a crucial incision through the parietes of the abdomen, and turning back the flaps, a large bony tumour was found in the lower part of the epigastric region, inclining rather to the right side, and firmly agglutinated in front to the parietes of the abdomen, and behind to the small intestines. The only morbid appearances the viscera presented, were a diminished size of the uterus, and obliteration of the fallopian tubes: the ovaria were not to be found.

The tumour itself was of an oblong form, which, when removed from its attachments, weighed four pounds six ounces. The envelop formed a perfect bony, hermetically sealed sac, on all sides, but rather thin at the part corresponding to the anus, for when considerable pressure was made in the direction of its short diameter, a few drops of dark fluid made its way through the covering.

The substance of the sac or covering was of an ossific nature, of a dirty white or cream-colour, varying from two to three lines in thickness: so resisting, that it required not only a strong knife for its division, but also a very considerable exercise of strength.

On removing the sac, which had formed adhesions to several parts of the fœtus, particularly the superior part of the right thigh, a fœtus, perfect in its form and its configuration, was presented, having apparently gone the full period of utero-gestation. Its position in the sac exactly resembled that of a fœtus in utero—having the chin resting upon the chest in such a manner that the face looked towards the left side; the trunk was incurvated, the legs bent upon the thighs, the thighs upon the pelvis and abdomen, the feet crossed, and the arms folded between the head and knees. Owing to the firm pressure of the sac, the abdomen and lower part of the chest received the impression of the arms and thighs, and the latter, in turn, from the same cause, were somewhat flattened

The weight of the fœtus, divested of its covering, was three pounds and three-quarters, and measured, in its contracted state, eleven inches and a-half in length. So faultless was every limb and feature (with the exception above stated), that no one of them presented an exception worthy of special remark. The general aspect, however, of the fœtus bore evident marks of *age* (if the remark might not be considered a contradiction). The muscles and integuments were firmer and more consistent than in the natural state, and the latter were very generally ossified, except those portions which were covered by the foldings of the arms and thighs; consequently the integuments, which partook of the ossific character, had a decided preponderance over the parts which did not take on a change of structure. The pericranium was entirely in an ossified state, over which some traces of hair were discernible, and the remains of the eyelashes were distinctly perceptible.

On examining the contents of the cranium, thorax, and abdomen, the following appearances were noticed:—

The brain was a soft pulpy mass of an ash-colour, presenting nothing very remarkable in its appearance.

The contents of the thorax and abdomen were in a singular state of preservation—as perfect as those of a still-born child. Nothing of decay or putrefaction could be discovered in any portion of them. The meconium exhibited the usual dark appearance and consistence.

The tongue was firm and ash-coloured; and the nails of the fingers and toes perfect.

No traces of umbilical cord or placenta could be discovered.

Several suggestions arise from perusing the history of this case. The textures of the fœtus presented the appearance of age; they were in a perfect state of preservation: did the fœtus possess any modification of organic life during all the time it remained in the abdomen of the mother? Or is animal substance indissoluble when excluded from the action of all external causes? If the child was dead in its bony covering, when did it cease to live? for it must have possessed life when it grew to the size of which it was found. We are not informed whether or not the vessels contained any blood.

20. *Case of Sudden Death connected with Organic Disease of the Heart.* By Dr. Walton*.—Patrick M'Claskey, æt. fifty-six years, was admitted into the Philadelphia Alms-house Infirmary, several months previously to his death, which occurred suddenly, on the 7th of March, 1827. During the month of December, 1826, he was observed to labour under considerable dyspnœa and irritating cough. His face exhibited a livid complexion, and this appeared to be produced by a congestion of the capillary vessels with imperfectly decarbonated blood. He was distressed with feelings of anxiety, and entertained apprehensions of death. This patient had frequently been observed to have a pulse remarkable for its slowness and irregularity. On the 23d of January, 1827, Dr. Walton examined this attentively, and found it full and voluminous; beating, also, thirty-six times in one minute precisely, with equal intervals of time between the pulsations. The venous complexion of the face, the paroxysmal dyspnœa, with a state of general debility, continued till the hour of his death.

On the 7th of March, about 10 *a. m.* Dr. Walton was requested to see him immediately, as he had been suddenly seized with a 'fit,' resembling apoplexy, only a few minutes before. On his arrival at the bed-side of the patient, he found him perfectly motionless—his lips livid—his face pallid—and, in short, every symptom denoting death. As the jugular veins were very turgid with blood, Dr. Walton immediately opened one of them, and drew a considerable quantity of blood, which, however, produced no kind of effect. He learned from those who had witnessed the patient's death, that he had eaten his breakfast in the morning as

* American Journal of the Med. Sciences, May, 1828.

usual, and that he had spoken to an assistant of the ward, on some familiar topic, about a quarter of an hour before his death. They also stated, that the attack was very sudden, that it resembled 'a fit,' in which there were violent muscular exertions, and that it lasted about ten or fifteen minutes.

Twenty-four hours after death, assisted by his friend, Dr. Ashmead, Dr. Walton made the post mortem examination. Nearly the whole of the exterior surface of the lungs was found united to the parietes of the thorax, by long-established adhesions of the pleurae. The heart was found unusually large, soft, and flaccid. The right auricle was found much enlarged; its parietes very thin, and in some of its parts resembling a translucent membrane. The orifices of the coronary veins were considerably dilated. The tricuspid valve had a reddish colour, with less transparency than what is usually observed. The right ventricle was also dilated. Both of the left cavities of the heart were very much enlarged, and the mitral valve which intervenes appeared thickened from the effect of *diseased action*. The lining membrane of the left ventricle was found, in some of its portions, thickened and opaque; and near to the junction of this cavity with the aorta, there was a deposit of osseous matter.

Upon the surface of the semilunar valves, at the origin of the aorta, there were also marks of ossification, and a few points of ossific formation were discovered upon the lining membrane of the great artery at its curve.

Immediately after leaving the heart, the aorta was found dilated to twice its natural size, and those portions of it situated about the origin of the innominata, left carotid and left subclavian arteries, from their thinness, were very easily torn.

21. *Salivation produced by Tartar Emetic externally applied.*—J. M. æt. 50, was treated for hydrothorax and œdematous swellings of the lower extremities, by active depletion, and purging with crem. tart. and jalap; no mercurial preparation was used; he also was directed to use an external application of tart. ant. ointment to his breast. This he persevered in till a large crop of pustules were produced. Shortly after their appearance, his gums became sore, and a violent salivation ensued, which lasted for nearly two weeks; he used about ℥iss. of the ointment; it was made with ʒij. of tart. ant. ʒj. axung. He is now convalescent, his disease having gradually disappeared under the salivation.

Dr. Griffith, who recites this case, says, that Dr. Jackson has also met with an instance in which salivation was produced by the external application of tartar emetic ointment. We have witnessed instances of salivation occurring from the internal exhibition of emetic tartar, as well as from arsenic very frequently.

22. *Paracentesis Cerebri, performed to effect Delivery.* By Dr. Rose, of Philadelphia †.—Dr. Rose was called on to visit a woman, who was in labour with her first child, and, upon inquiry, was informed

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* American Journal of the Med. Sciences, May, 1828.
† The American Medical Recorder, April, 1828.

she had been in labour eight or ten hours. Upon examination per vaginam, he found the os uteri fully dilated, the head presenting according to the second position of Baudelocque; but, although the pains were very strong, and the head somewhat moved by each, and every contraction of the muscles engaged in the expulsive effort, yet it did not descend into the inferior strait. Having fully convinced himself by frequent touching, that the detention of the head in this position was not caused by either a contracted pelvis, rigidity of the soft parts, or a want of contractility of the uterus, but rather a preternaturally large size of the head, from accumulated fluid, Dr. Rose made the following statement to the patient and her friends, viz.: That the child could not be born without the aid of instruments; that his belief was, the head was dropsical: and that, in all probability, a perforation of the scalp to evacuate the water would injure the brain, and consequently, destroy the life of the child. The pains now (thirty-six hours after the commencement of labour) being weak, he gave her 40 grains of secale cornutum, which considerably increased them, and brought the head more firmly against the projection of the sacrum. Although the sutures were widely separated, Dr. Rose preferred puncturing the scalp through the posterior fontanelle, which he accordingly did, carefully guarding the instrument against injuring the soft parts of the mother; as soon as the scalp was open, the water flowed freely into a basin, previously fixed to receive it, amounting to upwards of a quart. The child came forth with three or four more pains, cried lustily, and appeared perfectly well. An anodyne was now administered to the mother; and after examining the head, and finding that the scalp alone had been injured, Dr. Rose dressed it with lint and simple cerate and left them both doing well; the wound healed by the first intention, and the child continued to thrive for twenty-three days, when he was called suddenly to it in consequence of its having fits, as the father stated. When he arrived, he found the head much enlarged, and the sutures separated, with convulsive motion of the muscles of the right side. Dr. Rose proposed again puncturing the scalp, but the parents and friends opposed him strongly. The ordinary remedies were employed, and in a few hours it expired.

On examination after death, Dr. Rose found very nearly a quart of water within the cranium, and no inflammation of the lining membrane at the place of puncture.

There is little doubt but that the brain has been often broken down, in order to enable delivery to take place, in cases like the present. When the difficulty arises from a preternatural enlargement of the head, and when it becomes necessary to reduce this, a simple puncture should be invariably made, before the texture of the brain is destroyed, in case the enlargement should turn out to depend upon fluid.

23. *Case where a foreign Body remained in the Trachea for Six Years* *.—Dr. Gridley, of Aurora, New York, relates a remarkable

* American Medical Recorder, April, 1828.

instance where a lead pencil remained in the trachea for a very long period without producing any unpleasant symptoms. A lad, about nine years of age, at school, accidentally swallowed, as was supposed, a pencil of lead. At the time, some coughing, and choking, and difficulty of breathing were produced, which passed off entirely in a day or two, without exciting any uneasiness to the parents of the child. During a period of about six years, the boy had frequent attacks of symptoms of worms, as they were pronounced by his friends, such as difficulty of breathing, coughing, sense of suffocation, and uneasiness about the throat, which were apparently relieved by some domestic vermifuge, the circumstance of his having swallowed the pencil being entirely forgotten. A few weeks since, the lad, being engaged in sawing a log with a cross-cut saw, in company of his father, his body being considerably bent forward, was seized with a fit of coughing, which ended with throwing up the pencil of lead he swallowed about six years before. The pencil was identified by his brothers and other boys who were at school with him at the time he swallowed it, and the above circumstances confirmed by his father, who is a most worthy man, belonging to the Society of Friends, and whose veracity cannot be suspected by any who know him. The pencil weighed three dwts. and nine grains—was cylindrical, and measures, in length, one inch and 6-10ths of an inch.

24. *Chronic Rheumatism cured by Lobelia-inflata* *.—In an obstinate case of pure and unequivocal chronic rheumatism, affecting the diaphragm, lungs, and heart, but more especially the latter, and attended, the greater part of the time, with very considerable pain in the seats of the complaint, and also with distressing dyspnœa and extremely irregular pulse—irregular as respects frequency, (being sometimes not more than 80, and sometimes 180)—irregular as respects the succession, fulness and strength of the beat—a case which had been of a month's duration, and had resisted guiacum, stramonium, capsicum, tincture of litta, arsenite of potassa, alcohol, opium, and conium, both in succession and in various modes of combination—the tincture of *lobelia-inflata* began to produce benefit in twenty-four hours, and gradually improved the case more, in three or four days, than all that had been done previously. This patient took fifty drops, seven times in the twenty-four hours, of a mixture of three parts of tincture of lobelia-inflata, and one part of tincture of opium. His susceptibility was such, that a fluidrachm would be rejected from the stomach. As soon as the system got fairly under the influence of the lobelia, the pulse became perfectly regular. The patient now considers himself as completely cured, at least for the time being.

25. *Anemone Pulsatilla in Pertussis.*—In 1814, Dr. Ramm, of Riga, attended a boy nine years of age, who was affected with an extremely violent hooping-cough, which resisted all the ordinary means. Opium and even belladonna gave but little relief. He

* American Medical Recorder, April, 1828.

had recourse to the extract of the anemone pulsatilla, of which he gave half a grain three times a-day, gradually increasing the dose to a grain; under this treatment the disease yielded in a few days, and at the expiration of a fortnight there only remained a slight cough, without the hooping, which soon entirely disappeared. The patient's strength was rapidly restored. Since then Dr. Ramm has employed this remedy in all cases of pertussis with great success. Since he has treated the disease by this remedy he has only failed in one case.

He has employed it with equal advantage in all other spasmodic and dry coughs, with or without fever, in children and in adults. To the latter he gives from one to three grains twice or three times a-day, with a scruple of sugar. Dr. Ramm thinks that the plant which grows in a warmer climate may be more active, and that, therefore, a smaller dose should be given. That which he used was gathered in his neighbourhood.

Dr. Ramm does not inform us what part of the plant he uses for the extract. We should recommend it to be made from the whole plant just before the flower opens, and in the same manner as other herbaceous extracts are prepared; in order to preserve the full medicinal power of the plant, it would be best to adopt the mode recommended by Mr. Houlton, namely, spontaneous evaporation, as we consider the acrid principle, upon which its efficacy does most probably depend, might be injured if exposed to a high temperature. As the plant is indigenous, it may be easily procured. We hope some of our readers will give it a fair trial, and favour us with the results of their experience.

26. *Belladonna as a preventive of Scarlatina* *.—The epidemic scarlatina which ravaged the town of Cleves last year, gave Dr. Velsen the opportunity of proving the efficacy of belladonna as a preventive against that disease. The recent extract was prescribed in the following manner:—

℞. Ext. Belladonnæ, gr. ij.
Aq. distill. f.℥ij.
Alcohol, f.℥ij. Misce.

From five to twenty drops to be taken, according to the age of the patient, twice a-day. The use of this was persisted in so long as any persons were affected with the disease.

Of 247 persons who were put under this treatment during the prevalence of the epidemic, thirteen took scarlatina: viz.—four children who had not used it in a regular manner, two who had employed it but for a few days, and seven who had only used it forty-eight hours.

27. *Case of Hydrophobia, in which Bleeding was of service* †.—On Wednesday, March 19th, 1828, Dr. Davis was sent for by his friend, Dr. John Elliott, to take charge of Joseph Keating, a boy between eleven and twelve years old, who resided at Newcomen

* Journal Complementaire.
† Dr. Charles Davis, Medical and Physical Journal.

Bridge, North Strand, and was labouring under hydrophobia. He received the following account of the case: The boy had been several times bitten, but more especially about four months since he had received a bite from a strange dog, whose history could not be accurately made out. The injury consisted of three large and deep lacerations upon the inner and fore part of his right thigh, over the course of the saphena vein and femoral artery. For these wounds he had been received into Stevens's Hospital, where they were at first dressed, and afterwards poulticed. He remained in the hospital for sixteen days; but at the end of that period, the wounds being still open, and presenting a sloughy surface, he ran away. It appears that his mother applied poultices, smeared with oil of turpentine, to the wound; under which treatment they rapidly granulated, and ultimately healed.

On the 14th, he was observed to remain at home, instead of going to play as usual. On the 15th, his mother, in some way, spilt or threw some water upon him, on which he was much agitated, and appeared to be choked. In the course of the afternoon he was observed to be gloomy and desponding, and his eyes were red. The cicatrix of the wound on the thigh was found, on examination, to be sore, having "cracked" and given vent to some sero-sanguineous exudation. Throughout the two ensuing days, he appeared to grow worse; became gloomy, shy, and strange; screamed occasionally; ate nothing, but frequently wanted to drink, yet could not swallow.

On the 19th, when Dr. Davis saw the boy, symptoms of hydrophobia were quite evident. Sixteen ounces of blood were immediately abstracted, and the cicatrices of the wound excised; the bowels were opened by calomel and jalap, and a blister was applied to the epigastrium and right hypochondrium. The effects of the bleeding were decidedly advantageous; the eye lost much of its wildness, and the violence of the spasms was diminished; he became able to permit his arm to be bathed with warm water, which could not have been attempted before.

The hydrophobic symptoms again soon returned, and on the 20th he was delirious, and much worse in every respect. Guided more by the effect of the previous bleeding than by the general appearance of the patient, Dr. Davis took away eight ounces more blood on the evening of the 20th. This was followed by an obvious alleviation of the symptoms. He remained tolerably tranquil during the night. He continued from this time to improve progressively until, by the 25th, no hydrophobic symptoms were apparent.

This morning (25th) Dr. Davis was unexpectedly called away out of town, and, upon his return the next night, he found the boy dying of pneumonia. It appeared that the symptoms of inflammation in the lungs had progressively increased; that his cough, unaccompanied with expectoration, had become frequent and distressing; his pulse hard and full; his tongue dry; his chest greatly oppressed. The stethoscope had clearly indicated the existence of pneumonia at the posterior and inferior part of both

lungs, the *râle crepitante* being audible at the corresponding parts of the chest, while the *râle puerile* was heard throughout the remainder, and the *râle muqueuse* was very evident. The abdomen also was somewhat tender under pressure.

Notwithstanding these symptoms, and every argument which had been employed to convince her to the contrary, his mother had obstinately resisted the further abstraction of blood, either by the lancet or by leeches; neither would she permit the application of a blister, nor allow him to take medicine of any sort. He died on the evening of the 26th, the fourteenth day from the setting-in of the disease.

On examination after death, the brain, spinal cord, œsophagus and stomach appeared healthy. In fact, there appeared to be few marks of disease except in the lungs, and in the liver, which was tubercular. A small portion of the jujunum was intussuscepted.

There is but little doubt, from the symptoms described by Dr. Davis, that this was a case of hydrophobia. We are told that the patient died of pneumonia. Now, it is a question, how far the disease of the lungs was connected with the other affection, and whether the latter was in any way modified by the former. Bleeding has been often tried to its fullest extent in hydrophobia, but it has seldom proved useful.

28.—*Growth of Hair.*—A man between twenty and thirty years of age, of strong and healthy constitution, having a short, curly, and coarse hair, of a dark brown colour, found himself becoming bald. Numerous and large bald spots appeared on the head, and gradually increased until it became perfectly bare, and as the eyelashes fell out, the man had quite a singular and disagreeable appearance. When the head was closely examined, a short, white, and scattered down, very similar to a slight degree of mouldiness, was perceptible. At first it was hoped that the hair would grow again, but the sequel proved the contrary; after two years Dr. Radimacher advised him to pour French brandy upon sulphate of copper, and, when it had remained a few days, to wash the bald parts once a-day with a solution. In eight days the hair had begun to grow, and in four months it equalled the original growth in quantity, but was of a lighter colour, crisp, dry, and stiff, and had not a natural appearance. A spot still remained bald on the back of the head. The eye-brows and lashes grew again like the rest of the hair. A year after this, the man shed his hair again, but the eye-brows and lashes remained. Dr. Radimacher wished him now to wait awhile, to ascertain whether the hair would or would not grow again spontaneously, but the patient would not, and had recourse to the solution, which produced another growth of bland or light hair, and the spot, which before had continued bald, notwithstanding the solution, became covered in common with the other parts of the head. This growth had a much more natural appearance than the former one.—*Med. Journ.* lix. 470.

GENERAL MISCELLANY
OF THE ACCESSORY SCIENCES.

1. *Dr. Bostock on the Thames Water.*—Dr. Bostock having carefully examined several specimens, came to the following conclusion, which he gave to the Commissioners appointed to inquire into the nature of the water supplied to the metropolis.:—

'It appears that the water of the Thames, when free from extraneous substances, is in a state of considerable purity, containing only a moderate quantity of saline contents, and those of a kind which cannot be supposed to render it unfit for domestic purposes, or to be injurious to the health. But as it approaches the metropolis it becomes loaded with a quantity of filth, which renders it disgusting to the senses and improper to be employed in the preparation of food. The greatest part of this additional matter appears to be only mechanically suspended in it, and separates by mere rest. It requires, however, a considerable length of time to allow of the complete separation; while, on account of its peculiar texture, and comminuted state, it is disposed to be again diffused through the water by a slight degree of agitation, while the gradual accumulation of this matter in the reservoirs must obviously increase the unpleasant odour and flavour of the water, and promotes its tendency to the putrid state.

'Regarding the greatest part of the extraneous matter in the Thames, as mechanically mixed with it, we may conceive that a variety of incidental circumstances will affect its quality in the same situation and under the same circumstances of the tide; but the observations are sufficiently uniform to warrant us in concluding, that the water is in the purest state at low tide, and the most loaded with extraneous matter at half ebb. It would appear, however, that a very considerable part, if not the whole, of this extraneous matter may be removed by filtration through sand, and still more effectually by a mixture of sand and charcoal.'

2. *Panace, a new Esculent Vegetable.*—Mr. Houlton has introduced, under the name of *Panace*, a vegetable which promises to reward the labours of the horticulturist; he has ascertained that the tubers of the stachys polastris may be so improved by cultivation as to afford a good esculent. The finest are about the substance of medium-sized asparagus, and from six to eight inches in length, they are, at Christmas, solid, elongated, articulated tubers, very brittle, and free from tough fibres; they boil tender in twelve minutes, and have a pleasant artichoke-like flavour. Being in season at Christmas, when succulent vegetables are scarce, renders this easily-cultivated hardy plant worthy the attention of the public. The name Panace is derived from the old generic name of the plant Panax.

3. *Effect of Cold on the Colouring Matter of Alkanet Root.*—It is well known that the root of the anchusa tinctoria imparts a fine red colour to oily bodies, and it is a curious fact that oil of turpentine coloured with this substance becomes of a dull yellow, if exposed during several hours to about 25° of Fahrenheit, and that on raising the temperature the fine colour does not return, nor any tinge of red.

4. *Colourless Lac Varnish.*—Mr. Field's process for preparing colourless lac varnish is as follows: Six ounces of coarsely-pounded shell lac are to be dissolved in a pint of rectified spirits of wine. To this is to be added a bleaching liquor, made by dissolving purified carbonate of potash in water, and then impregnating it with chlorine gas, until the silica precipitates, and the solution becomes slightly coloured.

Of the above bleaching liquor, add one or two ounces to the spirituous solution of lac, and stir the whole well together; effervescence takes place, and when this ceases, add more of the bleaching liquor, and thus proceed until the colour of the mixture has become pale; a second bleaching liquid is now to be added, made by diluting muriatic acid with thrice its bulk of water, and dropping into it pulverized red lead, until the last added portions do not become white. Of this acid bleaching liquor, small quantities at a time are to be added

to the half-bleached lac solution, allowing the effervescence which takes place on each addition to cease before a fresh portion is poured into it. This is to be continued until the lac, now white, separates from the liquor. The supernatant fluid is now to be poured away, and the lac is to be well washed in repeated waters, and finally wrung as dry as possible in a cloth.

The lac thus purified is to be dissolved in a pint of alcohol, and after remaining for some time in a gentle heat, the clear varnish should be poured off from the sediment.—*Trans. of Society of Arts, Vol.* 45.

5. *Captain Bagnold's mode of Preserving Lime Juice.*—The expressed juice of limes being carefully strained, boil it in an earthern vessel, for half an hour, decant the boiled juice clear, and boil it again for a few minutes; bottle and cork it whilst warm, and cement the corks; keep the bottles laid upon their sides. A sample of juice thus prepared, and which had been two years in bottle, was tasted by the committee of the Society of Arts, and was found to have preserved its acidity remarkably well.—*Trans. of Soc. of Arts, Vol.* 45.

6. *New Vegetable Alkali.*—Dr. Nicholas Mill, of Bogota, Colombia, has communicated to the Editor of the Quarterly Journal of Science and Art, that he has discovered a new vegetable alkali in the Quina Blanca of Mutis (Cinchona Ovalifolia, Cinchona Macrocarpa of Vohl), which he calls Blanquinine, to distinguish it from others, and to convey an idea whence it proceeds. He is now engaged in examining its salts, and he promises to publish, through the same medium, the results of his researches on this interesting substance.—*Quarterly Journal of Science, No. VI. n. s.*

7.—*Influence of Light on Colouring the Leaves of Plants.*—It frequently happens in America that clouds and rain obscure the atmosphere for several days together, and that, during this time, buds of entire forests expand themselves into leaves. These leaves assume a pallid hue until the sun appears, when, within the short period of six hours of a clear sky and bright sunshine, their colour is changed to a beautiful green. In a forest on which the sun had not shone during twenty days, the leaves during this time had expanded to their full size, but were almost white. One morning the sun began to shine in full brightness. The colour of the forest absolutely changed so fast that its progress was evidently perceived. By the middle of the afternoon this extensive forest, many miles in extent, presented its summer green appearance.—*Silliman's Journal.*

8. *Easy method of Preserving Small Birds.*—It may be useful to travellers to know that birds to the size of a pigeon may be preserved from putrefaction by an easy process, and by a method which will effectually guard them against the attacks of insects. Carefully remove the abdominal viscera at the vent by means of a wire bent to a hook at one end, then introduce a small piece of the antiseptic paste, and afterwards as much clipped cotton or tow as may be thought sufficient, with some of the paste mixed in it; remove the eyes, and fill the orbits with cotton embued with the paste; draw out the tongue, which remove, and pass a wire from the mouth into the cavity of the cranium, merely to give the antiseptic access to the brain; bind a piece of thread round the rostrum, another piece round the body and wings, then hang it up by the legs, and pour in at the vent from half an ounce to two ounces, according to the size of the bird, of alcohol; let it be hung in an airy situation and it will soon dry without any unpleasant smell.

Antiseptic paste.

Take of white arsenic in fine powder, ℥j.
Spanish soap, ... ℥ss.
Camphor pulverized by the aid of a few drops of alcohol.... ʒvj.
Soft soap..... ʒij.—Mix.

9.—*The Influence of Gum Arabic on the Precipitates of Lead by Sulphates*—Sulphate of soda produces, after a few minutes, a precipitate in a solution of crystallized acetate of lead, when the latter is 1-3000 of the liquid. But when the water at the same time contained 1-50 of its weight of gum arabic, a precipitate was only obtained with 1-1000 of the acetate. With one 1-1500 of the acetate there was no precipitation, even after a few hours, and the same was the

case when the liquid contained 1-20 of gum arabic, and the acetate amounted to 1-1000. The cause of this anomaly cannot be ascribed to the suspension of the precipitate by the viscid fluid; for neither standing for a few days, nor boiling, assists the efficacy of the precipitant, whilst a few drops of acetic, nitric, or sulphuric acid, instantly occasion precipitation.

10.—*Preparation of liquid Ammonia.*—Bizio.—A tubulated retort is to be put into a sand bath, and connected with a small balloon placed on a little furnace; a tube is to proceed from the balloon to a flask, which is to be supplied with a safety tube, and with another tube dipping into a mercurial bath. Equal parts of sal ammoniac and hydrated lime are to be used; the lime is to be made into a cream with water, and put into the retort, and then the powdered sal ammoniac added; after being well mixed the retort is to be closed; water, equal in weight to the sal ammoniac, is to be put into the flask; the retort in the sand bath is to be heated, and the balloon moderately warmed. As the ammoniacal gas is disengaged it will be absorbed by the water in the flask. By managing the fire properly, and distilling the portion of impure ammonia in the balloon, pure ammonia of the s. g. of ·910 will be obtained, 16lbs. being produced for every 10lbs. of sal ammoniac employed. M. Bizio says, that the ordinary processes do not give more than one half of this quantity.—*Bull. Univ.*

11.—*Solubility of certain Substances in Sulphuric Acid.*—Vogel observed, that anhydrous sulphuric acid dissolved sulphur, forming a blue green, or brown, solution, according to the quantity present. Water precipitated the sulphur.

Müller found, a long while ago, that pulverized tellurium dissolved readily in concentrated sulphuric acid, forming a transparent deep red solution; no gas or peculiar odour was developed; water precipitated the tellurium.

Selenium dissolves in sulphuric acid, forming a green solution precipitated by water. An analogy holds between these three substances in this respect.

Iodine, according to Bussy, also dissolves in sulphuric acid.—*Annales de Chimie.*

12.—*On the Velocity of Sound in Water.*—Experiments on the velocity of sound in water have been made by M. Colladon on the Lake of Geneva, and are connected with researches by himself and Sturm on the compressibility of fluids. The space through which the sound passed was about 45,000 feet (13,487 metres). The sound was produced by striking a large bell suspended in the water, and was heard by means of a peculiar apparatus, so constructed that the person who listened for it, could also observe the signal of the bell, and both set going and stop the time-piece. The mean of several experiments was 9·4 seconds for the whole distance; on dividing the distance by the time, the velocity of sound on the water of this lake was 1435 metres, or 4708 feet per second.

The water being examined, gave one six-thousandth of its weight of saline matter; and its specific gravity at 40° Fahr. was 1·00015.

M. Colladon remarks that the sound of a bell heard at some distance under water is strikingly distinct from that of the bell in air, being a short, brief noise, similar to that produced by striking two knives together. If the distance be increased, still the character is preserved, and it is impossible to distinguish whether the original blow is strong but distant, or nearer and weaker. It is only within the distance of 200 metres that the ringing of the bell is heard: in air the reverse of this takes place: the blows struck upon a bell are easy to distinguish near to hand, but at a distance melt into one continuous sound. This phenomenon depends upon the nature of the sonorous vibrations in water. In fact, it is known that in the vibratory motion of a fluid, the duration of the motion of a particle is equal to the radius of the spherical portion of the fluid supposed to be agitated at the origin of the motion, divided by the velocity with which the sound is transmitted. The first of these qualities is necessarily smaller in water than in air; the second greater: from whence it follows, that the duration of the sound should be much less when transmitted by water than when by air.

A second remark is, that sound is not transmitted from water to air when the direction of the vibrations forms a very small angle with the surface at which the two fluids meet. When the bell, 6·56 feet below the surface, was struck, the sound could be heard in the air at the surface of the water at the distance of 200 metres (656·17 feet); but at a greater distance it diminished rapidly, and at 400 or 500 metres could not be distinguished. If, however, the head were immersed a little

way in the water, or a trumpet-formed tube, full of air and closed by a diaphragm, were immersed, so that the diaphragm should be perpendicular to the line extending directly to the bell, then the sound could be heard even at ten or twenty times that distance.

The agitation of the waves produced no alteration in the velocity, duration, or distinctness of the sound under water, when a tube like that just mentioned was used to render them audible. Some of the experiments were made at very stormy periods, but with no observable difference on these points.—*Ibid.*

13.—*Singular action of Arsenic Acid on Sugar.*—When a solution of pure arsenic acid is mixed with sugar, and left for a few hours, a rose colour is produced, which soon becomes a fine purple, and then remains, with little further change, for many days. Sugar of milk, mannite, raisin sugar, sugar of starch, produce similar effects; but sugar of liquorice, diabetic sugar, and such bodies as starch, gum, &c. produce no effect of the kind. Nor do the soluble arseniates or arsenious acid produce these effects with the substances named above.—*Bull. Univ.*

14.—*Method of preparing Ammoniuret of Silver (fulminating Silver).*—Chloride of silver is to be dissolved in ammonia, and fragments of caustic potash added: when the effervescence has ceased, the black liquor obtained is to be diluted and filtered; the black powder being washed and dried, detonates upon the application of heat, and is fulminating silver.—*Journ. de Phar.*

15.—*Medicinal properties of Nux Vomica.*—A correspondent in Essex, a surgeon-apothecary, in a very extensive practice, informs us that he has lately been administering nux vomica so freely as to use about six ounces in six months. A severe case of chronic diarrhœa, in which the patient appeared to be in a hopeless state, rapidly recovered under this remedy. It was given in powder, in a dose of five grains, three or four times a-day, all previous medicines having been of very little use to the patient.

A case of chorea, which had existed twelve months, and which had resisted all the ordinary means, recovered under the use of the nux vomica. Various cases of long-continued intermittent fever, several of which had been treated in vain by quinine, yielded to the pulv. nucis vomicæ.

We hope that our respectable correspondent will favour us with some detailed cases. We shall, however, be always happy to receive short practical observations like the present, from respectable quarters. We are aware that medical practitioners in full employment have but little time for writing; yet such gentlemen must be constantly meeting with facts that would be highly interesting to the profession, and which are deserving of publication.

16.—*On the different Medicinal Properties of Peroxide and Protoxide of Iron*

Iron is one of the most valuable articles of the materia medica. The PROTOXIDE acts as a genial stimulant and tonic in all cases of chronic debility not connected with organic congestion or inflammation. It is peculiarly efficacious in chlorosis. It appears to us that the PEROXIDE and its combinations are almost uniformly irritating, causing heartburn, febrile heat, and quickness of pulse. Many chalybeate mineral waters contain an exceedingly minute quantity of protocarbonate of iron, and yet exercise an astonishing power in recruiting the exhausted frame. We believe their virtue to be derived simply from the metal being oxydized to a *minimum*, and diffused by the agency of a mild acid through a great body of water, in which state it is rapidly taken up by the lacteals, and speedily imparts a ruddy hue to the wan countenance. We find that these qualities may be imitated exactly by dissolving three grains of the sulphate of iron and sixty-one of bicarbonate of potass in a quart of cool water, with agitation in a cool vessel.

17.—*Oiketicus, a new and singular Genus of Lepidoptera.*—The natural history of the genus oiketicus, especially so far as relates to the female, is very curious, and, until lately, unknown. It was first observed by the Rev. L. Guilding, in the West Indies, and his paper upon the subject was read before the Linnæan Society, June 6, 1826.

The female pupa having slept the appointed time, and being still resident within the habitaculum formed by the larva, opens the carina by the motion of its head, and prepares to receive the winged male, which, by the peculiar length and flexibility of its organs, is able to effect sexual intercourse with his mate, though still enveloped in her case. She is ever excluded from the light, and

never beholds the male to whom she is indebted for her progeny. After impregnation, she begins to fill the bottom of her puparium with ova, closely packed in the down rubbed from her body; and having performed this duty, either presses herself through the thoracic carina, reduced to a shrivelled morsel of dried and scarcely animated skin, or dies within the case.—*Trans. of Linn. Soc.*

18.—*A gigantic Ourang Outang.*—In the collection of the Trinity-house, Hull, is a pair of hinder hands of an ourang outang, of very extraordinary size, Though very materially shrunk, from the action of a styptic solution in which they have been preserved, they are no less than fifteen inches and a quarter in length; over the knuckles they measure ten inches in circumference; the middle toe, or finger, measures seven inches and three fourths; the length of the thumb from the metatarsal bone of the forefinger is five inches and a half, and from the outer edge of the metatarsus to the end of the thumb nine inches. The circumference of the thumb at its extremity is three inches and a quarter, and that of the tarsus eleven inches.—*Ibid.*

19.—*Gryllus Migratorius, or Locust.*—The Crimea, and southern provinces of Russia have lately been devastated by the locust, of which the following is an account, furnished by John Smirnove, Esq., Secretary to the Russian embassy. The locust deposits its eggs in small bags, composed of a thin membrane, about the size of an almond. Each of these bags is found to contain from 80 to 100 eggs, so that an idea may be formed of their amazing fecundity. In the spring, about the month of April, when the sun begins to give new life to vegetation, the eggs are quickly hatched, and the insects, in the shape of white beetles, are seen creeping out in myriads. In this state they spread themselves over whole fields during the day, but at night collect together in clusters, and thousands of locust-hillocks may be seen in one corn field. After remaining two or three weeks in the crawling state, the insects, daily gaining strength, next begin to leap. At this period they become destructive, from their destroying the springing corn and the young shoots of the vine; and, gradually gaining strength, they spread themselves more and more, and unite in such multitudes that, in some places, many miles in extent are covered with them, in columns of from six to ten inches thick and upwards. In June they are furnished with wings, but they still continue leaping, though with additional power, being assisted by their wings. Towards the end of the month, and about the beginning of July, they cast off the whole of the upper hard covering, and become perfect flying locusts. In this state they are exceedingly destructive, even to places at great distances; for their flight is rapid, and they are in such prodigious swarms, that their appearance in the air resembles a dense, black cloud, obscuring the sun's rays; when the rays of the sun are reflected from them, it gives the appearance of some burning object in the atmosphere. Alighting on the corn fields they, in the space of a few hours, devour every green thing. In September they deposit their eggs, enclosed in small bags, in the earth, and soon afterwards die.

All means that have been used to free the country of this scourge have been unavailing, for though myriads are destroyed in the first states of their life, yet they flock from the neighbouring provinces and reinforce their ranks.—*Ibid.*

20.—*Adulteration of Pulvis Acaciæ.*—No article is, perhaps, adulterated to greater extent than powdered gumarabic; for amylaceous powder being insipid, and similar in colour, renders this species of fraud very easy. The sin does not, in general, lie at the door of the druggist; the drug-grinders are chiefly the culpable parties. A parcel of pulv. acaciæ which we lately examined, from a house of respectability, contained about 17 per cent. of foreign matter. By treating the suspected powder with cold water the quantity can soon be ascertained. A drop of tincture of iodine will immediately detect amylum.

21.—*The time for gathering Digitalis.*—We strongly recommend the metropolitan apothecary, who cannot be supposed to gather this article himself, to procure it in *its fresh state* at the herb shops, and to purchase the leaves attached to the stalk if possible; by which means he will be certain of having the leaves of the second year, it being a biennial plant, and having no stalk the first year: besides, the stalk leaves are more powerful and uniform in their strength than the radical leaves. We know that this article is gathered in a most careless manner, and have no doubt that much of the discrepancy that appears in the profession respecting its medicinal virtues, arises from the inequality of the article with

which we are supplied. We have been informed that a veterinary surgeon of eminence, in the metropolis, uses this article very extensively in his practice, and with singular success, but that he cannot depend upon that which he purchases in London. By procuring the herb *when in flower*, and taking the leaves while green on the stalk, and by carefully drying them, a perfect article may be insured. Those who have not yet supplied themselves should not delay, as it is already rather too late in the season.

22.—*Formulary of the* HOTEL-DIEU, *at Paris.*—The quantities are expressed in Troy weight and English fluid measure.

Antipsoric Bath. Take of Sulphuret of Potass ʒxv.—ʒvj. Water sufficient quantity for a bath.

This is occasionally employed for the cure of the itch, but it is not considered the most efficacious plan of treatment.

Aromatic Bath. Take of Aromatic Species ʒxxxiss. Water a sufficient quantity.

Aromatic species is composed of equal parts of sage, thyme, wild thyme, hyssop, watermint, wormwood and origanum.

The above is found useful in chronic rheumatism, and in all cases in which it is required to slightly stimulate the skin.

Mustard Pediluvium. Take of flour of Mustard ʒiv. Water a sufficiency.

Used in all cases in which it is desirable to produce a determination to the feet (at all the hospitals).

Manituvia. Manituvia are prepared with mustard, subcarbonate of potass, and sometimes with muriatic acid.

These are used in cases where the blood is carried in too great a quantity to the chest. They are prepared half the strength of pediluvia.

Vapour Baths. These are made by the evaporation of boiling water in a proper apparatus, and are employed with success in rheumatic and cutaneous affections, and in all cases in which it is important to produce an abundant cutaneous exhalation. They are never employed for patients labouring under pulmonary affections. (Used at all the hospitals.)

Aromatic Vapour Baths. These are formed by allowing the steam to pass through aromatic herbs. They are considered more energetic than the simple vapour bath. (Used at all the hospitals.)

Sulphureous Bath of Barèges. Take of Sulphuret of Potass ʒiij.—ʒvijss. Common water, Cong. xxv.—0ij.

Used in various diseases, nervous as well as cutaneous, (at all the hospitals.)

Douches. This form of Bath consists in allowing water to fall from a certain height upon some part of the body. It is used in different forms. *The Douche en mass* is a large, entire stream of fluid; *the Douche en pluie* is like heavy rain; *the Douche en arroson* is like a gentle shower; the *Douche ascendant* is applied by means of a bent pipe, communicating with the reservoir above. In this manner it is directed to the rectum or vagina, and is usually administered cold. This has been used with advantage in cases of obstinate constipation, in leucorrhœa, and in chronic affections of the uterus, which have been considered scirrhous. When douches of warm or of cold water are employed, they are called simple, and medicated when combined with drugs. They are applied to various parts of the body, as the cases may require.

Affusions. These consist simply in throwing cold water over the whole, or a part of the body. In cerebral affections, they are administered to the head whilst the patient is in the warm bath.

Emollient Cataplasm. Take of Linseed Meal and Barley Meal, equal parts. Water a sufficient quantity. Mix.

Used as the common cataplasm, at all the hospitals.

Suppurative Cataplasm. Take of Emollient Cataplasm ℔ij. Black Basilicon, ʒj. to ʒij. Mix.

To promote suppuration.

Anodyne Cataplasm. Take of Linseed Meal and Barley Meal, of each ℔ij. Narcotic Decoction (formed of Dulcamara leaves, dry, ʒij.; Poppy heads, No 4; Water 0ij.), a sufficient quantity; Tincture of Opium ʒj. to ʒij. Mix.

Used for internal as well as external inflammations, attended by severe pain.

Cataplasm for Hospital Gangrene. Take of Emollient Cataplasm, slices of Lemon, powdered Cinchona in such proportions as the cases may require.

Antiseptic Cataplasm. Take of Emollient Cataplasm, Powdered Cinchona, Powdered Camphor, varied in proportions according to the nature of the case.

Used in hospital and simple gangrene.

M. Recamier's Dry Collyrium. Take of fine Sugar and Oxide of Zinc, in powder, equal parts. Mix.

M. Dupuytren's Dry Collyrium. Take of fine Sugar gr.cv. Tutty gr.viii Red Oxide of Mercury gr.xvi. Mix

A small portion of these is blown into the eyes for the removal of specks remaining on the cornea after chronic ophthalmia.

23.—*The Royal College of Physicians* v. *Dr. Edward Harrison.*—This cause was tried on the 3rd of last month, in the Court of King's Bench, before Lord Tenterden and a special jury. Our readers are well aware that it was an action brought by the College of Physicians against Dr. Harrison, to recover certain penalties for practising as a physician within seven miles of the city of London, without having been licensed so to do by the college. They are also aware that Dr. Harrison challenged the college, with a great deal of bravado, to try the question in a court of law, and he promised to afford every facility for that purpose. When, however, he found that the college was in earnest, he began to draw back, and refused to acknowledge that he practised as a physician. To prove, on the trial, that he did practise as a physician, two letters from him, one to Dr. Chambers and the other to the Censors, were put in and read. In these, the Doctor insisted that the college had no right to frame by-laws such as those by which its members are governed. He also expressed therein his willingness to try the question of law at issue between them, relative to the power of the college under the Charter and the Act of Parliament. Besides these letters, a bundle of prescriptions, proved to have been written by Dr. Harrison, were put in. A surgeon and apothecary stated that he made up the Doctor's prescriptions, and that they were for internal remedies. A witness proved that the defendant had prescribed, both for her and for her mistress; and that he received fees from the latter, who had an affection of the spine. He received no fees from the witness herself. This constituted the principal evidence on the part of the college.

On the part of the defendant, it was contended that the charter of the college was illegal; and that the Act of Parliament which supported it was a private Act. Lord Tenterden, however, was of opinion that the Act was a public Act, but he would save the point for the defendant's counsel, who might, if necessary, hereafter move for a nonsuit. Dr. Harrison's counsel then contended that there was no proof of his client having practised as a *physician*, for that he had only practised as a *surgeon!* Lord Tenterden having summed up the evidence, left the case to the jury, who, after being absent about three quarters of an hour, brought in a verdict for the *defendant*, on the score that he had practised only as a *surgeon!* Thus ended this case, leaving the question of law just where it stood before. A more paltry, shifting defence was never set up, after the mighty promises made by Dr. Harrison, to stand forward as the champion of the graduates of Edinburgh. The opinion which we have already offered upon this subject was, that the graduates of the Scotch Universities, if they find themselves aggrieved, ought to apply to the Legislature, not to a court of law; and this is still our opinion. The policy and legality of the college charter are two very distinct things.

BOOKS RECEIVED DURING THE MONTH.

1. Commentaries on the Causes, Forms, Symptoms, and Treatment, Medical and Moral, of Insanity. By George Man Burrows, M.D. Member of the Royal College of Physicians of London, &c. &c. Underwood, 1828.

2. Remarks on the Supply of Water to the Metropolis; with an Account of the Natural History of Water in its simple and combined states; and of the Chemical Composition and Medical uses of all the known Mineral Waters; being a Guide to Foreign and British Watering Places. By Michael Ryan, M.D. &c. &c. 8vo. p. 45. Longman and Co. London, 1828.

*** The Author has displayed great ingenuity and research in the composition of this little work. We beg to recommend it to the perusal of our readers.

3. A Letter to the Right Hon. Robert Peel, Secretary of State for the Home Department, on the Supply of Water to the Metropolis; containing a Justification of the Complaints of the Housekeepers served for the last fifteen years from the Works of the Grand Junction Company, and a Refutation of the Misstatements of an Anonymous Writer, under the designation of "An Old Housekeeper." By Robert Masters Kerrison, M.D. London, 1828.

4. A Series of Observations on Strictures of the Urethra; with an Account of a New Method of Treatment, successfully adopted in cases of the most obstinate and aggravated form of that disease. Illustrated by Cases, and a Plate. By R. A Stafford, Member of the Royal College of Surgeons, and lately House Surgeon to St. Bartholomew's Hospital, 8vo. p. 155. Longman and Co. London, 1828.

5. A Medico-Legal Essay on Infanticide, translated from the Author's Latin, Inaugural Dissertation, &c. By Robert Arrowsmith, M.D., President of the Royal Medical Society of Edinburgh.—Edinburgh, 1828.

6. MEDICAL BOTANY, No. xix, by John Stephenson, M.D. and John Morss Churchill, F.L.S. &c. Churchill, Leicester Square. This elegant work is conducted with increasing spirit. The present Number contains three most splendid and highly coloured plates, of the genus pinus, viz. the species sylvestris balsamea and abies; with a very scientific and comprehensive account of their natural history and medicinal properties.

7. THE MAGAZINE OF NATURAL HISTORY and JOURNAL OF ZOOLOGY, &c. No. ii. conducted by J. C. Loudon, F.L.S. &c. Longman and Co. This is a work full of amusement and instruction. Every person interested in Natural History should possess this Journal; it cannot fail to be valuable, or to be supported, whilst its pages are furnished from the pens of such writers as Professor Henslow, Anderbow, Strutt, Bowdich, Kent, &c.

8. Journal des Progrès des Sciences et Institutions Médicales. (In exchange)

9. Bulletin des Sciences Médicales. (In exchange.)

10. Revue Médicale, et Journal de Clinique. (In exchange.)

11. Ephémérides Médicales de Montpellier. (In exchange.)

12. Journal de Physiologie, Par M. Magendie. (In exchange.)

13. The American Journal of the Medical Sciences. (In exchange.)

14. The American Medical Recorder. (In exchange.)

LITERARY INTELLIGENCE.

In the Press, a Lecture on the Structure and Physiology of the Ear in Man and Animals, as delivered at the Royal Institution of Great Britain. By J. H. Curtis, Esq. M.R.I., Surgeon-Aurist to the King.

In the Press, a Manual on Midwifery, containing plain and succinct Instructions for affording assistance in the different Classes of Labours, with an Account of the Diseases of Women and Children. A Work intended as a Pocket Companion for young Practitioners. By Dr. Ryan.

NOTICE TO CORRESPONDENTS.

Communications have been received from Dr. Harwood, Dr. Kennedy, Chirurgus, Mr. Dewhurst, Dr. Ryan, and Mr. Cross.

A. B.'s Essay is not sufficiently interesting for publication. Besides, we cannot insert anonymous articles, unless the Authors will confidentially favour us with their names.

Correspondents who are desirous of having their communications inserted in the immediately ensuing Number, are particularly requested to let us have them early in the month.

We have to thank several Correspondents for their very kind wishes. They may rest assured that the Journal shall sustain such a character as will render it worthy of their support.

THE LONDON

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CRITICAL REVIEW.

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I.—*a. Observations on the Nature and Treatment of Erysipelas, illustrated by Cases.* By W. Lawrence, Esq., F.R.S., &c. Surgeon to St. Bartholomew's Hospital *.

b. On the Treatment of Erysipelas, by numerous Punctures in the affected part. By R. Dobson, M.D., Surgeon to the Royal Hospital, Greenwich *.

c. Case of Erysipelas, with some Remarks. By A. Copland Hutchison, Esq., F.R.S.L. and E. Surgeon to the Lord High Admiral, &c. *

There is, perhaps, no disease in the whole catalogue of human maladies deserving more attention than erysipelas. The frequency of its occurrence, and the discrepancy of opinion among medical practitioners respecting its nature and treatment, render it an important subject of inquiry. It is well known that the treatment of this disease by different practitioners has varied according to their views of its pathological characters, and that it has been conducted upon principles totally opposite to each other. This is not much to be wondered at, when we consider the various aspects presented by the affection in different subjects; that its characters vary according to the constitution of the patient; according to his local situation; according to the exciting cause, and the seat of the malady, and according to numerous other causes under whose influence the patient may be placed. This circumstance has led some to regard erysipelas as a disease depending upon a debilitated state of the system, requiring tonics and stimulants for its removal; whilst others have considered it as an affection differing in

* Medico-Chirurgical Transactions, Vol. xiv.

no material respects from phlegmonous inflammation. The latter view leads, of course, according to the modern pathology, to a plan of treatment consisting of blood-letting, and other antiphlogistic agents.

Now, looking impartially upon these opposite views, and taking into consideration the principal facts connected with erysipelas in its various aspects under the influence of different causes, we cannot help regarding it as a disease, if not quite unconnected with, at any rate not essentially dependent on, either a plethoric or a debilitated state of the system. Without travelling further in search of proof to support this opinion, the circumstance of the disease occurring in every grade of constitution, as regards plethora and debility, is amply sufficient. Did it require further proof, the fact that the malady is curable, in some instances, by the antiphlogistic treatment, and in others, by the stimulating and tonic plan, might be adduced. Plethora and debility are terms frequently used with the view of explaining particular conditions of the system which render it susceptible to particular diseases, but these terms have never, so far as we are aware, been defined in a manner which would render their meaning unequivocal. Indeed, if the word plethora mean vascular fulness, and a preponderance of nutrition over interstitial absorption, we frequently find it combined with very great debility; whilst, on the other hand, a condition of the vascular system opposite to fulness, and the absence of interstitial fat, are found compatible with perfect health and strength. Every practitioner must have witnessed instances where stout, and apparently strong and plethoric, patients could ill bear the loss of blood, or much purging; subjects habituated to fermented and spirituous liquors often present physical characters of this description; but it is well known that such constitutions, though plethoric in appearance, and even in fact, so far as regards vascular fulness, are characterized often by debility, and that their diseases, although generally attended by inflammatory symptoms, still require tonics and stimulants for their treatment. We find, on the contrary, that many persons, who, from outward appearances, might be supposed to possess but little strength, and no more blood in their vessels than barely sufficient to carry on the functions of life, nevertheless bear the antiphlogistic plan of treatment well, even to the abstraction of a considerable quantity of blood.

These are facts which ought not to be disregarded in laying down principles of pathology and of therapeutics; otherwise they will stare to shame every theory, however ingenious, which may have the indiscreetness to neglect

them. It has always appeared to us, that the *quality* of the blood has much more to do than its *quantity* in predisposing the system to disease. We are well aware that this view is contrary to the pathology of the present day, which attributes every disease to some change in the mechanical condition of the solids. We shall offer a few further remarks on this subject as we proceed.

Mr. Lawrence regards erysipelas as an affection essentially inflammatory, and he considers the notion, that the local seat of the disease, the constitution, or both, are in a state of debility, to be 'completely erroneous, and the treatment founded on it, not only inappropriate, but injurious.' By erysipelas, he understands 'inflammation of the skin, either alone, or in conjunction with that of the subjacent adipous and cellular tissue.' When the surface of the skin is alone attacked, without any sensible swelling or vesication, the affection is called *Erythema.* '*Simple erysipelas* is a more violent cutaneous inflammation, attended with effusion into the cellular substance, and, generally, with vesication. *Phlegmonous erysipelas* is the highest degree of the affection, involving the cellular and adipous membrane as well as the skin, and causing suppuration and mortification of the former.' So far as the local disease is concerned, we are not aware that its inflammatory nature has ever been doubted. In fact, the seat of the affection presents all the characters of inflammation, namely, pain, redness, increased heat, and swelling. The question respecting which pathologists have differed, and do still differ, in opinion, is, not whether there be inflammation in a part affected with erysipelas, but whether that inflammation be as local in its character as inflammation purely phlegmonous, and whether the treatment should be exactly the same as in phlegmon? If the inflammation be the same in both, why applying different terms to it? Why, sometimes, calling it phlegmon, and at other times erysipelas? In fact, the term inflammation conveys but a very imperfect idea of the nature of disease, and our constitutional treatment of some inflammations would be worse than useless if we allowed ourselves to be guided by the local appearances alone. A prick of the finger is followed by inflammation; the same effect follows the insertion of a virus under the cuticle; it follows the application of heat; the application of cold will also produce the same effect, if the part be afterwards exposed to a moderate temperature, a temperature naturally congenial to the feelings; inflammation takes place in different parts of the body spontaneously, or from some internal causes, of whose mode of acting we are ignorant. All these causes are capable of

producing diseases presenting the same local characters; at any rate, presenting the characters of inflammation. But let us examine the next grade in the order of effects: the inflammation caused by a prick of the finger will generally end, in a few days, in resolution, or, if not, it will form an abscess, containing pus: that caused by virus will be succeeded by a diversity of effects, according to the nature of that virus; for instance, the vaccine virus will form a colourless vesicle; the syphilitic virus will produce a progressive destruction of the part to which it is applied; that of small-pox is followed by effects different from those of either of the former, although the first effect of the application of each to an absorbing surface is inflammation. Inflammation caused by the application of heat is succeeded by a detachment of the cuticle from the subjacent skin; whereas, that produced by cold runs suddenly on to mortification, seldom terminating in the formation of an abscess. With regard to the treatment found best adapted to these different affections, it varies nearly as much as the appearances themselves. In fact, if we were to regard the inflammation as the sole disease, the same treatment ought to be found to answer in every inflammation. Experience, however, proves that this will not succeed. We have already advanced the opinion * that bleeding would, probably, be beneficial in the majority of diseases, especially when the system at large is affected, if it could be performed without detriment to the functions of the organs generally. Upon the same principle, it would modify every variety of inflammation; but it will also modify diseases unattended by any inflammation, such as those allied with the nervous system. To suppose, however, that general bleeding will suffice to cure every variety of inflammation, or that it can be always resorted to in inflammatory diseases without increasing the derangement of the general functions, or even the functions of the seat of the inflammation, would be supposing a thing contrary to the testimony of experience. We can only regard inflammation as a symptom of a variety of diseases, differing materially in all their other characters, and requiring various modifications of treatment. Small-pox, measles, scarlatina, psora, and many other affections, produce inflammation of the skin; but the other characters of these maladies differ as much from those of each other, as they do from the characters of erysipelas, or of phlegmon. Indeed, we find precisely analogous differences between the characters of phlegmon and those of erysipelas, whether we look at the constitutional or at the local symptoms.

* See the Medical and Surgical Journal, No. 1. p. 27-28.

We have already stated that Mr. Lawrence divides erysipelas into *simple* and *phlegmonous*. 'In simple erysipelas, the skin is preternaturally red and shining, having a light rosy tint in the early stage and slighter cases of the affection, while in other instances it is of a bright scarlet, or even of a deep and livid red.' In this slight form of the disease there is hardly any perceptible swelling, and no tension. The affection, however, is seldom confined to the skin alone, for effusion soon takes place into the cellular texture, giving rise to a soft swelling. The inflamed part is hot, painful, and imparts a sort of smarting or stinging sensation. The pain is not so intense as in phlegmon, nor has it the same throbbing character. Serous effusion takes place from the surface of the cutis, elevating the cuticle into vesicles or blisters, or 'raising it by a soft, yellow, jelly-like deposit, which remains slightly adherent to both cutis and cuticle, and exactly resembles the effect often produced by the common blistering plaster.' The inflammation, so long as it is confined to the skin, does not produce suppuration. It may do so, however, when it becomes very severe at one particular point, 'and we thus occasionally see the formation of abscess under the skin, towards the decline, or after the disappearance of the erysipelatous redness.'

Mr. Lawrence further remarks, that 'the local symptoms above described are preceded and accompanied by fever, which varies in its character according to the constitution, age, and general state of health.' This fever has an inflammatory character in the young, strong, and those of full habit, and blood taken from a vein exhibits the inflammatory crust on its surface. The fever, in other instances, is of the typhoid type, particularly when erysipelas attacks the head. The author thinks that the pain felt in the epigastric region, foul tongue, with bad taste in the mouth, nausea and constipation, indicate 'disordered stomach and intestinal canal, to which, as its *cause*, the local affection must be referred.' We grant that these symptoms are indicative of disorder of the stomach and intestines, but Mr. Lawrence should have given us some proof that the local affection is referrible to this disorder, as its *cause*. The head suffers pain as well as the stomach; what proof is there, then, that the local malady does not depend as much upon disorder of the brain as upon that of the stomach and intestines? Again, the heart is excessively irritable: if the disease of one seat must be referred to that of another, why is not the inflammation of erysipelas not as referrible to a disorder of the heart, as to gastric derangement? Headach and increased irritability

of the heart both precede and accompany the local inflammation, as much as nausea, foul tongue, and constipation do. It appears to us, that there is no more reason to attribute the local disease to disorder of the stomach and intestines than for attributing the disorder of these organs to the local disease. The stomach and intestines, as well as the brain and heart, bear a part in the general disorder, and every organ manifests a derangement of its function according to the nature of its office. The stomach proves itself deranged by nausea; the intestines, by constipation; the brain, by headach and delirium; the heart, by increased irritability and quickness of motion, with a reduction of its absolute strength; the nervous and muscular systems, by lassitude and a general feeling of weakness. In fine, every organ, and even every tissue, as far as its functions is cognizable by the senses, or can be inferred from external signs, exhibits derangement; and if the local affection were referrible, or were attempted to be referred, to a disordered state of any other seat than that alone in which it resides, we should find it rather a difficult matter to point out any one organ which could lay a greater claim than the rest to that local disease. There is often not even a priority of affection to be discovered on the part of the stomach and intestines; for headach, quickness and irritability of the pulse, as well as many other symptoms of disorder, present themselves to our notice quite as early as gastric derangement. But a priority of affection, could it even be proved, would constitute no proof of dependance of the local malady upon gastric disorder. Erysipelas often follows as an effect of injury: what reason is there here to refer it to disorder of the stomach? or to any one organ more than another?

The inflammation in phlegmonous erysipelas is more deeply seated, and in a higher degree, than in the simple form of the disease. It occupies the whole thickness of the skin and the subjacent adipous and cellular tissue, and it soon runs on in the latter tissue to suppuration and sloughing. The general fever also is more violent than in simple erysipelas. The nervous system is often considerably affected, and the symptoms occasionally assume the characters of those indicative of the worst form of typhus fever. The local inflammation is of a dark red colour, often of a brownish or livid tint; effusion of serum takes place into the cellular membrane, producing considerable tumefaction. This yields under the pressure of the finger, and occasionally retains the mark of the impression for some time. At first the cellular texture contains a whey-like or whitish serum. The fluid gradually becomes yellow and purulent,

and we often find it presenting all the characters of good pus, and very thick. The matter is sometimes deposited in small separate collections, forming little abscesses; but it oftener fills a large portion of the cellular membrane, without having any distinct boundary. This tissue frequently sloughs to a considerable extent. The skin also, thus losing its supply of blood, dies, sometimes all round a limb, and to a very great extent. When this is the case, the constitutional disturbance is, of course, very great, and the patient generally sinks under it.

Mr. Lawrence next speaks of the seat and nature of erysipelas. With respect to the seat of the disease, he considers it to be the skin and cellular tissue, and not the aponeurosis of muscles, as Mr. C. Hutchison thinks, or the subcutaneous tissue and fascia, as Mr. Earl believes. In this opinion, we fully agree with Mr. Lawrence, that the skin and cellular membrane are the tissues which are primarily affected; but we have, nevertheless, reason to believe that the fascia often becomes involved in the disease in phlegmonous erysipelas. We much doubt that the aponeuroses of muscles are ever primarily or principally affected. These are of a texture similar to that of tendon, and we have frequently noticed tendons, perfectly unaffected, exposed in, or traversing, chasms produced by the sloughing of the cellular tissue, and appearing as white and clean as if they had been dissected for demonstration. So far, then, we agree with Mr. Lawrence, that 'erysipelas is merely a particular modification of cutaneous or cutaneous and cellular inflammation.'

But Mr. Lawrence's attempt at comparison between erysipelas and phlegmon appears to us quite contradictory. In one paragraph we are told, that 'the difference between erysipelas and phlegmon is not merely in the original seat or degree of the disturbance; there is also a difference in *kind*.' Of this difference we entertain no doubt. But, in the very next paragraph, the author says that he 'can, however, by no means agree with those who regard it (erysipelas) as a distinct *species* of inflammation, and as capable, in that character, of affecting various parts of the body as well as the skin.' Surely, if erysipelas differ in *kind* from phlegmon, and from every other inflammation, it must likewise differ in *species* from every other. As we are by no means fond of hypercriticism, we shall not quibble about the meaning of a word or two. When Mr. Lawrence says that erysipelas is not to be regarded as a distinct species of inflammation, he means that the term, erysipelas, ought not to be

applied to 'certain inflammations of the conjunctiva, mouth, and fauces; of the respiratory and alimentary mucous surfaces; of the serous membranes in the head, chest and abdomen, and of the brain, abdominal and thoracic viscera.' He says that the proof of the identity of these various inflammations would consist in showing, that the same peculiarities which distinguish erysipelas from other inflammations of the skin are found in certain inflammations of the parts just enumerated.

Now, we consider Mr. Lawrence's view in this respect erroneous, and it is probable, if he were to reconsider the subject, he would discover this error. He remarks, that, 'since the distinguishing characters of erysipelas are clearly referrible to the peculiarities of the cutaneous and cellular structures in which it occurs, we could not expect to meet with the same affection in parts so differently organized as serous membranes and the viscera.' We may, in the first place, show, that the mucous and serous membranes do *not* consist of tissues so very differently organized from the skin and cellular membrane as to lead us to suppose, *à priori*, that they could not be subject to the same diseases. Mr. Lawrence himself admits that both the skin and cellular membranes are subject to erysipelatous inflammation. Now, there is a much greater difference between the organization of the skin and that of the cellular tissue, than between the skin and the mucous membranes. The latter are very nearly allied, and are, in fact, continuous with one another. With the exception of the cuticle, the membrane lining the mouth and fauces is pretty nearly the same, in organization, as that covering the outside of the lip and face. The former may, truly, be of rather a more delicate texture than the latter; but we find that the skin covering the inside of the thigh is much more delicate, and thinner, than that which coats the outside of the same limb. Again, let us compare the cellular, with the serous, membranes. The former of the two has the property of upholding two characters, and one of these identifies it with the *serous* membranes. One surface of the membrane is serous, and the other cellular, destined for the secretion of fat. The physiological characters, then, of this tissue are not so very different from those of the serous membranes generally as might be at first supposed. Again, some of the pathological characters of the two membranes are very nearly allied. We find dropsy of the cellular membrane accompanied with dropsy of the peritoneum, pleura, pericardium, and the serous membranes of the brain. These facts, therefore, render it highly probable that the

difference in organization between the serous and cellular tissues, is not so great as to lead us to suppose the former not to be subject to erysipelatous inflammation.

Moreover, admitting, as Mr. Lawrence maintains, that the skin and cellular membrane are the only tissues subject to erysipelas, as the latter pervades almost every part of the system, interweaving the other tissues, and as it is similarly modified in every seat, Mr. Lawrence should show us some reason why it should not be as subject to erysipelas in one seat as in another. If that portion of it which unites the skin to the subjacent fascia be a principal seat of the disease, why should not other portions of the same membrane, intervening other tissues, such as the coats of the intestines, the pleura and lungs, the coats of the œsophagus, &c., be also liable to be attacked, if erysipelas be guided in its choice of seat, as we believe it is, in some measure, by the modification of the organization? He should also point out what those peculiarities are 'which distinguish erysipelas from other inflammations of the skin,' and which are not to be found in certain inflammations of other parts. The only peculiarity we know of in this respect is vesication. But let us ask, how can vesication take place in parts which have no cuticle to form vesicles? In other respects we can perceive no material difference between the characters of cutaneous erysipelas, and, what we should call, erysipelas of internal parts. Erysipelas of the face is often accompanied by inflammation of the fauces, which the author seems to admit; but he, at the same time, states, that this inflammation of the fauces has 'only one character in common with erysipelas, namely, redness. The swelling and vesications of erysipelas are not found in these inflammations, which, on the other hand, are frequently attended with *ulceration*, with the formation of an ash-coloured or tawny substance adhering to the surface, and with superficial sloughing.'

Now, it is evident that no vesications can take place in the fauces, because the skin there has no cuticle; and, this being the case, is not *ulceration* the very effect that we ought to expect to occur in a part organized as this is, as a substitute for vesication? The sloughing, also, which occasionally takes place in the fauces, is perfectly in character with erysipelas. We are told that no *swelling* attends these internal inflammations. Now, Mr. Lawrence himself tells us that, in simple erysipelas, 'if the skin alone be affected, *there is hardly any perceptible swelling*, and no tension.' We could not, therefore, expect to find swelling in simple erysipelas of the fauces, or of any other superficial membrane.

The swelling and tension are produced by effusion of fluid underneath the covering membrane, in the cellular tissue; so that the swelling cannot be very great in parts where there is a scantiness of the latter membrane, and especially if the inflammation be superficial. Upon the whole, then, we consider that Mr. Lawrence has completely failed to establish his point—that erysipelas is confined to the integuments and the subjacent cellular tissue alone. In fine, we may adduce the fact, that the mucous membrane of the nostrils often becomes involved in the disease in erysipelas of the face. We perfectly agree with the author, that the term erysipelas ought not to be confined to inflammation of the skin alone, to the exclusion of that of the cellular membrane, as has been proposed by Mr. Earle and Mr. Arnott. There can be no difference here in the essential nature of the disease, inasmuch as both tissues are simultaneously involved in the affection. But when Mr. Lawrence endeavours to identify erysipelas with phlegmon, he appears to us to fail to establish his point. Of the essential nature of disease we know no more than what may be inferred from its phenomena, and from the causes which appear to give rise to it. But from every fact connected with phlegmon and erysipelas, we have ample reason to consider them essentially different. It is true that the inflammation caused by external injury may assume the characters of either phlegmon or erysipelas, according to the constitution of the patient, or to certain external causes, under whose influence he may be circumstanced; but we never find inflammation of a phlegmonous character propagating itself by contagion, or prevailing epidemically. We need only refer to the First Number of this JOURNAL, wherein a review is given of Dr. Gibson's essay on the epidemic erysipelas which prevailed at Montrose, in 1822, for proof of the contagious nature of this malady, and of the identity of erysipelas with certain inflammations of internal parts.

Mr. Lawrence says that he is quite at a loss to discover in erysipelas those marks of debility which some have so much insisted on. We said before, that we are by no means fond of hypercriticism when the subject of inquiry is of trifling import; but, as erysipelas is a disease deserving minute attention, we must be allowed to lay more stress upon, and be more particular about, certain terms than some might consider necessary in the analysis of a work of this description. Having thus apologized, we may be permitted to ask for a definition of the word *weakness*, according to the sense in which the author means here to apply it. We are not aware that any disease depends essentially upon

strength, according to the common acceptation of the word. Strength and weakness are merely relative terms, and have, perhaps, less to do with the production of disease than is generally supposed. The strength of a man of thirty, comparatively very weak for his age, would be considered very great if possessed by a child of eight or nine years old. Again, a person may possess great muscular power with a weak heart, or, *vice versa*, he may possess a strong heart with little nervous energy. If a person be predisposed to disease, he is necessarily weaker than he would be, *cæteris paribus*, if he were not so predisposed; therefore, every person, when attacked with erysipelas, or with any epidemic disease, or any casual malady not caused by violence or injury, may be said to be in a state of weakness at the time, because a certain degree of predisposition, most probably, always precedes the full development of such maladies. Again, vascular fulness and muscular weakness are perfectly compatible with each other, and we find them associated every day in the same constitution. But, if we suppose the term weakness to relate to the standard of muscular strength and nervous energy possessed by the majority of mankind at a given age, we shall find that erysipelas selects its victims more frequently from among persons who rank below that standard, than from amongst those who rise above it. We, however, by no means attribute the disease to the weakness itself, but to another cause, of which the weakness, as well as the malady, is only the effect. Weakness, according to the general acceptation of the word, is itself an indication of a state of constitution at variance with perfect health, although it may not always be accompanied by disease in its full development, or by disease characterized by sensible and unequivocal external signs.

Mr. Lawrence remarks, that 'however weak the patient, the local disturbance is one of excitement; there is increased activity in the circulation of the part clearly marked by all the symptoms. Indeed, speaking of the part,' he is 'unable to recognize debility as the cause of any inflammation whatever; and in reference to the seat of disease,' he regards 'the expressions of passive and asthenic inflammation, and venous congestion, as either unmeaning, or calculated to convey erroneous notions.'

Now, from the above passage, we can pretty clearly understand what Mr. Lawrence's views of the pathology of inflammation are: they are by no means peculiar; but any one, who will take the trouble to examine the condition of a part in a state of inflammation, may satisfy himself that they are erroneous. Instead of there being 'increased activity in the circulation of the part,' if that part be examined with

the microscope it will be seen that the activity is much less than when it is in a healthy state. The motion of the blood is much slower in it than natural, as might be inferred, *à priori*, from an acquaintance with the laws of hydraulics. The visible characters of inflammation depend upon a preternatural enlargement of the calibre of the arteries of the part affected, which enlargement permits the vessels to contain more than their proportionate share of blood; but owing to this disproportion in the size of their canals, the velocity of the fluid through them is necessarily less than if their calibre were natural. This is a fact, as we have already stated, of whose truth any one may satisfy himself by microscopical examination. Even supposing the arteries to be active agents in the circulation of the blood, we may ask, by what power, or mode of action, could a part acquire more than its due share of blood, according to the notion of there being increased activity in the circulation through it? The arteries have never yet been considered endued with a power of attraction. If, then, as Mr. Lawrence must necessarily mean by increased activity, this activity is applied to the propulsion of the blood, an inflamed part, instead of containing a superabundance of blood, as it invariably does, ought to be paler than natural, and to contain less than its due share, because the increased activity would necessarily drive the contents of the vessels out of that part in which it resided. The only way in which the visible phenomena of inflammation, according to this view of the function of the arteries, could take place, would be, by the vessels *leading towards* the inflamed part assuming an increased activity, whilst those situated actually *in the seat of inflammation* remain in a state of comparative *inactivity*. Supposing this to be the case, though contrary to the fact, it would by no means prove that there is an increased activity *in* the inflamed part: on the contrary, it would only prove an increase in the activity of the vessels of a *contiguous* part, and a comparative decrease in that of the arteries of the actual seat of disease.

Moreover, Mr. Lawrence acknowledges his inability of recognizing debility as the cause of any inflammation whatever. Now, if debility mean a want or the absence of a power natural to a living part, we cannot understand how any inflammation can take place without debility. The only living power connected with the arteries, so far as we can recognize, is *contractility*. The arteries of an inflamed seat lose this property, in a great measure, and allow themselves to be preternaturally dilated by the pressure of the blood. Were it not for debility of their coats, or a reduction in the

amount of the contractile power natural to them, their calibre could not enlarge, as it does in vessels undergoing the process of inflammation. To this cause is to be attributed the redness of the inflamed part, as well as the swelling at the commencement of the attack, before effusion takes place into the interstices of the tissues. The pain, and the preternatural evolution of heat, in the seat of affection, are attributable to the organic derangement which takes place in the coats of the vessels, and which acts as the cause of their loss of tone or contractility. These latter phenomena, namely, the heat and pain, always precede the redness and swelling, inasmuch as they rank a grade higher in the order of causation. It is not requisite at present to trace causation further back than this derangement, because to do so would require to grasp at the original cause of disease, and would involve the fundamental principles of physiology and pathology.

Mr. Lawrence again says that, in reference to the seat of disease, he regards the expressions of passive and asthenic inflammation, and venous congestion, as either unmeaning, or calculated to convey erroneous notions. With respect to the terms active and passive, sthenic and asthenic, neither one nor all of them can convey any clear idea of the condition of an inflamed part, inasmuch as some of the functions concerned are more active than natural, whilst others are less active than in the healthy state. Evolution of caloric is augmented, whereas the contractility of the arteries is diminished. These are two properties essential to inflammation, upon the latter of which, the preternatural redness of colour depends. As for the other two, namely, pain and swelling, we can perceive no relation between them and the terms passive and active, or asthenic and sthenic. The nervous energy is exalted in the seat of disease, as far as regards sensibility; but it is diminished with respect to natural sensation, and also to the power of motion when the inflammation is seated in the muscular tissue. Secretion is generally increased in the part affected, but there is reason to infer that absorption is diminished. Hence, we not only agree with Mr. Lawrence, that the terms passive and asthenic, as applied to inflammation, are unmeaning; we go further, and say that the terms active and sthenic are equally unmeaning.

But, Mr. Lawrence draws 'venous congestion' also within the sphere of these unmeaning terms. If by congestion be meant a preternatural collection of blood in the vessels of a particular part, can Mr. Lawrence, or any one else, deny that such a preternatural collection does take place in inflammation? What else is it that gives the part inflamed

the unnaturally red colour which forms one of the most characteristic properties of every species of inflammation? But it is to *venous* congestion that he applies the epithet unmeaning. Now, we do not maintain that *venous* congestion is, by any means, essential to inflammation; but, that it is a frequent attendant on inflammation, any one may satisfy himself by examining the state of the cerebral veins when the meningeal membranes are inflamed; or let him examine the mesenteric veins in subjects who have died of peritoneal or intestinal inflammation.

We shall not offer any remarks on Mr. Lawrence's Nosological Arrangement of Erysipelas. With respect to the *causes* of the disease, he thinks that the occurrence of the malady in the face may be traced in some instances to contagion. Our opinion is, that its occurrence in other parts also may be traced to contagion, although various other causes may contribute to produce it. This has been the opinion of almost all the most eminent writers who have treated of this subject, and the history of the malady affords ample proof in support of the notion of its contagious properties. Mr. Lawrence says, that there is really no difference as to causes between erysipelas and other inflammations. We are fully aware that an injury inflicted on a part may be followed by either phlegmon or erysipelas, according to the constitution of the patient, or according to other circumstances under which he may be placed; but do we not find also that the same external causes will produce simple inflammatory fever in one individual, and typhus fever, of the most contagious nature, in another? Erysipelas may follow as an effect of injury inflicted on a part, but the disease may become contagious from that time, owing to some peculiarity in the constitution of the patient. Several facts connected with the history of the disease prove this to be the case. Some diseases possess the property of propagating their kind, either by contact, or by the diffusion of a principle conveyed from one individual to another through the atmosphere. Now this principle must have some origin, either in the body or out of it. If a mechanical injury can create such a disturbance in a constitution peculiarly modified, as to give rise to the formation of this contagious principle in the system, the disease in that system, or in a local seat, must evidently assume the same characters as if the contagious effluvia, already generated, had been applied to the body; and the newly-formed principle may go on progressively from this time, and propagate its kind in constitutions which may be in any way susceptible to the poison, and which are brought within the sphere of its influence. The contagious

principle, like other forms of existence, must depend upon the union of certain causes, each of which, separately, may be perfectly destitute of the property of generating disease. It differs little whether the principle of contagion be formed in the body, by the union of the causes necessary to its formation, or imparted, already formed, to the body, from another individual labouring under the disease.

We next come to the *treatment* of erysipelas. It is this part of Mr. Lawrence's essay which renders it highly interesting.

The treatment of simple erysipelas must be modified according to the constitution of the patient and the degree of the local inflammation. Mr. Lawrence recommends general blood-letting in the young and robust only, local abstraction of blood by cupping or leeching being usually sufficient in the generality of cases. In addition to local bleeding, the patient is to be placed upon the antiphlogistic regimen. In a word, the plan which the author recommends is purely antiphlogistic, the same as that pursued in inflammation in general. But he admits, at the same time, that the practitioner is occasionally obliged to have recourse to stimulants and tonics. He must be guided here, of course, chiefly by the character of the constitutional symptoms. Tonic remedies are by no means incompatible with local abstraction of blood. In the treatment of inflammation, there are two points to be particularly attended to: the first consists in allaying the irritability of the system and in endeavouring to subdue that constitutional disturbance which tends to wear out the energy of the nervous system: the second consists in subduing the local malady, before it shall have time to run on so far as to produce such a change in the organization of the part as totally to destroy its function, or even its vitality. Now, the important question is, how is the general disturbance to be best allayed? Without reverting at present to the *modus operandi* of bleeding, we find that in inflammation, if the patient can *afford* to lose blood from a vein, bleeding tends more than any other remedy to subdue the constitutional derangement. But there are limits beyond which blood cannot be safely abstracted, because a certain quantity of this fluid is necessary to the support of all the tissues and to the performance of their several functions. We know that the mass of blood is being constantly reduced by the several secretions and excretions, and that it can be but very slowly renovated when so little nourishment is taken into the system as is commonly the case when the general functions are so much disturbed. If then we abstract so much blood as to leave barely sufficient be-

hind to carry on the functions of life, the mass will be further reduced by the causes already mentioned, and the organs will cease to perform their several offices. We are fully convinced that we have witnessed several cases of death produced by these causes. It is often a great object to take away as much blood as the system can well bear to lose; but if this be done, the energy of the constitution must be, at the same time, kept up by nourishing diet, and sometimes even by stimulants and tonics, otherwise it will sink for want of support. Sometimes the quantity of blood in the system, at the commencement of the attack, is no more than just enough to support the functions of the different organs, and would soon diminish so much as to be insufficient to do so, if not aided by stimulants and tonics. This state of the system may be accompanied by violent local inflammation, threatening to destroy the organization of the seat of affection. He who would resort to general blood-letting under such a circumstance, would soon find his patient slip through his hands.

But with respect to local blood-letting: an inflamed part of considerable extent deprives the general vascular system of a great proportion of blood. The calibre of the vessels in the seat of inflammation is much enlarged, so that the part constantly retains considerably more than its due share of blood. The support which this blood would impart to the system at large, if the fluid were equally distributed, according to the *natural* capacity of the vessels of the different seats, is now completely lost to it, whilst it is at the same time injurious to the part in which it resides. By bleeding locally, from the inflamed surface, we empty the vessels of that blood which is injurious to them, owing to its preternatural quantity, and, perhaps, owing also to its morbid condition; and we, by this means, afford their coats an opportunity of recovering their contractile property. We do this without reducing in any material degree the mass of blood circulating in the general system. Hence, as we before stated, local blood-letting, from the seat of inflammation, is perfectly compatible with the administration of nourishing diet, stimulants, or tonics, when these are found necessary to support the energy of the constitution.

If the extension of the local inflammation cannot be arrested by the application of leeches and cupping, we have still a very powerful means in our possession, namely, 'making incisions through the inflamed skin and the subjacent adipous and cellular textures, which are the seat of the disease.' It is in this that the peculiarity of the plan of treatment pursued by Mr. Lawrence mainly consists. 'These

incisions are followed very quickly, and sometimes almost instantaneously, by relief, and cessation of the pain and tension; and this alleviation of the local suffering is accompanied by a corresponding interruption of the inflammation, whether it be in the stage of effusion, or in the more advanced period of suppuration and sloughing. The redness of the skin is visibly diminished during the flow of blood from the incisions; in twenty-four hours it has generally disappeared, and the skin itself is found wrinkled from the diminution of the general inflammatory tension.' These incisions usually put a stop to the further extension of the local inflammation, and Mr. Lawrence says it has never failed to do so within his experience 'when the case has been a proper one for the practice, and the state of the patient has admitted of its being fairly tried.' There might be some difference of opinion respecting whether or not a case be a proper one for the practice. But no quibble can be raised upon this point, as Mr. Lawrence has given numerous cases to show which are proper and which are not.

Mr. Lawrence wishes it to be understood, however, that he does not advise incisions in erysipelas generally. He confines their employment to cases of the phlegmonous kind. Much will, of course, rest upon the judgment of the practitioner, whether incisions be requisite or not. It is important to decide quickly upon this point, and to make the incisions without delay when they are considered necessary. When the disease 'attacks the face, it is not attended with that serious inflammation of the subcutaneous structures which requires incisions.' The author thinks, however, that they may be advantageously resorted to in the eyelids, when the inflammation is severe. This practice, although alluded to by some writers, several years back, is indebted for its recent introduction to Mr. Copland Hutchison. There is this difference between the manner of making the incisions, as recommended by these two surgeons; viz. Mr. Hutchison recommends a number of incisions, proportionate to the extent of the inflammation, and about an inch or an inch and a half in length, through the skin and cellular tissue; whereas, Mr. Lawrence's plan consists in making *one* incision, extending from one boundary to the other, through the centre of the inflamed part. Dr. Dobson, again, recommends a great number of punctures to be made in the part affected, at a short distance from each other. These three modes of treatment appear to us to be founded upon precisely the same principle, namely, that of giving vent to the preternatural quantity of blood which distends the vessels in the seat of inflammation; and they appear to have proved equally suc-

cessful, from the account given of them by their several advocates. Each author, of course, thinks his own plan the best. This is very natural, if it has proved successful in his hands. Admitting that the three plans are equally efficient, the next question is, which is the most expedient. Looking at them impartially, it is our opinion that we ought to be guided mainly in this point by the situation and extent of the inflammation. When the face forms the seat of the inflammation, it is evidently of great importance to avoid incisions, which must, necessarily, leave scars behind, if punctures will answer the purpose as well. But when the disease is situated in a part generally covered by the clothes, we should prefer incisions, as they will give a freer vent to the congested blood.

When incisions are resorted to, it appears to us that their number ought to be determined by the *extent* of the inflammation. When it is of small extent, one incision, of some inches long, carried through the middle of the part, will sufficiently empty the vessels and relieve the limb of its tension. But sometimes the limb is inflamed all round, and to a very great extent. A single incision, extending from one end of a limb to the other, would present a terrible gash, and we doubt that it would afford the vessels the same facility of emptying themselves of their contents as a number of smaller incisions made in different parts of the inflamed surface would. By making a number of small incisions, the larger branches of the vessels may be avoided; for the efficacy of the practice cannot, evidently, depend as much upon the actual quantity of blood that may follow from the cut, as upon its being thrown out by the smaller vessels, whose coats have lost their contractility. If a large vessel be divided, the general system will be reduced by the loss of blood, without affording much relief to those which are preternaturally loaded. Indeed, the hemorrhage may be so profuse as to prove fatal.

Upon the whole, it appears to us that we ought not to allow ourselves to be prejudiced in favour of one of these plans more than the others, if they are found equally successful, and if the principle be the same in each, but to adopt that which may appear most applicable to particular cases. Whilst the local disease is thus treated, the constitutional derangement must also be attended to. The most valuable remedy in our possession for subduing inflammatory diseases, is mercury. This Mr. Lawrence highly recommends. Indeed, this will not interfere with the administration of other remedies, either antiphlogistic or tonic, as the case may require.

Mr. Lawrence, in the essay before us, relates thirty-eight cases of erysipelas. These are highly interesting; but having explained to our readers his views of the nature and treatment of the disease, we do not deem it necessary to insert any of the cases.

II.—*Commentaries on the Causes, Forms, Symptoms, and Treatment, Moral and Medical, of Insanity.* By G. M. Burrows, M.D. Underwood, pp. 716.

The human mind, under all its varied exhibitions, is an object of peculiar interest. A knowledge of it is essential to the proper regulation of every condition in society; it thus becomes an interesting object of study to the legislator, moralist, poet, painter and physician. Unfortunately, however, it has happened that, from the methods by which men have attempted to gain this knowledge, little progress has, till of late years, been made in this interesting pursuit. They have been seeking the shadow and forsaking the substance. They have been reflecting on the operations of their own minds, instead of studying the minds of others. They have shut themselves in their closets, and have walked wide in the regions of their own imaginations, instead of entering into the field of nature. They have not studied diseased as well as healthy mental manifestations; and, worse than all, they have discussed the *nature*, instead of examining the *organ* and the natural history of the mind. This last error has, perhaps, more than any other, impeded the knowledge of the mental principle. The immateriality of the mind has been made, most unphilosophically and irreligiously indeed, essential to its immortality, and thus religion has been brought in as an ally, where philosophy could have fought her own battles. We say unphilosophically and irreligiously, because the scriptures we suppose were not given to instruct us in *natural*, but in *moral* and *religious* truths, as the former could be learned from the book of the Creation; and because the idea that the soul cannot be immortal without being immaterial implies an unbounded knowledge of the laws of *matter*, which is not possessed, and it also intimates a doubt respecting the omnipotence of the Creator. Dr. Burrows, in his introduction, considers this as an impeding cause.

But further, this intangible mind, this divine particle, this great unknown, must have a habitation. Philosophers then disputed where it should dwell; each had his *own* opinion on the subject. One put it in the heart; another in the head; another in the lateral ventricles; another in the stomach.

Error leads to error; so it happened here. The mind being considered immaterial, to connect it intimately with the corporeal part of man was sacrilegious: hence, if it did inhabit these parts it was a visit of *grace;* a favour conferred; it was held by no earthly bonds; it was free and unshackled. Such proud notions induced other errors, and the morbid manifestations, mental derangement otherwise named, was considered, says our author, 'not as a disease connected with the grosser, or corporeal part of man, and within the power of medicine, but as a subject of abstract contemplation.'

In modern times, happily for mankind, we think somewhat differently. We have been led to believe that whatever the mind be, the organ through which it acts and by which it holds a communication with the external world is the *brain.* And the brain we consider as a *whole,* and, like every whole, made up of *integrant* parts, each of these parts having its separate functions. The exhibitions of the mind are now known as the effects of what are called *faculties;* just as the organs of these faculties are healthy or diseased, so will be the mental exhibitions. A knowledge of these faculties, or the philosophy of the mind, and of the localities of their organs, we consider essential to the treatment of insanity. Dr. Burrows thinks differently: we shall quote what he says.

'But it has been contended that this knowledge is indispensable to the treatment of mental derangement. That it will tend to correct the infirmities and erroneous perceptions of the mind must be conceded; and that a physician, thus qualified, will prescribe with greater success in all diseases where reasoning can have effect, is clear. But reasoning is a remedy rarely admissible with the insane.' The last sentence embodies a truth, and this truth, strange to say, has led Dr. Burrows into error. If a knowledge of the true philosophy of the human mind, enabling a physician to reason better with the insane, be all that it confers, we should think more lightly of this knowledge than Dr. Burrows does. This knowledge will enable the physician to detect where sanity ends and where insanity begins; will lead him to discover the first deviation from a correct state of mind; will cause him to refer this deviation to its proper source; will thus put it in his power to stop and to quash the invading foe; and should the progress of its invasion be great, this knowledge will enable him to excite other faculties of the mind, and, by keeping them in continual activity, relieve the excessive action of the particular faculty or faculties induced by the invasion. Finally, this knowledge will give him a *ratio symptomatum,* and a *ratio medendi* as well. Dr. Burrows, we say, is led into error by considering, that, because rea-

soning dependent upon a knowledge of the mind will not cure insanity, ergo, a knowledge of the mind is not absolutely necessary. Though our author has some correct views on the folly of talking much about the essence of the mind, and does not seem to make its immortality and all its other attributes depend necessarily upon its immateriality, yet the evil influence of this long cherished dogma seems to have extended to him, and to have confused his thoughts. For an example, let us take the following passages: 'The proximate cause of mental derangement can never be known till the nature and essence of mind be unveiled to mortal view.' (p. 8.) Then in the next page, when treating of the causes of insanity, we have the following—'The moral cause, therefore, is always the remote cause; the physical, the proximate, or that *state of the cerebral functions* which immediately precedes the peculiar action denominated maniacal.' In the first passage we are informed that the proximate cause will, it is likely, never be unveiled; in the second, that this is a physical matter, that it consists in a 'state of the cerebral functions.' Now, if it be 'physical,' surely we may discover physical matters, and if the cerebral functions are altered, we may perchance detect what changes take place in the cerebrum, the organ of these functions.' This apparent inconsistency seems to be dependent upon facts having possession of our author's mind, and tending to lead him to the light, of which he is so much afraid, since it would show the darkness of that mental philosophy which he seems to hold dear.

The work is arranged into six Parts, and the subdivisions are named *Commentaries.* In the first commentary, some very appropriate and sensible observations are made upon the MORAL CAUSES of insanity. There is one point which Dr. Burrows has done much to establish, namely, that moral causes induce physical effects, which, in their turn, become causes, and excite insanity. Illustrations are given, and they are well chosen. An opinion is broached by our author, that *joy*, more frequently than *grief*, produces madness. The reason is considered to be, that grief frequently finds relief in tears: 'tears being the natural solution of cerebral congestion and excitation.' This opinion is opposite to that of Esquirol: but our author supports his opinion by facts, and 'facts are stubborn things.' One may be noticed; it is, that, during the great commercial distress of 1825-6, there were fewer returns of insane individuals in the London district than in any corresponding period for many years past. If grief, therefore, were a frequent cause of insanity, as Esquirol maintains, an increase in the number of those

afflicted might justly be expected to have taken place in the above noticed state of things.

Dr. Burrows notices with accuracy the different effects on the circulation produced by different passions, a subject which seems to be too much neglected by medical men.

Our author then impugns the assertion of some, that insanity does not exist among savages. Dr. Burrows thinks that it is frequently connected with the advance of civilization; yet, that savages are not free, our author argues from the fact, that the natives of the Indian peninsula, who are very moderate in their diet, &c., are afflicted with this scourge. We are glad to find that Dr. Burrows is not one of those who appear so much in love with the uncivilized simplicity of barbarism. Let those who talk of the good old days, with respect to the progress of the arts and the sciences, remember that knowledge is a collection of facts, and that as the world proceeds, facts must accumulate; and that *art* consists in the application of knowledge, and that every new day discovers fresh applications. The good old days were perhaps the best with respect to moral truth, but when the phrase is used with respect to natural truth, he who adopts it, must be influenced either by prejudice or by ignorance.

The second Commentary is on *Religion in reference to Insanity.*

The first sentence is a most curious one: 'It has been disputed whether religion should be considered as a cause or an effect of insanity.' (p. 24.) What will the divines say to religion being an effect of madness? Surely Dr. Burrows does not intend to say what he does say. It must be some mistake; since every individual *in* his senses holds some one religion or other to be good. However, in the next page, an explanation is afforded: 'An accurate observer, the Chancellor de l'Hôpital, remarked, that religion has more influence on mankind than all their passions combined. Of this truth, the whole world is an illustration, and as there is no single passion, when excited to excess, that may not induce mental derangement, so we may readily believe, that religion, which influences the internal man more than the passions collectively, may be a cause of insanity; on the other hand, there is no doubt, that a lunatic may imbibe a religious as well as another hallucination, and yet be insane from a cause the reverse of religious. In the one case, however, it is a cause; in the other, an effect.' This explanation is not satisfactory. We do not believe that a person can be religiously insane unless he has had some previously exciting circumstance, or some predisposition to the affec-

tion, and therefore we should say, that, in some cases, religion may be a *cause;* in others, a *concomitant.* Accuracy of expression on matters like these is highly important; and it is on this ground that notice has been taken of the above.

This commentary is, notwithstanding, one that has afforded us much gratification in perusing. It abounds with moral sentiments and with interesting facts. The speculations brought forward in it have considerable plausibility, and will be read with pleasure. Dr. Burrows states that he 'never yet met with an instance of insanity from mere religious impulse, except where innovation had been attempted in an established belief, or where it had produced deep remorse in the breast of one who had sinned beyond hope.' This observation is made after the narrative of some cases of individuals becoming insane from the agitation of mind induced by new notions presented to them. Dr. Burrows would therefore impress on us the necessity of adhering to those religious opinions which have been established by early tuition in our minds. He looks upon innovation as a dangerous foe. A fact is mentioned, that, in catholic countries, where the priest thinks for, and enriches himself by, the people, very few cases of madness from religion occur. But the mind of man cannot now be bound by the shackles of mere opinion: the inductive philosophy has become the companion of the religious man, and he *must* consider the authority of this doctrine for that practice, and if the authority be insufficient, then he must change. If insanity is an attendant on change, it consequently follows, that it becomes a matter of the highest import for a man to think for himself at the outset.

The paragraph at the commencement of the third Commentary, on the *Physical Causes* of Insanity, embodies much truth: 'Many writers complain, that we have a multitude of cases of insanity, describing the ordinary symptoms of bodily disorder; but none that offer a clear, precise and satisfactory analysis of the mental affection. On the contrary, I believe that the greatest obstacle to the knowledge of the pathology of insanity has been the long prevailing error of studying the mental to the neglect of those corporeal phenomena, which are almost always cognizable.'

Dr. Burrows then gives a brief account of the labours of those who have turned their attention to the anatomy of the brain. Among these labourers in this part of the physiological field, Gall and Spurzheim are mentioned, and are stated to have made some discoveries in their dissections, upon which they found their 'peculiar system of physio-

logy,' otherwise called *phrenology*. This is quite erroneous. Gall had discovered several of the organs before he found out the way of dissecting the brain. Any one can be satisfied of this by referring to his work *Sur les Fonctions du Cerveau*. Our author falls into another error. He states that the phrenological, or, as he names it, 'the cranioscopal system, seems founded on Galen's idea of the brain, amplified and extended by a fertile imagination.' Galen, be it remembered, assigned, fancifully indeed, to different parts of the brain different functions. But to reply: Suppose a child to take up an outline of a map of Europe, and to divide it into several parts according to his fancy, and suppose a geographer, by long travelling, and careful observation, divides the map into proper compartments, agreeing with the real division of this quarter of the globe, would any one say that the geographer's system was the system of the child, 'amplified and extended by a fertile imagination?' The application we leave to our readers.

Our author then laments the dangerous tendency of the influence of the eloquent pen of Mr. Combe; and because this gentleman points out the inconsistency of those who maintain that the brain may be almost destroyed and yet have its functions unimpaired, on the ground that this does not take place with any other organ of the body, the following question is put: 'But can any comparison be endured (!) between the divine immaterial function of the brain, and the palpable and material functions of the other parts of the body?' We can guess what Dr. Burrows means by 'divine immaterial functions;' but surely this is a celestial thought: it does not pertain to this earth. Since, below, we have functions attached to organs only; and if these organs be healthy, the functions are sound; if unhealthy, not sound. Life acts through all the organs of the body; and they too must therefore have something immaterial about them. But this query we excuse, because the newness of the phrenological subject, no doubt, makes our author fear lest he shall have his faculties disturbed by being led out of the old channel, and, hence, like an ostrich in danger, he runs his head into the hedge.

Our author next objects to another opinion of Mr. Combe, that the phrenologist must treat insanity best, because he knows most of the mind, and because insanity admits of much alleviation from moral treatment. The argument to refute this is very poor: namely, that other diseases are benefitted by moral treatment—as much as to say, that Mr. Combe denies this. All that is said is, that as insanity refers to the mind, he that knows the laws of the mind most

perfectly, will certainly have an advantage over him who knows them imperfectly. We are afraid that the organ, called by the phrenologists, self-esteem, was active when the paragraph referred to was penned by our author.

Dr. Burrows then kindly intimates that he will not be so presumptuous as to assert that the phrenological system is altogether one of error, and yet, with the greatest coolness imaginable, he adds, that he must 'oppose to phrenology the general objection to the reasoning of lunatics (!!), viz. that the arguments are very ingenious and often logical, but, the premises not being proven, the conclusions are sophisms.' A slight contrariety is perceptible we should imagine! To prove that the premises are not 'proven' we are favoured with a tale; the true particulars of which will be found in the next Number of the Phrenological Journal. We conclude, from what we know, that Dr. Burrows has had the story second-hand, and we would beg to remind him, and all second-hand story-tellers, of the schoolboy tale of the gentleman who vomited three black crows.

We are glad to find that Dr. Burrows gives to Dr. Marshall the credit of being the first in this country who turned the attention of the medical public to the study of the pathology of the brain. He maintained that the brain is materially affected in mania; which opinion, let it be remembered by those who are at the nod of some great name, 'was rudely attacked by the celebrated physiologist, John Hunter.' Dr. Haslam confirmed Marshall's opinion by his dissections of the brains of maniacs. A discussion, it is stated, then arose whether these affections are to be considered as causes or as effects. Much has been said on both sides, and the subject seems involved in much difficulty; the difficulty being, in a great measure, dependent upon the continual play upon these two important words, *cause* and *effect*. Sometimes insanity occurs after a long-continued derangement of some particular viscus, and the affection of the brain found after death has been considered as the effect of the insanity and induced by the derangement of such viscus. This we hold to be erroneous; we would say that in certain individuals there is a peculiar condition of brain which these affections of other organs call into activity, and when called into activity, leads to manifestations, called in the aggregate insanity. Insanity in such a case is a *concomitant*, and the peculiar condition of the brain is the *cause* why the affection of another organ has led to the morbid manifestations of the particular faculty or faculties of mind, the organ or organs of which are diseased

But some have objected, that in many cases of insanity no

change can be discovered in the structure or condition of the brain. This objection indicates much conceit on the part of those who start it; and it is well replied to by Dr. Burrows. He says, 'but we ought not to presume, because there are no visible marks of a morbid condition of the brain or its appendages, that, therefore, the whole are in a perfectly healthy state. Where is the anatomist who will dare maintain, that a brain is free from disease or structural change, because, after the most minute inspection, he cannot discover any?' Dr. Burrows then points out those cases wherein we are not to expect any perceptible change; as transient insanity; and asks with great propriety, 'Is not the human body subject to, and influenced by, peculiar diatheses? Will the scalpel detect the apoplectic, hydrocephalic, scrofulous, or gouty diathesis? The testimony of Morgagni, Cheyne, Abercrombie, Powell, Stark, &c. prove that death from apoplexy frequently occurs, and yet no evidence of cerebral lesion has been discovered on the minutest investigation of the brain.' All the remarks on this subject are excellent; they indicate considerable ingenuity of mind in taking up those little facts, which are so useful in showing the futility of objections. Indeed this part of Dr. Burrows's work has great solidity of judgment displayed in it; he here wields the baton of truth like a true warrior, and succeeds in crushing those children of error that have tended so much to impede the progress of science. We recommend the whole to those who will not believe any thing but what they see; and to those who are prone to believe, we recommend the same, as affording them a *reason* against their sneering adversaries.

Dr. Burrows then proceeds to mention the different causes of insanity enumerated by different authors; among the many writers whose views are noticed, Bayle is mentioned, as one who has brought to light a species of insanity, which he calls *chronic meningitis,* in which *ambitious* ideas prevail. Dr. Burrows makes a remark on this (taken in connexion with the fact that the inflammation is extensive), which shows his complete want of knowledge of a subject with which he had previously shown his non-acquaintance. 'As the organ of ambition,' says he, 'self-esteem or love of approbation is said to present but a point on the convexity of the hemispheres, and if the manifestations of this organ depend on a state of health, and the inflammation extends over the whole surface of the membranes, how is the function in such case to be preserved?' We are certain that the 'eloquent pen of Mr. Combe,' and the clever demonstration of the brain by Dr. Spurzheim, have not communicated much

knowledge to our author; since Mr. Combe maintains that the organ of the love of approbation is separate and essentially different from that of self-esteem; and, although Dr. Spurzheim shows a convolution corresponding to each, yet Dr. Burrows confounds the one with the other. Again, all phrenologists maintain that a cerebral organ has healthy and diseased manifestations, according to its healthy or morbid condition. Dr. Burrows intimates that this organ can have no action except when in health, showing that he is still in his noviciate with respect to that science of the human mind which claims to be the means of promoting the cure of insanity. We make these remarks because we cannot help regretting that a man of some talent should sit down in complacency and treat, with little short of ridicule, a subject, of the first principles of which he knows only just sufficient to excite a smile. We admire many parts of Dr. Burrows's work; to these we give the character they deserve; there are others worthy of censure.

Dr. Burrows discards the notions of Cullen, Crichton, and Good, respecting insanity being a pure disorder of the nerves. Other notions are mentioned to be refuted, and the numbers that have been broached are useful to show, that investigations, however diligent, are generally in vain without the guide of the polar star of medicine, physiology. We must have a correct physiology of mind, before we can have a correct pathology of it. We must know what health is, before we can tell what disease is.

We shall conclude the consideration of this commentary by quoting the following passage: 'Scrofula very frequently extends to the brain, and then incurable insanity commonly follows. Now, many physiologists insist that this organ is a gland, and when scrofula attacks the glands, we know that it renders them unfitted for the particular function assigned to them. Cannot the brain be affected by scrofula in the same way? This is certain, that insanity grafted on scrofula is always very obstinate, unless it finds a solution in the suppurative process. Mania alternating with the enlargement or diminution of the maxillary and submaxillary glands, and other cases where the induration of them always occasioned great mental excitement, sometimes occurs.' (p. 96.) We know families in which scrofula abounds, and in which a disposition to insanity exists, and among the individuals of these families, some have been insane, some not: those exempt, however, had invariably some discharge from a suppurating gland, whereas those who were insane, exhibited no scrofulous symptoms, except the general characters indicating the scrofulous diathesis.

Moreover, we have known those individuals exempt from insanity, to be attacked when the suppurative process was put a stop to. In these cases the plan to be adopted is, in the first, to establish, and in the last, to renew, the discharge.

The next Commentary treats of *Hereditary Predisposition,* in which nothing new is stated. The fact that such a predisposition exists is established; the backwardness of individuals to acknowledge this predisposition is reprehended, and intermarriages among the branches of the same family is stated as a very powerful favouring cause. Eccentricity approaches and passes to insanity, according to our author; and therefore many of our eccentric, talented practitioners should be on their guard respecting how they act.

We have stated that Dr. Burrows often aims a blow of vengeance at the doctrines of phrenology; but, strange to say, in a passage in this commentary he acknowledges indirectly one of the fundamental principles of the science. At p. 109, he thus writes: 'Derangement of the mental faculties is not to be expected before those faculties are sufficiently developed which synthetically constitute a perfect mind.' What does the phrenologist say more than that the mind as a whole is a synthesis of faculties? Now, Dr. Burrows acknowledges the mind to act through the brain as a whole. Surely if the mind can be *synthetically* considered, it may be also *analytically;* and if it has different faculties, why may it not have individual organs for these separate faculties. Truth will appear: it produces confessions, perhaps unnoticed by the individual confessing, but perceived by those to whom he confesses.

In the fifth Commentary, the author considers the relation between the vascular and nervous systems. He is of opinion that health, both corporeal and mental, depends upon the equilibrium of these two systems; or if the equilibrium be disturbed, the disturbance must be not of long continuance, or else mania or some affection will ensue. Dr. Caleb Parry is noticed as having shown the effect of disorders of the sanguiferous system in relation to insanity; and Dr. Burrows maintains that the mutual dependence of the nervous and vascular systems is such, that neither can receive 'an insulated impression.' There has been, perhaps here, a mistake of the printer, or Dr. Burrows's words and meaning are at variance with each other. Any system that is insulated can receive an impression; but for the two systems so intimately connected together *insulatedly* to receive an impression is almost impossible. This we imagine is what our author intends to be understood. In illustration of this connexion, the opinion of Dr. Philip is quoted, that the power of the

blood vessels may be destroyed by affections of the nervous system; and it is stated in addition, that too great a flow of blood, as in sanguineous apoplexy, will destroy the nervous power. Dr. Burrows thinks that a great determination of blood to the head is generally connected with mania, and in proof of this opinion he quotes some of our most respectable authorities. Sometimes, however, the debility consequent upon increased action is subversive of the mind. The influence of vascular excitement on mental derangement is shown by the statement of Bayle, that '79 out of 127 lunatics were of the sanguineous temperament, and three only of the nervous.'

In the sixth Commentary the subject of the *Disorders of the Circulation* is entered upon more fully; the effects produced when the blood is *excessive* in quantity or momentum being first noticed. Our author points out the difference between plethora and determination of blood; the former is the effect of the blood being sent with a velocity, either natural, or greater or less than natural, and being obstructed by some cause; the latter is occasioned by the blood being sent to the brain with a preternatural velocity, but at the same time readily returned. The latter frequently, according to our author, produces insanity: the former rarely, except as a sequel of some other disease induced by this state.

'No symptom,' says Dr. Burrows, 'is so uniform in all incipient or recent cases, whether of mania or melancholia, as a preternatural heat of the scalp,' and to this we may add an observation of a physician, who had the best opportunities of observing insanity under all its forms, that this heat has particular localities, and that these localities are those of the organs, which, from the symptoms, would be considered as diseased by the phrenologist. Perhaps Dr. Burrows will hereafter tell us more about this matter. We can ourselves add one testimony to similar facts.

According to this view of the influence of the blood going to the brain with increased momentum, in inducing insanity, may be accounted for the result of Parry's experiments, in which it was found that by compression of the carotid arteries in maniacal patients, the attack of the paroxysm was suspended. And showing this determination as the fact that the carotids often beat much more quickly and with more force than the radial artery.

The author in this commentary makes an important practical remark, namely, that 'Very delicate young females are more subject to cephalic pains than the more robust and plethoric, often arising from excessive determination to the

head. But from their appearance, such a cause being unsuspected, a stimulating plan of treatment is often adopted; and hence insanity is a frequent consequence.'

The activity of the brain induced by accelerated circulation, is shown (in further illustration of the general principle of the increased momentum of blood being the cause of insanity) by several cases where idiotic and fatuous individuals have gained during fever their powers of mind, and have exhibited intellect. We think Dr. Burrows's explanation of this fact to be good; and we can tell him that it is *perfectly phrenological.*

In the second part, the effect produced when the blood is *defective* in quantity or momentum are considered. Demency and fatuity are stated to be connected with this condition, and Sydenham is brought forward as mentioning a peculiar species of mania, the sequel of inveterate intermittent fevers, and which would not yield to plentiful venesection and purging; slight evacuations producing the relapse of a convalescent, while violent ones inevitably rendered the patients idiotic and incurable.

In cases of mania connected with this state of the sanguineous system, a peculiar pallor of the skin, and extreme emaciation, are present.

(To be Continued.)

III.—*Traité des Maladies du Foie—Treatise on the Diseases of the Liver.* By Auguste Bonnet, D.M.P., &c. &c. Paris, 1828.

Physiologists tell us that we should not be encumbered with such a large and weighty organ as the liver, were it not of *some* use in the animal economy. In this opinion we agree with them, because we think that Dame Nature would have got tired before this of the frolic of making such an excrescence grow in the sides of so many animals, both biped and quadruped, were it not intended for some purpose; but why she should make it so bulky, we do not know, unless it be to enable it to devour a greater number of 'bilious' and '*anti*-bilious pills', thereby contributing to fill the pockets of quacks. This organ, from its inveterate habit of showing its anger upon almost all occasions, is no small plague to its possessor. It happens, very unfortunately, that it has an intolerable aversion to every thing for which its neighbour, the stomach, has a liking; thus the two are almost constantly growling at one another, and refusing to comply with each other's orders. It is true that the liver may be pacified now

and then by an emetic or a blue pill, but these the stomach detests; and it soon shows its displeasure, and will not be quieted unless we coax it with a little stimulus, to which the liver has, again, a very strong aversion. Upon the whole, it is no small misfortune that two beings, endued with propensities so opposite, should be destined to reside so near each other.

For our own part, we think that the liver is often accused of offences of which it is not guilty. At any rate, we cannot help considering it absurd to attribute the source of almost every malady, as some pathologists are apt to do, to a derangement of the function of some one particular organ. There is nothing more probable than that the liver and the stomach, when disordered, give rise to disorder in the other seats, because the chain of causation, as regards the mutual dependence of the different organs, is broken, consequently, every function in the body, in all probability, becomes more or less deranged, although the derangement be so trifling in some of them, as nearly to escape the feelings of the invalid. But why the cause of almost every disease should be attributed to errors of the stomach, of the liver, of the brain, or some other organ, as it is by the several advocates, who fix always on one particular viscus, in preference to the rest, is difficult to be accounted for. Observation could never lead to such an opinion. Observation proves only a mutual dependence of the organic functions, and that whichever function becomes first deranged, a disorder of the rest follows. A blow on the head deranges the functions of the stomach and of the liver; a fracture of a limb will do the same thing. On the other hand, if we take indigestible substances into the stomach, the cerebral functions become disordered, or the callus uniting a fracture, or the granulations filling up an ulcer, may become suddenly absorbed. If a malady gives way under the use of blue pill, it is sure to be attributed to the liver, as if blue pill did nothing else in the system than promote the secretion of bile.

M. Bonnet divides his work into five principal heads: the first treats of the Signs or Symptoms of irritation of the liver; the second, of its Terminations; the third, of its Causes; the fourth, of its Prognosis, and the fifth, of its Treatment. The author thinks that there are two shades of irritation of the liver which do not amount to actual hepatitis. These he calls 'the first degree of hepatic irritation.' In the one, the augmentation of the organic action is not considerable enough to deserve the name of inflammation; in the other, it amounts to inflammation, but the morbid congestion which attends it is not sufficiently intense to present the distinctive

characters of hepatitis. We cannot perceive any great benefit which can result from resolving hepatic irritation into these nice shades. They are only different degrees of the same derangement, and, for any thing we know to the contrary, there may be a hundred degrees between them. M. Bonnet admits that it is difficult to distinguish even an over-excitement of the action of the liver by its symptoms, as these are neither very numerous nor easily recognised. It would be more difficult to determine the exact degree of that over-excitement.

M. Bonnet, like many more, runs away with the (in our opinion) foolish idea, that the sum of vitality with which an organ is endowed, is much greater when the function of that organ is deranged than when in the natural state. If we consider, says he, that the derangement of the function of an organ always indicates that the sum of vitality which it possesses is greater than in the natural state, we shall find no difficulty in admitting that a secretion of bile, more abundant than customary, denotes that the liver suffers from irritation. The point upon which M. Bonnet errs is, that he overlooks the circumstance that the bile secreted so abundantly when the liver is disordered in function, is diseased, and not healthy, bile. If he can show us that the liver secretes at any time a superabundance of healthy bile, then we shall admit that the sum of its vitality is greater than in the natural state. It appears to us preposterous to suppose that an abundance of life can produce disease. The inference appears to be, that, when an organ is in a state of disease, or irritation, which is only an inferior degree of disease, the condition of its vital properties has undergone a change, and these properties have become modified into a state different from the natural. If it be a secreting organ, the amount of its actual secretion may increase or diminish, according to the nature of that change; but it will be only an unhealthy secretion, differing from the healthy, as much, perhaps, as water does from the juice of the grape. How this can prove an augmentation of life in an organ in such a state, those who maintain that supposition ought to explain. If we are to judge from the effect, the change is always that of decrease or diminution, in that respect, for the tendency of every disease is to produce death, or some other anormal alteration of the seat in which it resides.

The distinction which M. Bonnet points out between the signs of irritation of the liver, and inflammation of that organ, regards chiefly the duration of the hepatic disorder. He remarks that, if the bilious symptoms have been of only short standing, there is, generally, only a slight exaltation of

the vitality of the organ; whereas, on the contrary, if the biliary derangement has been of long duration, or when the right hypochondrium is tender on pressure, the hepatic irritation has passed into a state of inflammation. This is assuming, in some measure, that inflammation of the liver cannot take place suddenly, like that of other organs, but that it is always preceded, for a time, the duration of which is not specified, by irritation, or what he calls an exaltation of the vitality of the viscus. This is, undoubtedly, frequently the case, according to the view which our author takes of hepatic derangement; but not unfrequently, especially in tropical climates, this organ shows itself liable to be suddenly attacked with inflammation, like other tissues. The symptoms, however, which M. Bonnet considers as distinguishing the two shades of irritation, appear to us too equivocal to be relied on. They apply only to the extremes. In truth, we cannot draw a line where irritation simply, or the 'exaltation of the vitality of the organ, ends, and where inflammation begins. Neither the symptoms during life, nor examination after death, will prove this point. The inference to be drawn from this is, that the disease is often the same whether it manifests itself by an 'exaltation of vitality,' or by inflammation, the difference being only in degree.

M. Bonnet treats next of the signs of *acute* inflammation of the liver. He offers here some very ingenious remarks on the symptoms which have been considered by Pinel, Frank, and others, as indicating inflammation of different portions of the organ. His opinion is, that the parenchymatous tissue is seldom alone the seat of acute inflammation, but that the digestive tube and the peritoneum partake of the disease; that the group of symptoms which have been noticed by different authors as denoting acute hepatitis, are representations of *gastro-hepato-peritonitis.* In support of this opinion, he recites several cases.

The symptoms which have been considered indicative of inflammation of the convex surface of the liver are: superficial, acute pain, similar to pleuritis; this increases during inspiration, cough, or pressure applied under the false ribs, and it extends to the chest, neck and shoulder; the right hypochondrium is tumefied, and decubitus on that side is impossible; respiration difficult, accompanied with dry cough, and sometimes with hickup. When, on the contrary, the concave surface of the organ is inflamed, the pain is principally felt towards the vertebral column, and it extends from thence sometimes towards the posterior part of the chest, as in dorsal pneumonia; and sometimes towards the loins, especially the right, where it has often been mis-

taken for nephritis of the right kidney; the tongue is red at its edges, and greenish yellow in the middle; there is nausea; vomiting of bile; tension of the epigastrium and right hypochondrium, and, commonly, jaundice; hickup; decubitus on the left side very painful; the urine presents various aspects according to the stage and intensity of the disease; it is pale during the first days if there be no icteric symptoms, but yellow when these are present, and it assumes a reddish colour as the disease advances. The alvine excretions are sometimes suppressed, and sometimes they are of a greyish clay colour; at other times acrid bile is secreted in great abundance, rendering the motions fluid and sanguinolent, and attended with colic pains. The pain is obtuse and deep-seated in the right hypochondriac and epigastric regions; there is a sensation of fulness at the epigastrium, of anxiety and suffocation.

M. Bonnet does not think that this difference in the symptoms depends merely upon the different surfaces of the liver being affected, but that the one class depends upon inflammation of the parenchyma of the organ and of the peritoneum, and that the other indicates gastro-enteritis, complicated with affection of the liver. When the symptoms which indicate inflammation of the peritoneum and of the superficial structure of the liver are developed, they are always accompanied by those which denote a preternatural secretion of bile, and, in the more advanced stage of the disease, by those of gastro-enteritis. When the irritation commences in the digestive tube and the corresponding part of the liver, the peritoneal tissue always participates more or less in the disease.

The author then goes on to treat of the symptoms of chronic hepatitis. These he describes very minutely, from the first indication of derangement of the biliary functions to the most inveterate form of the disease. The symptoms upon which he places the greatest reliance are—1st, bitterness in the mouth; yellow fur on the tongue; taste of bile; bilious stools; yellowness of the urine; and of the lips and alæ nasi. 2nd, When the disease has made further progress, there is a feeling of anxiety; uneasiness in the right hypochondriac region; dull, deep-seated pain in the right side on pressure. 3rd, When the disease is in a more advanced stage still, and when, consequently, it is communicated to the peritoneum and the digestive tubes, the symptoms are those already described when speaking of acute hepatitis. The signs which appertain to proper inflammation of the hepatic parenchyma, M. Bonnet considers to be, dull, profound pain, answering generally to the hypochon-

drium, but having its seat sometimes in the epigastric region, or in the left hypochondrium, and accompanied by a sense of anxiety, of fulness, and of suffocation; the patient feels a difficulty, and often an impossibility, of lying on his left side; there is bitterness in the mouth, yellowness of the tongue, and a yellowish tint of the skin and eyes; the stools are white sometimes; at other times the alvine excretions are bilious, acrid, and more or less abundant; the urine is yellow, small in quantity, having an oily appearance, and depositing a lateritious sediment. But those which are to be regarded as pathognomonic of chronic hepatitis are, pain and augmentation in the volume of the liver.

Chronic inflammation of the liver often extends to the adjoining tissues; and the author describes the symptoms which denote the particular tissues which may be involved in the disease. Our limits will not permit us to offer any remarks on this subject.

We next come to the terminations of disease of the liver; and first, the termination of simple hepatic irritation. We are told that hepatic irritation, though in its first degree, may terminate by hypertrophy or by obstruction of the liver, and this hypertrophy may be general or partial. The difference between hypertrophy and obstruction, according to M. Bonnet, is, that, in the former, the organ acquires an addition of life, a more considerable development; whereas, in the latter, its volume is not only augmented, it is also disorganized.

Acute hepatitis may terminate by resolution, by suppuration, by metastasis, by sanguineous engorgement of the tissue of the liver, by gangrene, or it may pass into the chronic form. In a word, the terminations of acute inflammation of this organ are the same as those of acute inflammation of other parts.

Chronic hepatitis may run into suppuration; into fatty degeneration of the liver; into tubercles; into melanosis; into cirrhosis; into encephaloid scirrhus; into encysted dropsy; into hydatids, or into an emphysematous state of the hepatic parenchyma.

The author offers some remarks on each of these terminations, through which we do not find it necessary to follow him; we shall therefore proceed to consider the third division of the work, where the causes of hepatic diseases are treated of.

M. Bonnet is of opinion that the causes which tend to produce idiopathic irritation of the liver are very few. They consist chiefly of external violence, such as blows on the side, wounds, falls on the feet, knees, or nates, &c. All the

causes of hepatic irritation, with the exception of these, and the like, are secondary, and proceed either from gastro-enteritis or from peritonitis. He remarks, that the greater number of authors have maintained, that living under the influence of a burning sky is one condition which contributes materially to the development of diseases of the liver; but that the truth is, that these affections are very common in some countries, such as Egypt and the East Indies, and that they are not owing to the direct influence of the heat on the organ. The most common effect of an elevated temperature is to render the alvine passages very excitable, and to contribute eminently to gastro-intestinal irritations. These irritations, once established, extend to the neighbouring tissues; hence the cause of the frequency of hepatitis in hot countries.

This is M. Bonnet's opinion, but it does not follow that it is the fact. He should have given the reason which induces him to attribute the original derangement in all instances, under the influence of hot climate, to the digestive tube, more than to derangement in the function of the liver; this he does not. From the history of intertropical diseases of the abdominal viscera, and the appearances after death, there is reason to believe that the priority of affection is sometimes on the part of the liver, and at other times on that of the alimentary tube.

Among the causes of hepatic irritation enumerated by the author, are, immoderate eating, which leads to hypertrophy of the liver; scrofula and syphilis; intermittent fevers; stimulating food; sedentary habits; suppression of the cutaneous perspiration, or the repulsion of cutaneous diseases. These causes, particularly the suppression of perspiration or the repulsion of exanthematous maladies, far from modifying directly the hepatic parenchyma, always operate by first producing gastro-enteritis, or peritonitis, one or the other occurring according to the predisposition of the subject, his regimen, his habits, his constitution, or according to the state of the atmosphere. M. Bonnet is of opinion that the known sympathy subsisting between the skin and the mucous membrane of the alimentary tube and the peritoneum, constitutes sufficient proof in favour of the opinion that these tissues are the first which are subjected to the irritation, and that the affection is communicated from these to the liver. We may be allowed to ask for some proof that the mucous membrane of the digestive tube has a more intimate sympathy with the skin than that which lines the biliary ducts has. The fact appears to be, that all the mucous membranes sympathize very readily with the outward

covering of the body; it is therefore much more probable that the lining of the biliary conduits becomes affected, when any check is given to the perspiration, than that the irritation is transferred from the skin to the peritoneum. The relation between the external covering and the serous tissues does not appear to be particularly intimate.

After discussing these various subjects, M. Bonnet arrives at the conclusion, that the most frequent cause of hepatic irritation is gastro-enteritis. Primitive or idiopathic inflammation of the liver is generally of the acute character. Consecutive hepatitis, on the contrary, assumes generally the chronic character at its commencement, or, if it begins in the acute, it frequently passes into the chronic, form.

M. Bonnet is not without his share of vanity. Fearing that his readers might not sufficiently appreciate his talent and ingenuity, he lets them know that this subject was never treated before so extensively, and, if he is not mistaken, in a manner so satisfactory. 'Telles,' says he, 'sont les idées que je professe sur le mode de production de l'irritation hépatique. Personne avant moi n'avait traité ce sujet avec plus d'étendue, et, si je ne me trompe, d'une manière plus satisfaisante; je n'en excepte pas même M. Broussais.' (p. 123.) We shall give M. Bonnet the credit of having treated his subject with a good deal of ingenuity, but we suspect that his own imagination forms the seat of gastro-enteritis much more frequently than the digestive tube of his patient does. We are far from maintaining that the function of the liver is never deranged in consequence of gastro-enteritic irritation. On the contrary, there is reason to infer that the function of this organ is frequently modified by the condition of the mucous lining of the alimentary canal, although the proof brought forward in favour of that opinion is seldom conclusive. The mistake which we are desirous of pointing out, is that of attributing almost every malady to irritation, or some other affection, of one particular organ, or tissue. If we lived by food alone there might be some reason for believing the digestive organs, especially the stomach, to form the original seat of disease in the majority of instances, because substances which would pass through this organ without creating any disturbance would probably run through the rest of the system without producing much mischief. But when the system is subject to the influence of numerous other causes, comprising the air which we breathe, in various states of modification; heat and cold, as well as many more causes which contribute to increase, or check, the natural perspiration, thereby preventing the system from giving exit to that, which, when

retained, becomes noxious to some part of it, if not to the whole, we have no reason, *à priori*, to suppose one organ to be much more subject to disease than another. This attempt to confine the origin of almost every disease to the stomach, to the gastro-intestinal mucous membrane, to the liver, or to some other organ or tissue, according to the fancy of the practitioner, forms one of the greatest obstacles to the advancement of inductive pathology. It tends materially to confine our views of the nature of disease generally. The supposition is, in fact, quite contrary to the result of observation. It is founded upon an imaginary relation between seats which have, in reality, no other relation than that which depends upon similarity of tissue, or upon nervous communication, like the rest of the system. But to proceed.

We shall offer no remarks upon the author's prognosis, but shall go on to the chapter wherein he speaks of the treatment of hepatitis.

Upon this subject, M. Bonnet remarks that, the first degree of hepatic irritation does not require any particular treatment. As he believes it to depend generally upon some derangement of the mucous membrane of the digestive canal, when this is removed, that of the liver will disappear at the same time. However, we are rather doubtful upon this point, for when a part has become sympathetically diseased or deranged in function, it is not always sufficient for its recovery, that the part from which that disease was communicated to it should be cured. A person receives a blow or falls upon the head, which stuns him; the cerebral concussion, in some way, of which we are ignorant, produces inflammation of the liver. The brain may recover its functions perfectly, and lose all the effects of the accident; the disease of the liver will, nevertheless, often go on to form an abscess in the organ, from the effects of which the patient dies. The original cause is here removed, or has ceased to exist, still the disease, which was at first sympathetic of an affection of another organ, runs through its career just the same as if it had been idiopathic. The fact appears to be, that, when the condition of an organ has become modified into a state of disease, the career of that disease will be the same, provided the malady itself be of the same nature, whether its origin was what is generally called spontaneous, or whether it was communicated from another seat. The condition of the organ may return into a state of health, or it may deviate more and more from that state.

The treatment which the author recommends for acute hepatitis consists of blood-letting, local or general, or both, according to the circumstances attending the case; of absti

nence; of the administration of castor oil, or mild saline aperients; of cooling, acid drinks, and of emollient lavements. He recommends also emollient cataplasms and fomentations to be applied to the hypochondriac region, and the tepid bath to be employed. The local bleeding is to be effected by means of leeches, for he thinks that the application of cupping-glasses and blisters is contra-indicated in acute hepatitis. He combats the notion that leeches applied to the verge of the anus can have much the effect of diminishing the quantity of blood going into the vena portæ, when the loss does not amount altogether to more than a few ounces, and that takes place in a very slow manner.

There are circumstances connected with the liver which tend materially to modify the characters of its diseases. We are not aware that it has ever been determined whether inflammation of the organ owes itself to a change in the condition of the branches of the hepatic artery, or of those of the vena portæ; or whether it does not sometimes depend upon the one and sometimes upon the other. Hepatitis, especially in temperate climates, assumes generally the chronic form. Does this circumstance depend upon the small size of the hepatic artery in proportion to the bulk of the liver? or is it owing to the inflammation of this organ being of a venous, instead of an arterial, character? It appears very probable that the vena portæ takes upon itself the function of an artery in part only, namely, in secreting the bile, and that the growth and preservation of identity of the liver are dependent on the hepatic artery. It is unnecessary, at present, to examine the proof for and against this opinion, which is almost an universal one.

The question, whether inflammation of the liver depend upon arterial or upon venous congestion, must be decided by inference, founded upon our knowledge of the properties of the coats of the vessels, and upon the product of the inflammation. Now, the coats of the vena portæ resemble those of a vein, more than of an artery; and a small degree of internal pressure is capable of increasing its calibre very considerably, owing to the yielding property of these tunics. As the condition of the extreme arteries necessary to exhibit the appearances of inflammation consists in a relaxation of, or a loss of contractility in, their coats, were this analogy applied to the vena portæ, its branches would be liable to fall into a state of dilatation whenever any obstruction of the circulation took place in any part of the hepatic or of the pulmonary circulation. We find that the mere weight of the column of blood is sufficient to increase the calibre of the venous tubes; it is therefore probable, from analogy of tex-

ture, that a slight degree of obstruction to the current would tend to enlarge that of the vena portæ. From this circumstance, its extreme branches would be very frequently liable to enlargement, and, consequently, to inflammation and its effects, if inflammation consist in an increased calibre of the capillary tubes. The arterial capillaries are not so subject to these variations; they do not give way to the internal pressure of the blood, even when a complete obstruction has taken place, unless they have lost a part of their natural contractile property. Whenever they do this, they exhibit the appearances of inflammation, and all its consequences follow, unless a resolution takes place, which may be said in some respect to consist in the vessels resuming their contractile power. This variation in the calibre of the extreme arteries, both from health, and back again to their natural state, is always very gradual when no local stimuli are applied to them; whereas the diameter of the venous branches may constantly change without exhibiting any signs of disease. These facts would lead us to infer, so far as any analogy can be traced between the vena portæ and other veins, that inflammation of the liver is not connected with the branches of this vein, but with those of the hepatic artery.

Again, let us look at the product of hepatic inflammation. It sometimes forms abscess. We have no proof that pus can be formed from venous blood. That found in the interior of inflamed veins is probably the product of the arterial blood supplying their coats. But it may be replied here, that we find no other instances of any sort of secretion derived from venous blood. Another product of the inflammation is enlargement of the liver. We should suppose that this enlargement can only depend upon some deranged function of the vessel which *nourishes* the organ, and this is believed to be the hepatic artery. In fine, any morbid change in the *structure* of the viscus is probably referrible to the secerning, and not to the secreting vessels. The fact, that disease of the liver produces ascites, may be accounted for by supposing the branches of the vena portæ to be compressed in consequence of hypertrophy of the organ, or of any deposition producing an induration of its texture, without supposing that deposition to be laid down by these branches themselves. Our limits will not permit us to follow this interesting subject further. Our object is merely to throw out a few hints for the consideration of those who are desirous of tracing disease to its real source.

It is not necessary to say more respecting M. Bonnet's treatment of chronic hepatitis, than that it differs only in degree from that recommended for the acute form of the

disease. 'One of the principal causes of the little success obtained hitherto in the treatment of chronic hepatitis, consists in the practice of combatting it by a multitude of remedies, such as calomel, scammony, and other resinous gums; extract of the water trefoil, carbonate of potass, squill, hellebore, rhubarb, turpentine, soap. These medicinal substances, which figure in the first rank among the therapeutic agents called attenuants and deobstruents, have the special property of irritating the digestive passages, and by consequence, cannot be otherwise than injurious.' M. Bonnet is determined, one would think, to huddle together a multitude of remedies, good and bad, in order to show his skill in annihilating them all with one stroke of his pen.

In the last part of the work before us the author treats of passive sanguineous congestions of the liver. We shall probably take further notice of this subject at some future period.

ORIGINAL COMMUNICATIONS.

I.—*Of the Medicinal Properties of Leontodon Taraxacum.*

By Joseph Houlton, Esq., F.L.S., &c.

It is to be regretted that the opinions of medical practitioners of eminence and talent should be at variance respecting the medicinal properties of some of those articles in the materia medica which are in constant use. To the same article different practitioners will attribute, not only very different, but opposite, qualities. Few of the less active vegetable remedies can boast of higher testimony in their favour than the leontodon taraxacum. In the Apparatus Medicaminum of Murray, we find a long list of distinguished writers who extol it as a medicine of great power, in various visceral obstructions, intermittent fevers, dropsy, calculous affections, some kinds of phthisis which arise from disorder of the liver, cutaneous diseases, in icterus, mesenteric atrophy, &c. Bergius, a writer of high authority, considers it aperient and diuretic, useful in obstructions of the liver, hypochondriasis, and icterus. He states, from his own practice, and from repeated instances of success, that it is a very useful remedy in hepatic diseases, and that it has succeeded when other remedies have failed; also, that he has frequently cured hepatic indurations, by relying chiefly upon this medicine. Barbier considers it a mild tonic and very weak aperient. He states that it is,

nevertheless, found to produce constipation in some cases, but he does not give it credit for any specific action upon the liver.

The late Dr. Pemberton used it in chronic inflammation and incipient scirrhus of the liver, and in chronic derangement of the stomach, with great success.

Dr. Wilson Philip, in his valuable paper on a species of pulmonary consumption, in the Medico-Churgical Transactions, Vol. VII, says—'For the purpose of lessening the quantity of mercury, I have also combined with it such other means as tend to promote a regular and healthy secretion of bile. Of all the means which I have employed with this view I have found none equal to dandelion.' In his treatise on indigestion, he states that 'nitro-muriatic acid and the dandelion appear to be the best substitute for mercury, and that the dandelion appears to possess greater powers in this disease than are usually ascribed to it, but that it requires to be taken in very large doses. It is best adapted to those cases in which the bile is deficient or much disordered, while the power of the stomach is still considerable. In such cases I have seen the patient restored by a strong decoction of dandelion, used for common drink, without the aid of other medicine. In addition to its effect on the liver, it tends to cool, and, consequently, allay the inflammatory diathesis, and, often, it excites both the bowels and the kidneys.'

Dr. Hooper, Dr. Paris, and Dr. A. T. Thompson do not give their opinion of this medicine; this is a disappointment, as their works are those which are most commonly used as books of reference by the greater number of practitioners. Mr. Brande, in his Manual of Pharmacy, says that, 'in cutaneous diseases the medical efficacy of taraxacum is equivocal.' What his opinion of its general medicinal properties is, he does not state. Dr. Good, in his valuable work on the Study of Medicine, Vol. I, p. 396, says, that 'the roots, stalks, and leaves of this plant abound with a milky, bitterish juice, which was at first *supposed to be saponaceous;* hence it has been warmly recommended as a resolvent. It has not fallen to my lot, though I have many times given it a fair trial, to add my suffrage in its favour. Its most obvious character is that of increasing the flow of urine.' I avoid quoting other authors of less note; sufficient has been stated to show that writers are not agreed respecting the medicinal properties of the plant. I have had much intercourse with practical men, who, although not addicted to the use of the *pen*, are, nevertheless, fully qualified to judge of the effects of remedies, and I may

confidently assert that the common extract of the article in question is one in which very little confidence is placed by them. I allude more particularly to those who prepare their own medicines and watch their action, whilst physicians more generally appear to hold it in estimation.

The College has made choice of the root as the part to be used, and with much reason; but no specific instructions are given respecting the time proper for gathering it. This, it might have been expected, would appear in the valuable work on Pharmacology, by Dr. Paris, for he has a section on the unseasonable collection of vegetable remedies. He very correctly remarks, that 'during the progress of vegetation most remarkable changes occur in succession in the chemical composition, as well as in the sensible qualities, of the plant:' but alas! what a falling off! Time, he says, will not allow him to be prodigal of examples, therefore, no information or instruction on this interesting head is given.

The Pharmacopœia says, 'Radices pleræque effodiendæ sunt antequam caules aut folia exserant.' The object of which order, Dr. A. T. Thompson observes, 'is the obtaining of the roots with their active principles in the most concentrated state, and this may be effected by digging them up late in the autumn or early in the winter, after the *sap is completely detruded to the root*'*. In the last part of this quotation the Doctor is supported by the author of the Seasons, who, in his Spring, sings, '*the torpid sap detruded to the root by wintry winds.*'

The Pharmacopée Françoise, by Ratier, states that, 'Le temps propre à la rècolte des plantes ou des parties des plantes qui servent à préparer les medicamens, varie beaucoup suivant les especes,' and of roots in particular, that they should be procured when 'pleines de sucs,' by which is implied the secreted fluid—succus proprius, and not la séve—the sap. It must be admitted that the succus proprius—the milky juice—of the taraxacum, is the active medicinal part of the plant, and that in the root it is in greatest abundance and in its most concentrated state. Murray observes, 'Lac

* A more accurate notion of vegetable circulation than these remarks afford, I humbly conceive, may be thus expressed. 'The nutritious fluids imbibed from the root by the radical fibrils, after undergoing some change in the body of the soil or base of the stem, are conveyed in the state of sap into the leaves, in which it is exposed to the action of light, heat, and air. Much of the watery part of its composition is exhaled by perspiration from the leaf, nor is the main body of the sap returned to the part whence it was propelled. The sap, in its passage through the leaves and bark, becomes quite a new fluid, possessing the peculiar flavour and qualities of the plant, and furnishing various secreted substances. In herbaceous plants, whose stems are only of annual duration, the perennial roots frequently contain these fluids in their most perfect state. Vegetables cannot strictly be said to have a circulation of their sap.'

vehit amarum in radice amarius,' but this is not the same in all seasons of the year. Bergius, writing on this root, says, 'Sapor amarus. Primo vere minus amaricans, magis abundans succo melligineo; æstate magis amaricans.' The same author observes also, that the juice is much thicker in the summer than in the spring, or autumn.

My own observations perfectly coincide with those of Bergius. In the month of March, the juice obtained from the bruised root by pressure is a thin, watery, and brownish fluid, weak in flavour, whilst that procured by the same process towards the end of summer is thick, opake, and cream-coloured; and, in a few minutes after being expressed, it sets to a much more solid consistence, becoming as thick as common paste; it is very bitter and saponaceous. This is the season in which I have chosen it for medical purposes, and from many years of observation upon this plant of disputed virtues, I have been led to a conviction that it has medicinal powers, varying essentially according to the time of the year in which it is gathered and the mode in which it is prepared.

The extractum taraxaci, as commonly sold in the shops, I believe, has but very little virtue. I have myself taken more than one ounce *per diem*, of apparently good-looking article, without perceiving any sensible effect from it. If the juice be boiled, a very great change takes place in its sensible properties; it loses its bitter flavour, and forms a sweetish and ductile mass. The same is observed in an extract formed from an evaporated decoction, as ordered by the College. I cannot speak with much confidence of the virtues of the decoction of the roots. My observations on it have not led to a satisfactory result. It is, in fact, no easy task to determine with accuracy the medicinal powers of the less energetic agents in the materia medica.

The most uniform and active preparation of this plant, I believe, may be obtained by carefully evaporating spontaneously * the expressed juice of the roots taken up in August and September. The extract formed in this manner I have found to be a valuable medicine, both in my own person and in practice, and have the concurrent testimony of practitioners of different departments of the profession who have used it with success. A physician, who had been long resident in India, observed to me, after taking some of the extract prepared as above stated, 'I have never before found any benefit from taraxacum.' It is a tenacious, saponaceous

* This is effected by placing it in shallow vessels, exposed to a current of dry air, or if placed in a situation artificially warmed in wet seasons, a similar preparation will be produced, one pound of root yielding two ounces of extract.

mass, not ductile; it keeps remarkably well if evaporated sufficiently. It is a valuable anodyne, deobstruent, slightly aperient and diuretic. In some cases of chronic diarrhœa it has soothed the bowels, and has given that relief which no other medicine was found to afford.

In cases of chronic disorder of the digestive organs, not produced by intemperance, its efficacy is frequently very decided. In visceral derangements from intemperance I have not found it of much service, but in females, and other persons of sober habits and of studious and sedentary pursuits, it has been very beneficial, increasing the flow of bile, and allaying that uneasiness which the dyspeptic frequently experience about the hepatic region. If practitioners interested in the advancement of pharmacology and therapeutics, would employ the taraxacum in the form here proposed, I feel confident that a proper estimate of its virtues would be ascertained, and that the opinions of the filii apollinis would, respecting this medicine, cease to be discordant.

Grove Place, Marylebone, August, 1828.

II.—*On the Method of Tapping in Cases of Ovarian Dropsy.*

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

GENTLEMEN,—In Mr. Tyrrell's edition of Sir Astley Cooper's Lectures, Vol. II. p. 379, an anecdote is related of a surgeon in a country town, who, in performing the operation of paracentesis abdominis, was not able to succeed in bringing away the fluid. The story is told with much humour, and, no doubt, it caused a hearty laugh in the theatre.

From another paragraph it seems that Sir Astley Cooper attributes this very droll failure to the shortness of the poor rustic practitioner's instrument, for he says that 'if it be ovarian dropsy and the cyst possess considerable thickness, it is desirable that the surgeon should be provided with a trocar and canula of an inch more than the usual length.' Sir Astley does not inform us how we poor ignorami can *à priori* ascertain the thickness of the cyst. The only instruction given to enable us to avoid a repetition of the failure mentioned above, is to use a long trocar and canula. Now reflecting upon the nature of this kind of dropsy, it appears to me probable that, from the shape of the perforating portion of our common trocar, the cyst is apt to be pushed before the instrument; so that it may be introduced up to the shoulder, and it may with its point just perforate the cyst, but from the obtuseness of its angles it may not enter far nough to carry the end of the canula into the cyst. If only

a small puncture be effected, no fluid will flow, in consequence of the valvular action of the cyst at the end of the canula. A long trocar will, evidently, in most cases succeed if the operation be carefully done, the abdomen be properly bandaged, and steady pressure be made by the hands of an assistant upon the hyponchondriac regions, so as to fix the cyst as much as possible to the anterior part of the abdomen. I consider that it is from the retrocession of the sac, not from the thickness of its parietes alone, that the long trocar is needed in ovarian dropsy. If you consider this rationale of the failures in tapping ovarian dropsy worth notice, you will oblige me by inserting it in your respectable Journal.

I am, Gentlemen, Your's, respectfully,

RUSTICUS.

III.—*Observations on a paper entitled, 'On the means of removing the Aversion existing in the public mind to Anatomical Pursuits.* By a Member of the College of Surgeons.'

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

GENTLEMEN,—Allow me to make a few observations on the first of your Original Communications in No. I. of your interesting Journal, and, I am sorry to say, that I was exceedingly disappointed at the conclusions to which your correspondent wishes to draw the attention of the reader. I consider the remedy he proposes as worse than the disease, and that, instead of tending to allay the prejudices of an ignorant public, it will, in fact, keep them alive. Does he recollect that, in order to make minute dissections, it is necessary to separate the head from the trunk; the trunk from the extremities, &c. &c.; and if the pupils are not very sedulous, it takes three weeks or a month before the subject can be disposed of. By this time the parts become unfit for burial, (according to the meaning of your correspondent), the muscles become black, and where an antiseptic has not been used, putrefaction rapidly ensues, which would alone create disgust in the public mind. Allow me to say that his plan is excellent in theory, but it is impossible to put it into practice.

Secondly, he proposes that every anatomical teacher should be licensed by the Royal Colleges of Physicians and Surgeons; this would be injurious in two ways, viz: It would give those bodies a disgraceful monopoly, which would be exercised in the persons of their own friends, and, 2dly, it would tend to keep in the back ground, rising talent, and

thus the talent of young men of genius, industry and perseverance would die in obscurity.

Thirdly, the objection to placing a lad very early in the dissecting room is futile; the earlier he enters it the better; he becomes interested in the science, acquires impressions which are never effaced, and I am positive the more he studies anatomy, the better surgeon he will become.

Your correspondent appears to wish our studies to be controlled by a committee. Does he mean a police committee? If so, it would (in any shape) be an unseasonable attack on the liberties of the subject, and dangerous to the welfare of the community at large.

Your correspondent observes that we have no places worthy for the study of this delightful science: let him look round at the hospital schools—Mr. Grainger's in the Borough, or Bell's and Dermott's in Windmill-street; after this, his assertion will be found, to use a parliamentary expression, '*frivolous and vexatious*.'

The insertion of this in an early number will much oblige your obedient servant,

H. W. Dewhurst,
Surgeon, and Lecturer on Anatomy.

London, July 27, 1828.

IV.—*Remarks on the 'Evidences against the System of Phrenology*. By Thomas Stone, Esq.'

(Continued from page 165.)

Such being the absolute nullity of the 'Evidences' adduced by Mr. Stone in support of his prefatory charge against the phrenologists, let us pass from the discreditable abortion, and proceed to examine his method of showing that *three* 'several propositions' of theirs 'are untenable, and directly controverted by the evidence of observation, and the testimony of recorded facts.'

Phrenologists contemplate the mind as a system of faculties, and the brain as a system of organs; and the principal object of their researches is, to ascertain and discriminate the faculties of the human mind, the corporeal organs by whose instrumentality the circumstances of these faculties are made perceptible, and the influence of the organs on the mental manifestations. Such a comprehensive range of inquiry necessarily embraces the discussion of many constituent propositions; and, it is from among these that Mr. Stone has chosen to select *three* for the purpose of censure and refutation. In prosecuting this scheme, however, he

incurs the disgrace of disfiguring the phrenological doctrines, and the guilt of advancing mutilated or fictitious 'evidences' as the means of impugning their accuracy. The first stands thus, in its modified and genuine form:

Prop. I.—Mr. Stone makes the phrenologists say—That the brain is a congeries of so many *distinct* parts, each of which is the organ of *some innate special faculty.*	The phrenologists themselves say—That the brain is a system of organs, each of which manifests the conditions of a correlative mental faculty.

Into his version of this proposition, Mr. Stone has designedly introduced the terms 'distinct parts' and 'some innate special,' which would otherwise be unimportant but for the purposes to which he subsequently employs them. Whatever is a composition or system, depends upon the combinations of constituent parts; but such parts are, in many instances, neither distinct nor, in the present state of knowledge, distinguishable. Again, in the 'some innate special faculty' of the 'evidences' we have an excrescence ingrafted on the simple proposition, evidently for the purpose of making it chargeable with ambiguity or error. With equal propriety it might be said, that the head has some innate special hairs, the foot some innate special toes, and the tongue some innate special tastes; but the use made of these modifications will afterwards come under discussion.

At page 12, Mr. Stone endeavours to dignify his 'evidence' against the accuracy of this proposition with an ostentatious specification of persons who have 'hazarded speculations, referring different states of thought and feeling to distinct parts of the brain.' This display of research, however, is altogether illusory, and the sketch of these 'speculations' has been abstracted from the writings of phrenologists * 'without the slightest reference or acknowledgment.' His next step is to exaggerate the hackneyed and discouraging postulate, 'that from our limited means of investigation, it is unlikely we shall ever come to any satisfactory conclusion, or succeed in discovering the manner in which mind operates on, or is connected with, matter.' With regard to the philosophy of this oracular anticipation, it were fruitless to gainsay the dogmatist; but, he goes on to con-

* Abundant proof of this evil-doing will be found in the writings of Dr. Gall, already quoted, and in those of Dr. Spurzheim, entitled Observations sur la Phrenologie; The Philosophical Principles of Phrenology; Phrenology, or the Doctrine of the Mind, and The Anatomy of the Brain, with a General View of the Nervous System.

cede, 'admitting that the brain is the *emporium* * of thought, and that a certain perfect state of organization is necessary for the exercise of the intellectual powers, we have yet to *inquire* whether there be *any* evidence that should induce us to consider it a congeries of *distinct* organs.' Such inquiry having been instituted, let us endeavour to appreciate its results; it opens with an elaborate sophism, the subtlety of which may be usefully exposed.

At p. 12-13, then, it is said, 'When we speak of different organs, which *individually* perform *separate* functions, we must necessarily infer that each is characterized by its *peculiar* and *appropriate structure*. We are not entitled to take their existence for granted, unless this can be demonstrated; nor can any thing be more preposterous than to assign laws and attributes to a being or thing, the existence of which is itself not proved, or involved in any uncertainty. The phrenologists, however, have liberally done this; since, on examining the brain, we find not the *slightest appearance* of those organs, the relative positions and sizes of which are mathematically delineated on the external table of the cranium.'

Here, then, under the *first* head, is an enigmatical proposition, which, if admitted as an axiom, would throw difficulty and discordance into the most important principles of science. No philosopher, however, speaks of organs which individually—that is, *with distinct existence*, perform separate —that is, *single or independent*—functions; and the reason why they do not, is, that such performance of function has no place in the animal economy. But the artifice and unreasonableness of this restrictive rule are evident—such a rule goes to require that degree of perfection in the phrenological anatomist, to which the physiological does not, and cannot pretend. What is the 'peculiar and appropriate structure' of the organ of seeing, of hearing, of tasting, of sensation, of motion? While we are assured that function does not depend *exclusively* on structure, we know that each of these organs performs determinate functions; we infer that each of them, being qualified to perform its own functions solely, and being incapable of executing those of all other organs, must necessarily be 'characterized by its peculiar and appropriate structure,' or essential principle; and we know that such structure or such principle has not yet been demonstrated by anatomists however expert and ex-

* 'Emporium of Thought!' If the brain really be the market-place of thought, his own 'Evidences' evince that Mr. Stone, previously to their publication, must have been a niggardly purchaser of the commodity.

perienced. Nevertheless we are perfectly entitled to take the existence of these organs for granted, because we perceive and observe their particular, actual manifestations, and it is a self-evident proposition, that effects can never result from a non-entity. No one, therefore, has a right to restrict phrenologists from adopting a *mode* of induction employed by other physiologists, in their essays to discover and disseminate useful knowledge.

Again, if it be 'preposterous to assign laws and attributes to a being or thing, the *existence* of which is itself not proved, or involved in *any* uncertainty,' those philosophers are chargeable with this sort of absurdity, who assign laws and attributes to the 'beings or things' we imperfectly know, but usually denominated life and mind. Life, for example, is the active source of effects, and these effects cease to be perceptible when the exercise of their cause is discontinued; life, consequently, is a being or thing, and philosophers in all ages have assigned to it both laws and attributes, without ever once imagining that there could be preposterousness in the assignment. They judge not its essential nature, because this is impalpable, but they prove its existence by 'evidences' founded on the presence or absence of its perceptible manifestations. On the other hand, many intelligent persons regard the existence of life as a 'being or thing,' not only as 'involved in *much* obscurity,' but absolutely 'not proved,' and, accordingly, we find them hazarding speculations in support of their preconceptions. Mr. Lawrence *, among many others, asserts that life is the result of the actions and re-actions of all parts; while Mr. Mayo † considers the term life, like the terms 'nature' and mind,' as a collective expression for an assemblage of phenomena; and Mr. Irrey ‡ declares that 'life is a circular movement, sustained and measured by time—time, that infinite sphere whereof God is the centre, and on the circumference of which the creatures placed there, describe, in their rapid orb, the circle of their destinies.' Such 'speculations' are preposterous enough, certainly; but, in showing that the 'existence' of life, as 'a being or thing,' is involved in *some* obscurity, they constitute irrefragable evidence of unfairness in the authoritative postulate to which these observations refer.

Under the *second* head stands an instance of pure sophistical misrepresentation.—'On the external table of the

* Lectures on Physiology, Zoology, and the Natural History of Man, 8vo. London, 1819, p. 93

† Outlines of Human Physiology, 8vo. London, 1827; p. 8.

‡ Dictionnaire des Sciences Médicales, 8vo. Paris, 1821; Tome LVII; p. 434.

cranium,' at the back and lower part, are delineated the relative position and size of the organ of the amative propensity; now, will any man say, that in examining the brain, he finds not the *slightest appearance* of a cerebellum which constitutes the organ of that propensity, and occupies exactly the space within that delineated externally on the skull? Moreover, on the 'external table of the cranium' towards its upper and anterior parts, there are sketches of the relative positions and sizes of eight organs, numbered 14, 15, 16, 17, 18, 30, 31, 32; and, can any one truly say, that, on examining the brain he finds not the *slightest appearance* of organs which not only correspond precisely with the external outline, but exist so exclusively in man, that not a trace of the convolutions which form them has been discovered in the brain of the very highest order of brutes? No one can: nevertheless, the absence of *all appearance* of organs in the brain is pertinaciously urged as an 'evidence' against the phrenological proposition. These organs, however, are no organs, for the brain is 'a continuity of structure,' in which the pretended organs are not *separated* each from the rest and from all other parts, 'by lines of distinction between them.' This doctrine of distinctive lines has never been entertained by phrenologists; and, by consequence, they are not under obligations to substantiate their existence or their use. In their books it is distinctly stated, that the brain is not divided by *lines* corresponding to those delineated on the busts; but the forms assumed by its different parts, when *extremely* large, or small, resemble those there represented. As the mathematical delineations of a map exhibit the outline of a region, so the mathematical delineations, or the external table of the cranium, adumbrate the organic distribution of the brain; there would, therefore, be as much justice in censuring a topographer for being unable to distinguish the precise limits, by lines, between hill and plain, as in abusing the phrenologists for not pofessing to separate what nature never intended to be palpably disjoined.

Having thus ennuciated his fallacious sophism, Mr. Stone enters, after his own way, on the application of its principles, in detail; and, under the authority of his masters, whom he musters as usual, ventures to consider the brain as remarkable for the *unity* of its structure. If, however, the brain be a *unity*, and at the same time executes a *plurality* of functions, it differs in this respect from every other organic system; and they who maintain this doctrine of its unity are bound to show, by analogy, inference, or demonstration, how the incomplex brain can be the organ of the *nine* mental faculties, vulgarly denominated perception, attention,

memory, imagination, abstraction, judgment, reason, appetency, and volition.

Next follows the statement, p. 13: 'the medullary and cineritious substance is every where continuous; and even were we to admit with Drs. Gall and Spurzheim, that the convolutions consist of two fibrous layers, agglutinated together by the surrounding grey matter, the *continuity* of structure would still remain.' Although very peremptorily expressed, this subtlety is at variance with the results of observation. It is therefore scarcely necessary to remark, that two things, or twenty things, may be continuous without being identical: flame, for example, is quite continuous; but its elements, light and caloric, are not identical; cellular, vascular and nervous structures are continuous in the heart; nevertheless, these structures are essentially dissimilar; body and mind are not identical, although absolutely continuous, and co-existent as well. Such analogies are not to be shuffled off with the taunt of their being illustrations of the *obscurum per obscuris*; they demonstrate perfectly the exquisite presumption of urging on the phrenologists a task which no engagement or doctrine of theirs, or any rule in science, requires them to execute; a task indeed which it is unphilosophical to declare practicable, inasmuch as no anatomist has hitherto been able to accomplish it.

On such grounds, we are next informed, the late facetious Dr. Barclay devised an intricate objection, which, from the mawkish repetition of it by his imitators, appears to be regarded by them as overwhelmingly conclusive. Having stated it as given in the 'Evidences,' p. 13-14, let us make it the subject of a disquisitive examination. 'If you ask,' says the Doctor, 'for any ocular demonstration respecting the existence of these organs, you are told they are indicated by thirty-three modifications that have been observed in the form of the skull, and these occasioned by thirty-three modifications in the form of the brain; yet, on opening the skull, and examining the brain *towards the surface*, where these organs are said to be situated, it seems to require no small share of creative fancy to see any thing more than a number of *almost similar* convolutions, all composed of cineritious and medullary substance, *very nearly* in the same proportions, and all exhibiting *as little difference* in their form and structure, as the convolutions of the intestines; nay, all, when *unfolded*, according to Dr. Spurzheim, in cases of hydrocephalus internus, presenting but one uniform web of cineritious and medullary matter. No phrenologist has ever yet observed the supposed line of distinction between them;

and no phrenologist has ever ventured, in the course of his dissections, to divide a hemisphere of the brain into any such number of well-marked and specific organs.'

Regarding the tiny joke of the twice 'thirty-three modifications,' which of course would produce some giggling among the bumpists, the thing, but that it contains injustice and materially tends to deception, might well be suffered to wither under the contempt due to its insignificance. When a caviller asks for 'any ocular demonstration respecting the existence of these organs,' he is desired to look for such demonstration, *not* at their *indications*, but at the organs themselves as they exist in the brain. Moreover, it was a shameful fabrication to accuse the phrenologists of *saying* that those organs are situated *towards the surface of the brain;* and it is still more shameful to reiterate the fiction with an increase of petulant urgency: phrenologists say, 'that such organs extend substantially between the base of the brain and its peripheral surface.' Again, it required 'no small share' of unequitable prejudice to enable the sophist not to see, that a number of '*almost similar* convolutions,' may constitute a number of *nearly similar* organs; that convolutions 'composed of cineritious and medullary substance,' '*very nearly* in the same proportions,' may form different but *almost similar* organs; and that convolutions, 'exhibiting *as little* difference in their' form and structure as the convolutions of the intestines, may constitute organs having functions, each as dissimilar to the rest as the duodenal differ from the other intestinal functions. The conversion of chyme, for instance, into a liquid nutritive pulp, is a process as different from the absorption of chyle, as manifestation of the combative is unlike manifestation of the acquisitive propensity, and the expulsion of dejecture as different from those, as manifestation of these is unlike that of the conscientious sentiment—a thing by much too vulgar to appear conspicuous in the 'Evidences against Phrenology.'

Coming to the emphatic part of the objection, we find the same practice of misrepresentation most sturdily maintained. 'According to Dr. Spurzheim,' the brain is merely *unfolded**, not disparted, in cases of hydrocephalus internus,' but he *no where* describes it as 'presenting but one uniform *web* of cineritious and medullary matter,' because

* The Medical Repository contains an interesting case of hydrocephalus internus, with the dissection and pathological remarks, by Dr. Jeffrey, Professor of Anatomy in the University of Glasgow; Vol. XVII, p. 275; it should be perused with attention on account of its being communicated in support of no particular views, either for, or against phrenology.

he would have been justly chargeable, by so doing, with self-evident inconsistency. His words are: 'the convolutions *, in large hydrocephalic skulls, are entirely unfolded, and present the smooth surface of a membranous expansion.' No medical man need admit this assertion on trust; let him use his own hands and his own senses in trying its truth, by rigid personal observation. Mucous membrane may be said, in the same figurative way, to represent *one uniform web*, whereof the gastric, intestinal, and other portions, although described by anatomists as distinct organs, and known to perform offices, each as different from all the rest as the alvine are dissimilar to the nasal functions.

'No phrenologist,' the objector goes on to say, 'has ever yet observed the supposed lines of distinction between the organs.' Phrenologists never prate about such *supposed* lines, because the having recourse to supposition is unphilosophical, nor have they ever even insinuated that they observed such 'lines of distinction,' because this would have implied what is as untrue as is the hollow imputation, that observation of them is one of the phrenological pretensions. Furthermore, we are apprized, that 'no phrenologist has ever ventured, in the course of his dissections, to divide a hemisphere of the brain into any such number of well-marked and specific organs.' Here, after the usual mode, it is gratuitously, and also most disingenuously, implied, that the phrenologists pretend to exhibit such imputed divisions of a cerebral hemisphere. They, however, advance no such assumptive statements; employ no such shadowy definitions; and, consequently, are not answerable for the absurdity of their invention. No more do they 'venture' to slice a hemisphere into 'well-marked organs,' because they know not the use of fashioning the brain, with a scalpel, into picturesque figures and semblances: nor have they, or any one else, ascertained philosophically that the brain *ought* to have its organic portions separated by manifest 'lines of distinction.' Nevertheless, and out of courtesy to their calumniators, they might venture to cut one of the hemispheres into a number of such organs, and apply to each of these a poetically descriptive name, on principles as scientific at least as those recognized by our patriarchal dissectors, in making and designating the 'distinct well-marked' emblems into which they and their imitators are accustomed to carve the brain. Such being the elements of Dr. Barclay's 'Objection,' we may conclude, that error in the doctrine it was designed to

* Phrenology, or the Doctrine of the Mind, and of the relations between its manifestations and the body; p. 44.

falsify, must be the reverse of what it, as a distinct proposition, goes to substantiate: previously to evincing this, however, let us review the 'evidences' advanced by Mr. Stone, in support of the Doctor's artificial presumptions.

Finding that the 'Objection,' although founded on a direct *petitio principii*—a palpable assumption, that there *ought* to be perceptible lines of distinction between the cerebral organs, was really proposed as no joke, Dr. Spurzheim communicated some observations on it to a friend, which were afterwards published*: Some of these have been transcribed by Mr. Stone, p. 14-15, and his manner of endeavouring to undermine their force, as evidences against the Objection, is remarkable for its flippancy and shallowness. According to him, Dr. Spurzheim observes, 'it is certainly easy to distinguish the anterior, middle and posterior lobes of the brain from each other: and, were they shown me separately, I should never mistake one for another.' But 'what,' asks our maker of Evidences, 'has this to do with Dr. Barclay's statement? That distinguished anatomist never even implies that there is any difficulty in distinguishing one lobe of the brain from another; consequently, this is altogether an evasion of the question.' This, as we shall see forthwith, has much to do with the statement, and is, in no one respect, an evasion of the question. Mr. Stone cannot dispute the accuracy of the statement, that the cerebellum which constitutes the organ of a 'special faculty,' is separated by a membrane forming 'a line of distinction,' between it and the contiguous portion of the brain. In this one instance, then, the importunately-claimed requisite has place; and, by this means, the *principle* and *process* of phrenological induction are substantially recognized. Farther, we have just found him conceding unequivocally, that there is no difficulty in distinguishing one *lobe* of the brain from another. Now, every body knows that, in a cerebral hemisphere, there are three lobes, in every one of which a group of constituent organs, varying in size and number, is combined. If, therefore, there be no difficulty in distinguishing every one of the three lobes from each of the other two, it follows that the organic groups, whereof those lobes consist individually, can be distinguished also without difficulty, and the circumstance of this distinction being demonstrable, goes, in like manner, to establish the *principle* and *process* of phrenological induction.

* Transactions of the Phrenological Society, p. 398. See an elaborate and dispassionate article in this Vol., entitled 'Observations on Dr. Barclay's Objections to Phrenology,' by Dr. Andrew Combe, in which those objections are unanswerably refuted.

Having thus far fairly met the question, Dr. Spurzheim proceeds to declare the practicability of discriminating *individual* organs. His expressions at p. 15, of the "Evidences" are, 'I should never confound the organ of amativeness with that of philoprogenitiveness, or philoprogenitiveness with that of secretiveness, or the organ of the desire to acquire with that of benevolence or veneration; and Dr. Barclay may be sure, if he make it his study to compare the configurations of the cerebral convolutions, and of the different organs, he will find great differences, which he has hitherto overlooked. Thus, we hear the phrenologist asserting, in explicit terms, his ability to distinguish between particular organs, and stating also that the method of acquiring his ability, is 'to compare the configurations of the convolutions and organs.' Now, the accuracy or error of this pretension can be evinced only by the test of experiment. Instead, however, of satisfying us that, on a brain, scientifically detached from the skull, being placed before him for experiment, the 'phrenological usurper,' was found incapable of redeeming his pledge, the author of the "Evidences," falls into a train of childish whining after the 'distinct organs,' the 'identity of the several organs,' and the 'lines of distinction between them.' 'How,' he exclaims, 'are the numerous phrenological organs to be distinguished from one another, that are crowded together, not only in the same lobe, but the same convolution?' This 'perplexing point,' he proceeds to say, 'Dr. Spurzheim altogether evades, and sums up his unsatisfactory answer, with the following most preposterous assertion. 'Moreover, when he shall see, besides the different forms of the organs, that they are frequently developed in different proportions, we will have an additional proof that the brain is a congeries of parts performing different mental functions.' What does Dr. Spurzheim mean by his antagonist, 'seeing the different forms of the organs?' Is there any *line* of separation between those that are situated within the same convolution? This piece of querulous disputation comprises three interrogatories. To the first, how are the organs to be distinguished from one another, the answer is—by attending to the qualities, *form*, and *proportion*, which make each different from all the rest. These qualities, being both visible and palpable, come directly under the cognizance of observation: phrenologists, as shall appear in the sequel, define, the precise rules by which their observations are instituted; until, therefore, those rules shall be, as they have not yet been, proved faulty, or their application defective, it is most presumptuous to charge with preposterousness the

phrenological method of distinguishing the cerebral organs. Again, the objector demands 'what does Dr. Spurzheim mean by *seeing* the different *forms* of the organs?' Why, the Doctor means, just what every schoolboy knows, that *form* is the external appearance of a thing; that diversity of external appearance is a characteristic of difference; and that, by seeing the diversity of their external appearance in connexion with the diversity of their *proportions*, the observer is enabled to distinguish the 'numerous phrenological organs.' Finally, although disgusting from its repetition, the last 'query' may have this reply—that hitherto such 'lines of separation' have not been discovered; and, if they do not exist, the fact of implying that they *ought* to exist constitutes an act of impiety, inasmuch as it represents the possibility of imperfection in one of those works wherein the Creator's power, goodness, and wisdom are exquisitely displayed.

Notwithstanding his noisy and incessant quibbling about 'lines of separation' between the cerebral organs, Mr. Stone admits, in unequivocal terms, (p. 16) that Dr. Spurzheim not only could, but actually did, distinguish the organs from each other, in a brain which had been separated from the skull, and undergone disturbance from removal into a distant apartment; his account of the 'anecdote *,' as he elegantly phrases it, is perfectly characteristical and merits transcription. 'Mr. Andrew Combe gives us the following 'anecdote,' which he considers sufficient to show that 'one organ can be distinguished from another in the brain itself, without the intermedium of the skull.' 'When Dr. Spurzheim was lecturing in Paris, the brain of a suicide was handed to him during lecture, with the request that he would say what characteristic dispositions it indicated, and he would then be informed to whom it had belonged; whereupon Dr. Spurzheim immediately proceeded' 'to demonstrate the development of the several parts.' 'Now, really this proves nothing, because the brain, as a whole, being laid before him, he was enabled, by knowing their relative positions, to point out what he considered one organ from another. I need scarcely add that, by this *post mortem* phrenological *augury*, Dr. Spurzheim *divided accurately* the dispositions which the unfortunate man had manifested during life.'

With this practical demonstration of certainty in the phrenological principles, most minds would have been satisfied;

* This anecdote is detailed in the Phrenological Transactions, p. 400, and proves, beyond all dispute, that phrenologists can distinguish an organ of propensity from an organ of sentiment, and an organ of sentiment from an 'organ of knowledge' without ever seeing the skull which contained the brain whereon their observations are made.

but not so that of our cynic. He grins over the idea of making an 'augury' from the exhibition of a man's brain *after* his death, and forthwith starts a second-hand modification of his superannuated objection. 'Professor Rudolphi,' he says, (p. 16) 'went somewhat further than Dr. Barclay, and, instead of questioning whether the organs can be distinguished from one another by any distinctive characters in the brain, rests his objection on the impossibility of recognizing them when apart.' 'Show Dr. Gall,' says the professor, 'the organ of theft, of murder, or of religious sentiment, *separated from the cerebral mass*, and, be sure, he would not know them.' To this dogmatical proposition, in which, for the meanest purposes, the very names of the organs are disfigured, Dr. Gall made what is called an evasive answer; but, as this has been denied a place in the 'Evidences,' let us attend to that given by Dr. Spurzheim, who, as Mr. Stone himself acknowledges, 'at once declares,' 'for my part I will accept Dr. Rudolphi's proposition; for I maintain, that he who has studied the forms of the peripherical expansions will always be able to distinguish, in man, the organ of acquisitiveness from that of destructiveness, and that of veneration from either, as easily as an ordinary observer will the olfactory from the optic nerve *.' '*I am ready at any time, personally, to verify the above statement.*' After suppressing, with dishonest circumspection, the last part of Dr. Spurzheim's reply, which proclaims a direct challenge to try the fact by positive experiments—a challenge that has never yet been accepted, Mr. Stone proceeds, with his usual insolence, to remark, 'Here Dr. Spurzheim either professes to do that which he must know to be utterly impossible, or he is able to show that the organs are divided from one another by their *distinct limits of size* being ascertainable. But if it appear that *no lines of separation* exist between them, that the organ of hope and ideality is, in fact, only a continuation of *one* material substance, every part of which is characterized by the same *unity*, then it must be manifest that, to say nothing of identifying the individual organs afterwards, they cannot positively be separated one from another.' Were it not that we ought to commiserate the stupidity of a person so egregiously contemptible, Mr. Stone's arrogance, and ill-manners in uttering this observation, ought to be rebuked in expressions of indignation and disdain. Let it be remembered, however, that Dr. Spurzheim has declared, not only that he can 'identify the individual organs,'

* These sentences are quoted from Dr. Spurzheim's *Anatomy of the Brain* p. 112; the last, in *italics*, has been intentionally omitted in the 'Evidences,' for a reason which requires not to be exposed.

but *that he is ready at any time to verify his declaration*—and, in fine, let it be once more repeated, that phrenologists never 'said,' that the cerebral organs are divided by 'distinct limits of size,' nor have their adversaries ever proved that those organs *ought* to be so divided. Instead, therefore, of ranting about 'lines of separation' and 'distinct limits of size,' let one of them, having experience in demonstrating the brain by transverse slices, 'venture' to excide two or more of the specified organs, according to their outlines 'delineated on the external table of the cranium;' and, having submitted those organs 'separated from the cerebral mass' to the Doctor's inspection, let them convict him, if they can, of 'professing to do that which he *must know* to be impossible.' On their failing in the experiment, they *must* stand convicted of having made statements as inconsistent with their reasoning as they are adverse to the ingenuousness of truth.

Having, as we have just seen, imputed to the phrenologists a doctrine which they do not entertain, Mr. Stone proceeds with unconscious absurdity to 'put down' this fantasy of his, by the 'testimony,' as he terms it, 'not only of every practical anatomist but the evidence of Drs. Gall and Spurzheim themselves.' After, again and again, representing those writers and their disciples as admitting that 'lines of separation' exist between the cerebral organs, and that 'their distinct limits of size' are ascertainable, he forthwith, and with the most stubborn inconsistency, produces the very words of the phrenological physiologist as disclaiming the uncertain doctrine. 'In direct contradiction to the above assertion,' we are told, p. 17 of the Evidences, 'Dr. Spurzheim, in his physiognomonical system, p. 181, observes,' 'It is often objected, that the particular organs of the brain cannot be *distinctly separated,* as the nerves of the five external senses. It is indeed true, the *limits* or *lines of separation* between the different organs cannot be *exactly determined:* but this is equally impossible with the five external senses; the nerves of motion and feeling have not yet been separated, though these nerves must be different.' In the same decided manner, says the evidence, Dr. Gall* remarks, 'We admit that we are not yet in a state to indicate *with precision the limits* of *all* the organs of the brain; but, are anatomists capable of indicating *with precision the limits* of the nerve of motion in the tongue, or of the gustatory nerve?' Here, therefore, Mr. Stone concludes 'the objection of Dr. Bar-

* Anatomie et Physiologie du Systeme Nerveux en général, et du Cerveau en particulière. Tome II, p. 379.

clay and that of Professor Rudolphi is proved valid by the evidence of the phrenologists themselves.' This perverse conclusion of his, independently of its manifest unfairness, constitutes an outrage on the common sense of mankind. The declarations just quoted do not in any degree tend to prove the 'Objection' valid; but, on the contrary, they prove to a demonstration that Drs. Gall and Spurzheim never, in any manner of way, taught the existence of such imputed 'limits of size' and 'lines of distinction' between the cerebral organs, or the necessity for those organs being so separated; and they prove that phrenologists, well knowing the inability of any one, in the present state of the anatomical art, to evince the necessity of such *lines* and *limits* being in existence, and cognizable by the senses, not only refrained from asserting the possibility, but declared, in unqualified terms, the impossibility of showing such nice distinctions and of *separating precisely* the organs in the brain. If, therefore, it has no better foundations, as it really has none, than 'the testimony of every practical anatomist and the evidence of Dr. Spurzheim himself and Dr. Gall,' as here adduced, the 'Objection' must remain under the charge of being not merely invalid but absolutely unjust.

Assuming the character of dictator, Mr. Stone goes on to dogmatize, in a style of the most immoderate assurance. 'The analogy,' he says, (p. 18) 'which is here introduced respecting the nerves, is quite out of place. It is true, we cannot point out the filaments of motion from the filaments of sense *in compound nerves;* nevertheless, *we are able to do so in entire nerves.* Thus, the optic and the fifth nerves we can distinguish as nerves of sense—the *portio dura* as a nerve of motion—and, in a similar manner, did they really exist, we ought to be able to recognize, by some distinctive character, one phrenological organ from another.' In support of these instructive sublimities of his, he adds, in a footnote, 'we can, however, distinguish the former from the latter species of filaments, by its constantly arising from the anterior column of the spinal cord, as the latter *do* from the posterior.'

Last of all, we meet with this unexpected declaration:—'It may be doubted if we can discriminate the ultimate filament of a muscle from that of a nerve; but *organs* are not distinguished by their ultimate filaments, but by their *appreciable physical qualities and relations.*' Now, as phrenologists acquired their knowledge of a plurality of organs in the brain, *not* from distinguishing them by their ultimate filaments, but by observations of 'their appreciable physical qualities and relations,' according to definite rules, in so far

is the new doctrine not disproved 'by the testimony of every practical anatomist,' but is confirmed even by the hostile evidence of Mr. Stone himself, in this last effort of his to *make* it erroneous.

In this incoherent medley, Mr. Stone claims for himself what he obstinately denies to others—the right of founding an *induction on the manifestations of function.* The analogy respecting the nerves is not only *not* 'out of place;' but, if there be any meaning in the word, it is perfectly apposite; and the anti-phrenologist confirms this by reviving it for his own purposes. 'The optic and the fifth nerves,' he says, 'we can distinguish as nerves of sense, the portio dura as a nerve of motion, *and, in a similar manner,* did they really exist, we *ought* to be able to recognize, by some *distinctive characters,* one phrenological organ from another.' Farther, anatomists for more than two thousand years concluded that there *must* be different organs for manifesting the distinct functions of sense and motion; and this *induction by inference from manifestation of function* is now admitted as an exact principle in physiology, on the evidence of positive demonstration. Nevertheless, they who entertained and taught such doctrine were never imperiously required to show 'lines of separation or distinct limits of size' between the nerves of sense and those of motion; nor was the existence of those nerves ever disputed on the ground of such distinction being impracticable; their individual existence was held to be indicated by difference of functional operation. Fifty years have not yet elapsed since the doctrine of a plurality of cerebral organs was first promulgated; and there seems no reason for despairing of the possibility, that in less than two thousand years their precise 'limits of size' may be made as apparent as those which 'point out the filaments of motion from the filaments of sense in *active* nerves.'

Next comes the statement, 'It is true we cannot point out the filaments of motion from the filaments of sense in *compound nerves.*' There is error here; and it proceeds from mistake or ignorance. It is in *compound* nerves exclusively that we *can* point out those filaments from each other; and Mr. Stone admits this, when he adds, 'we can, however, distinguish the former from the latter species of filament, by its constantly arising from the anterior column of the spinal cord, as the latter does from the posterior.' Now, we all know that this distinction is a recent, though a most important discovery; and, moreover, it was made *not* by observing distinct 'limits of size' in the nerves themselves, but by the same process of induction as that whereby the doctrine of a plurality of cerebral organs is established:—thus both

in physiology and phrenology, destruction, injury or integrity of the organ, has a concomitant abolition, defect, or perfection of functional manifestation. Nevertheless, this distinction is at best but partial: it depends entirely on the *place* of connexion of the nerves of sense and motion with the spinal cord, and ceases to be recognized after their conjunction. When, however, our logician began to talk about founding the distinction between those filaments on the fact, that one kind of them constantly arises from the anterior, and the other from the posterior column of the spinal cord, he lost sight of his own authoritative aphorism; 'when we speak of different organs, which *individually* perform *separate* functions, we must necessarily infer that each is characterized by its *peculiar and appropriate structure:* we are not entitled to take their *existence* for granted, unless *this* can be demonstrated!'

Again he states, 'nevertheless, *we are able to do so in entire nerves:* thus, the optic and the fifth nerves we can distinguish as nerves of sense, the *portio dura* as a nerve of motion.' What does this writer mean by saying that we are able to point out the filaments of motion from the filaments of sense in those nerves? If the optic and fifth be nerves of sense, they must be composed essentially of filaments of sense; and if the *portio dura* be a nerve of motion, its structure must consist essentially of the filaments of motion: consequently, the absurdity of saying that both kinds of filaments are co-existent in those nerves is self-evident.

Let us now summarily appreciate the objection in its original and subsequent modifications: it constitutes, without a single addition, the only argument employed by Mr. Stone against the doctrine of a plurality of cerebral organs.

1st. Dr. Barclay first of all *assumed*, without the smallest attempt at proof, that there OUGHT to be lines of distinction between each of the organs in the brain; he next *imputed* the admission of his own *assumption* to the phrenologists: and then, in a manner little characterized by good sense or good feeling, required them to *divide* a hemisphere into a number of well marked and specific organs. Overlooking the unwarrantableness of assuming positions and imputing principles to others, as the objector has done, Dr. Spurzheim replied, that he himself could distinguish the organs from each other; 'that any person who makes it his study to compare the configurations of the cerebral convolutions and of the different organs, may so distinguish them:' and that he, even by Mr. Stone's own showing, did actually distinguish them, in a detached brain, before many witnesses perfectly qualified to appreciate the experiment.

2nd. Next comes Professor Rudolphi with the same *assumption*, the same *imputation*, and the same *objection;* and to these he superadds a most unscientific cavil of his own:—'Show Gall,' he says, 'the organs of acquisitiveness, of destructiveness, and of veneration, *separated from the cerebral mass*, and, be sure, he would not know them.' Dr. Gall, rightly estimating the preposterousness of this requisition, replies, 'show M. Rudolphi morsels of the spinal marrow or medulla oblongata, and, be sure, he would not know them:' he might have added, show the caviller a spinal nerve, separated from the trunk, and, be sure, he would not know the portion of it which imparts *sense* from that which communicates the power of *motion;* nor would he know that such nerve could execute two dissimilar functions. Again, passing without rebuke a mode of determining a question in philosophy so utterly unworthy of a mind enlightened in any degree above that of a mere artizan, Dr. Spurzheim accepts the professor's incongruous proposition, maintains that he can distinguish, in man, the specified organs from each other, and proclaims his readiness, at any time, personally, to submit his pretensions to actual probation.

3rd. In all these forms of the Objection, it is *assumed* that the doctrine of a plurality of organs OUGHT to be demonstrated by anatomy *alone*, and that phrenologists rest the truth of their doctrine exclusively on *anatomical* demonstration. No person, however, has any right so to restrict the range of physiological evidence, and the artifice of persisting in an attempt to maintain this restriction is in so much the more iniquitous, inasmuch as phrenologists have often and peremptorily declared that their entire system results from inductions supplied by anatomical, physiological, and pathological facts*. This being the case, the objection, with its disgusting superstructure, constitutes no evidence against phrenology, but stands as a positive testimony of the disingenuousness and presumption of those by whom the doctrines of that system are so unreasonably opposed.

(To be Continued.)

* An exposition of the evidence, proving the brain to be an aggregate of organs, and of the means of determining the functions of the cerebral parts, will be found in Dr. Spurzheim's *Phrenology, or the Doctrine of the Mind*, p. 61-88, and Dr. Gall's work, *Sur les Fonctions du Cerveau et sur celles de chacune de ses parties*. Tome III, p. 224.

V.—*Case of Encysted Ascites.*—By F. Bailey, M. D. &c. &c.

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

Gentlemen,—You did me the favour to insert in your periodical, some time ago, several cases of encysted formations. I particularly noticed a case of encysted ascites, in which I found, on dissection, the cysts in all the various stages of inflammation. A similar instance has recently occurred to me. A single lady, æt. 40, after ten years suffering from encysted dropsy of the abdomen, and undergoing several operations, was seized, about three months ago, with severe retchings, of a dark coffee-coloured fluid; and such was the irritability of the stomach that it would retain nothing. In this way she continued two or three weeks; she then sunk into a state of exhaustion, and died. Two days afterwards the body was examined. The abdomen was occupied by a mass of cysts, weighing full 10lb., and adhering to the inner surface of peritoneum lining the abdominal muscles. The smaller cysts contained albumen merely, but those of a larger growth presented various appearances. In some there was found an admixture of pus with albumen—in others, both these matters tinged with blood, and exhibiting on their inner surface an ulcerated lining of coagulable lymph.

If you refer to the 146th Number of the Repository, you will perceive how exactly these phenomena accord with those observed in the case of Sarah Reade, and for which I was disposed to conclude that it is the nature of encysted formations ultimately to assume an inflammatory process. This opinion receives additional proof from the case before us; at least it furnishes sufficient evidence to show that the phenomena of inflammation are not mere anomalies in the history of hydatidal or encysted growths.

I cannot conclude this short sketch without noticing one circumstance of a practical tendency in the case of my patient. After each successive operation the wound readily healed, and she soon filled again: but, at length, a natural opening took place near the umbilicus, and, for the space of four or five years, continued to discharge, daily, more or less of semipurulent matter*. During this time the abdomen was reduced to nearly its natural size, the catamenia recurred at the proper periods, and my patient enjoyed a very tolerable state of health. I am, Gentlemen, &c. &c.,

Reading, August 14, 1828. F. B.

* The quantity varied from a table spoonful to a pint in the twenty-four hours.

MONTHLY SYNOPSIS OF PRACTICAL MEDICINE.

1. *Inflammation of the Brain, complicated with tubercular Phthisis*.*—Eugène Godard, aged three years, began, towards the latter end of the year, to be troubled with frequent cough, which continued without interruption; and to be affected with diarrhœa. Towards the middle of April, the diarrhœa increased considerably; the cough was always frequent, accompanied with pain at the epigastrium, delirium, agitation, doleful moaning, convulsions, fever, with heat of the skin, and small and frequent pulse. The patient entered the hospital on the 27th April, in the state already described. There were convulsions; plaintive moaning during the whole night; fever; the face pale and corpse-like; a little looseness; the abdomen distended and painful. (*Gum water; gum draught with ether; emollient cataplasm to the belly.*) 29th. Continual cough; diarrhœa. (*A blister behind the ear.*) 30th. Grinding of the teeth; somnolency; convulsive movements of the limbs; looseness; tenderness of the abdomen; febrile pulse, 96 pulsations in a minute. (*Emollient demi-lavement; blister to the nucha.*) May 1st. Great weakness; pallor; death.

Sectio Cadaveris.—Head: About four or five ounces of serum in the occipital fossæ; the lateral ventricles contained about an ounce of the same kind of fluid, and the brain appeared bathed in that which had accumulated at the base of the cranium. This fluid was very limpid. Near the border of the left hemisphere, the arachnoid was red, thick, infiltered underneath with white matter, adherent in some places in small spots, and in others by a great surface. This matter, examined attentively, appeared purulent, and almost concrete. Surrounding this spot, the cerebral substance appeared altered in structure to some extent. The cerebral vessels were gorged with blood, and the capillaries of the brain were much injected. *Thorax:* Old adhesions of the right lung; all this organ was entirely indurated or converted into tuberculous substance, presenting caverns in some parts, and hard, isolated tubercles in others. Only the edge of this lung was at all crepitous. The bronchial glands were much enlarged and completely tuberculous. The left lung was of a mediocre size; its inferior lobe contained small tubercles; the superior lobe presented larger ones, forming masses, some of which adhered to the pleura. This membrane was otherwise healthy on this side. The abdominal organs were in a healthy state, with the exception of the cœcum, which showed a little redness on its mucous surface.

2. *Ramollissement of the Brain; with Bronchitis and Pulmonary Phthisis* †.—Jaques Lefevre, aged four years, had left the hospital about three weeks, where he had been treated for pulmonary catarrh; but he was not cured, for, at this time, respiration had

* Clinique de l'Hôpital des Enfans. † Ibid.

never been free. One day, about three o'clock in the afternoon, he had an access of fever, which did not subside until five the following morning. The cough now increased in violence, and was accompanied with vomiting; he had also anorexia; colic pains; diarrhœa; emaciation; distention of the abdomen; scarcity of urine; general and intense heat of the skin, and a sense of great debility. The chest appeared sonorous. The little patient has had, besides, *tinea muciflua* for several months.

February 3d. He re-entered the hospital. 4th. Epistaxis; tongue coated and humid: dry cough. *(Mallow; gum draught; six leeches to the chest; emollient cataplasms; abstinence.)* 5th. Cough diminished; slight diarrhœa; pain in the abdomen; frequency of the pulse. 6th Strong paroxysms of cough; tenderness of the abdomen. *(A blister to the sternum.)* 8th. Expulsion of a worm by stool. *(Two lavements, with decoction of the root of pteris aquilina and of helminthocorton.)* 9th. Continuation of the cough; no alvine evacuation. *Castor oil,* ℥ij. (in an enema?); *bouillon.)* 10th. Drowsiness, from which the child could only be roused by the cough; cough deep and dry; respiration a little difficult; pulse weak, frequent, regular. *(Sinapism to the instep.)* In the evening, complete drowsiness; eyes open, and almost insensible to the light; the visage was, however, not altered; trembling of the limbs. 11th. Eyes fixed, and scarcely sensible; pulse very slow and irregular; no heat of skin; constipation; *(Orange-peel tisan; helminthocorton,* ℥ss. *in* ℥iv. *of water; half an ounce of powdered bark in three lavements.)* In the afternoon, cough at intervals; pallor of the countenance; inspirations deep and rattling; general insensibility. Death at half-past five.

Sectio Cadaveris.—Head: Arachnoid dry and shining; pia mater infiltered; on the middle of its surface, on the left side, there were observed a great number of granulations, and a fatty, soft, puriform tissue, furnished with rosy points, which penetrated into the cortical subtance. This substance itself appeared altered in structure; it was injected, and of a reddish colour. The pia mater, over the union of the optic nerves, was much thickened. The vessels of the cerebrum and of the cerebellum were void of blood, and discoloured; the base of the brain contained an ounce of slightly turbid serum. *Chest:* The superior lobe of the right lung contained a white, chalky tubercle; left lung healthy; so were also the bronchia on both sides; the trachea full of puriform mucus; its inner surface was red in some parts; heart full of blood of a violet colour. *Abdomen:* Slight redness of the mucous membrane of the small intestines; liver of a violet red; gall bladder contained reddish, fluid, ropy bile.

3. *Cerebritis with Ramollissement—Tuberculous degenerescence of the ventricular membrane of the Heart, of the Liver, Spleen, and Mesenteric Glands* *.—Louis Gellé, aged three years, had had cough ever since the commencement of the winter, and was much

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* Clinique de l'Hôpital des Enfans.

emaciated in consequence of long-continued diarrhœa. He had constant fever, which exhibited very decided paroxysms every evening. He entered the hospital on the 23d of January, in the following state:—Extreme emaciation; ardent thirst; cephalalgia; occasionally slight epistaxis; œdema of the limbs towards evening; abdomen tumefied; and very tender on pressure. The chest was sonorous on percussion. This child continued in this weak state until his death, having the pulse constantly strong and frequent, inappetency, diarrhœa, intense thirst, and tenderness of the abdomen. During the last days of his life, he was drowsy, he moaned frequently, and appeared quite oppressed with the pain with which he was afflicted. He died on the 2d of February, after having had some convulsive movements. Only soothing remedies were employed during the whole of the complaint, as bleeding appeared contra-indicated, owing to the excessive weakness of the patient.

Sectio Cadaveris.—Head: The upper part of the arachnoid presented numerous very small tubercles. This membrane was evidently thickened. Underneath it were remarked a kind of yellow albuminous exudation, which penetrated with the pia mater into the cerebral anfractuosities. The upper part of the right lobe of the cerebrum, near the falx, appeared externally altered in structure; on incising it, the cortical substance was found softened, forming a sort of sanguinolent pap, which appeared to be the result of inflammation: there was no distinct limit between this and the healthy substance. The lateral ventricles contained but little serocity; but on the base of the cranium, a great quantity of this fluid had accumulated. *Thorax:* The bronchi were healthy; but the two lungs were studded with grumous tubercles, isolated in the left lung, and very apparent underneath the pleura. This lung was, nevertheless, crepitous, although indurated in many points. It did not adhere to the pleura. The right lung was equally free. At its exterior-anterior part it was of a rose colour; but behind, its structure was indurated. All the superior lobe, when incised, was found indurated; it contained a cavern large enough to admit the end of the finger. The interior of this cavity was neither smooth nor lined by any membrane. It was surrounded by a mass of tubercles in a state of suppuration. A great mass of tuberculous bronchial glands adhered to the root of the right lung. The heart also presented very small tuberculous granules on the internal surface of its ventricles. *Abdomen:* The stomach was healthy; the liver contained several crude, yellow tubercles in the interior of its parenchyma. The gall bladder was of a considerable size, distended with bile. The portion of peritoneum connecting the stomach and liver presented engorged, and almost tuberculous, glands. The tissue of the spleen was equally studded with irregular masses of tubercles. The mucous membrane of the duodenum was white, but rugous and tubercular. The mesenteric glands were reddish, tumefied, and some of them had passed into a tuberculous state. The meso-colon by the side of the cœcum exhibited also masses of the same morbid structure. The fecal

matter was blackish, like meconium, being contained in the small intestines, through the parietes of which its colour was perceptible. The mucous membrane was otherwise healthy in appearance. The bladder was full of urine.

4. *Encephalitis, with Ramollissement of the Brain**.—Augustin Matere, aged four years and a half, was taken ill on the 31st January, with inappetency, constipation, cephalalgia, and afterwards fever in paroxysms. In the evening, there was a rapid diminution of the general strength; profuse perspiration in the night, with slight delirium. He entered the hospital on the 7th of February. His pulse was now frequent; heat moderate; respiration easy, tongue humid, and covered with a whitish coating; tenderness of the abdomen, without tumefaction; constipation; cephalalgia; moaning in the night. 8th. The same abdominal tenderness; fulness in the region of the spleen; intense cephalalgia; pulse frequent; skin hot, principally towards the head; moaning at intervals, and a slight cough. *(Mallow tisan; tepid bath; pediluvium.)* In the evening, cephalalgia very severe. *Eight leeches to the temples; lotion of vinegar and water to the forehead.)* 9th. Fever; constipation; cephalalgia rather less severe. *(Emollient lavement; emollient cataplasm to the abdomen; bouillon.)* 10th. Paleness of the countenance; drowsiness; severe cephalalgia; moaning; general soreness; pulse frequent; lips dry; tongue slightly humid and red; one alvine evacuation, followed by faintness. *(Mallow tisan; lotion to the forehead; helminthocorton* ʒss. *in* ʒiv. *of water; abstinence.)* 12th. Pulse extremely frequent, (150 in a minute), decubitus on the left side, with the head resting on the hand; intolerable cephalalgia; screaming at intervals; no sleep; no delirium; pain in the abdomen; general irritability; severe pain and screaming, when the head was attempted to be moved; tongue a little encrusted; dilatation of the pupils. *(Mallow; oily draught with ether; (!) emulsion with syrup of poppies,* ʒj; *tepid bath for a quarter of an hour.)* He had abundant, fetid alvine evacuations while in the bath. He continued in much the same state during the day; but had a little sleep in the night. 13th. The same smyptoms of irritability; drowsiness; pallor of the countenance; pulse extremely frequent; skin dry and excessively hot; head inclined a little to the right; eyes closed; cephalalgia referred to the frontal region; lips and tongue dry and encrusted. *(Lemonade; emulsion* ʒij. *with syrup of poppies,* ʒss.; *tepid bath; blister to the nucha; weak wine and water; abstinence.)* 14th. Pupils dilated; the pain referred by the child to the eyes and sub-orbitar region; evacuation of urine, but no alvine discharge; slight cough; tenderness of the abdomen continues: other symptoms the same as the day before. *(Lemonade; mustard bath to the legs; emulsion, with half a gros of syrup of diascordium and of orange flower water; vinegar and water to the forehead; four grains of calomel; sinapisms to the feet.)* 15th. The same symptoms; also, stiffness of the fingers; spasmodic movements; no stool;

* Clinique de l'Hôpital des Enfans.

faintness. *(Two blisters to the legs; half an ounce of cinchona in three lavements; ether draught; sinapisms to the insteps.)* Death the same day in the afternoon.

Sectio Cadaveris.—Head: Sutures loose; arachnoid very smooth and shining; cerebral vessels injected; lateral ventricles dilated, containing some slightly turbid fluid; their partition was soft and torn; plexus choroides very pale; the roof of the ventricles was in a state of ramollissement; so were also the peduncles of the pineal gland. Both cavities contained from two to three ounces of serosity. Behind the tubercula quadrigemina, the arachnoid was slightly thickened; the subjacent tissue was of a yellowish colour, and exhibited a small quantity of puriform matter. This tissue was red and infiltered near the optic nerves. The structure of these nerves at their bifurcation was yellow, like the portion observed in the neighbourhood of the tubercula quadrigemina. *Thorax:* The left lung healthy. The right adhered to the pleura; its superior lobe presented some tubercles on its surface; the pulmonary tissue was rather engorged, but it was crepitous. The heart contained violet-coloured fluid blood. The œsophagus was healthy and full of green fluid, regurgitating from the stomach. *Abdomen:* Stomach strongly contracted; its interior rugæ very prominent, and white as marble; the small intestines flabby, containing here and there a great quantity of brown fluid matter. The mucous membrane was healthy, excepting near the cœcum, where it was red. The large intestines contained some greenish, fluid, fecal matter; the mucous lining of the ascending colon was slightly red. The liver was in the natural state; the gall-bladder contained reddish-yellow bile. The mesentery corresponding to the injected portion of the small intestine contained some encysted tubercles. The spleen appeared healthy.

We may remark upon this case, as well as the preceding ones, that the treatment was just such as an old nurse would have adopted. She knows that a little cordial or a spoonful of syrup of poppies will sometimes relieve *pain*. The physician of the Hôpital des Enfans expected it would have done the same thing, although the pain proceeded from inflammation of the brain!

5. *Fungus Hematodes—Ligature of the Carotid Artery.* By M. Lisfranc*.—Lenoir (Josephine), aged eighteen years, of a lymphatico-sanguine temperament, enjoyed perfect health until she arrived at the age of twelve. At this period there appeared in the situation of the right parotid gland a tumour, accompanied with slight cephalalgia, throbbing in the right lateral region of the head, and palpitations of the heart. This tumour was supposed, by the practitioners who were consulted, to be engorgement of the lymphatic vessels of the neck. From the first appearance of the malady, until 1827, hemorrhage took place at various times from the meatus auditorius of the side affected, which appeared to ease the pain from time to time, without arresting the development of the

* Clinique de la Pitié.

tumour, the pulsation in which becoming more manifest, inspired the friends of the patient with serious inquietude. Resorting to Paris to obtain the succours of the surgical art, she entered the hospital of la Pitié on the 11th of January, 1827, in the following state :—From the angle of the lower jaw to the lobule of the ear, the tumour is soft, even, round, without change of colour at the base, of the size of a hen's egg, diminishing on pressure, exhibiting pulsations synchronous with those of the heart, which pulsations, without quite ceasing, are less perceptible during the compression of the primitive carotid artery; pulsations otherwise stronger, more frequent, and extensive, than in the natural state. When the tumour was compressed, no effect appeared to be produced on the brain. All these circumstances gave rise to an opinion that this was an aneurism of the external carotid artery. (*V. S.* ℥viij., *and low diet* from 12th January to 10th April.) Ligature on the common carotid, which was intended to be had recourse to, was deferred, owing to the lowness of the temperature of the atmosphere and other circumstances, which left time to observe the disease with more attention. Several distinguished practitioners were consulted on the question, whether or not the heart was healthy? It was their unanimous opinion that this organ was in the natural state. The beating of the common carotid, which appeared to extend to about two inches and a half in all directions below the tumour, rendered it rather suspicious that this vessel was also affected : in fine, an abundant discharge of blood from the meatus auditorius of the same side gave rise to some inquietude. On examining with attention the interior of the ear, a small, soft, reddish tubercle was discovered, formed of an erectile tissue. This gave rise to a suspicion that the tumour, regarded before as an aneurism, was a fungus hematodes. As it appeared evident, from the circumstances attending the case, that, if abandoned to the efforts of nature, it would lead to certain death, M. Lisfranc thought that some chance would be afforded to the patient by applying a ligature on the carotid artery. In a case so serious and complicated he, however, not wishing to rely entirely upon his own views, presented the patient to the Académie Royale de Médecine (Section of Surgery), the members of which were of opinion that the operation ought to be had recourse to. The greater number of the distinguished surgeons who saw the case thought that the tumour was an aneurism, and not a fungus hematodes.

April 10th, in the presence of several members of the academy, the operation was performed in the following manner:—The patient, lying on her left side, contracted the sterno-mastoid muscle, in order to render its anterior edge more distinct, along which M. Lisfranc made an incision of three inches long, in the middle of the neck. The skin, the sub-cutaneous cellular tissue, and the fascia cervicalis were incised with precaution; a very considerable venous plexus, observed under this tissue, was moved aside with great care, and held by the finger of an assistant towards the upper angle of the wound. A sponge squeezed out of cold water was now applied for a few minutes to the wound, by which

means the bleeding of the small vessels was stopped, and the surface of the wound looked as clean as if it had been on the dead body. The sheath of the artery was divided with great care according to the method of Scarpa. The cellular tissue surrounding the vessel was moved aside with the fingers, and the sterno hyoidien muscle was pressed inward and downward out of the way. The jugular vein, known by its colour, its softness, and the augmentation or diminution of its size, as the patient exerted herself or not, was moved inward. A large vein was discovered passing across the upper part of the wound; the cellular tissue surrounding it was removed with great precaution, and two ligatures were applied; the vein was then divided in the interval. The internal jugular vein, moved outward, permitted a ligature to be carried under the artery, from without inward, with great facility. The operator, having satisfied himself that the artery, and nothing but the artery, was included in this ligature, tied the vessel very tightly. The pulsations, contrary to the opinion of some authors, did not completely cease in the tumour, the size of which had already diminished one half. The pneumo-gastric and the great sympathetic nerves were observable at the bottom of the wound. The extremities of the ligature were allowed to hang out at the lower angle of the wound. The edges of the wound were now brought together by two strips of adhesive plaster, and a compress and bandage applied.

The pulse, examined by M. Moreau during the whole of the operation, did not undergo any change. The patient, in every respect, showed uncommon courage. From ten o'clock until one in the afternoon, she felt remarkably well; the throbbing in the head less painful; countenance smiling; pulse as natural as before the operation; slight pain only in the wound. *(Gum water; absolute abstinence.)* At one o'clock, pulse frequent, quick, full, hard; face flushed; injection of the conjunctiva; eyes full of tears; cephalalgia. *(V.S.* ℥viij. *from the arm; application of ice to the tumour.)* At three o'clock, the patient felt a little pain in the throat. *(The ice to be discontinued.)* At six o'clock, some slight shiverings; perspiration; feeling of syncope; severe pains in the epigastric region and towards the sternum; nausea; cephalalgia; pulse full and accelerated; countenance pale. At eight o'clock, the countenance looked as before the operation; the epigastric and substernal pain less severe. *(The same drink.)* She passed the night very quietly. 11th. Difficulty of deglutition diminished; epigastric pain continues; pulse frequent; face flushed and swelled; injection of the superficial veins; cephalalgia relieved by three bleedings from the nose, which took place between nine o'clock in the morning and noon. At this moment, throbbing in the head; cephalalgia; dyspnœa; and a sense of suffocation. *(V. S.* ℥viij. *from the foot, followed by great relief.)* The wound dressed morning and evening. Towards the evening the symptoms returned. *(Eight ounces of blood taken from the foot.)* Marked relief; two hours' sleep during the night. 12th. Pulsation weaker in the tumour, which appears a little diminished in volume; pain

in the throat quite gone. *(Vegetable lemonade for drink.)* In the course of the day, the head became affected again with severe pain; pulse full and frequent; skin hot and moist; palpitations. *(V. S. ℥viij. from the foot, followed by a remarkable amendment; dressing the same.)* 13th. Substernal pain less acute; skin continues hot; pulse frequent and full; cephalalgia persists. *(V. S. ℥viij. from the foot.)* Complete cessation of the pains. The aspect of the wound looks favourable; it is dressed twice a-day. 14th. Slight sleep during the night; the pain of the stomach and chest is now only intermittent. *(Emollient drink.)* In the day pulse frequent; face flushed; ardent heat of the skin; veins of the face much injected; sense of general weakness and of constriction in the chest. *(In the evening, V. S. ℥iv. from the foot.)* This was followed by slight syncope, though with sensible amelioration. 15th. Pulse less frequent and less full; tumultuous throbbing in the precordial region; general illness; anxiety. *(The same drink; antispasmodic mixture.)* 16th. Pain in the neck, attributed to the constant position of the patient on the back; considerable debility. The wound looks well, and the suppuration is of a good quality. 17th, at four o'clock in the morning, painful oppression; pain in the right side of the thorax; intense cephalalgia. *(V. S. ℥vj. from the foot.)* This was followed by inexpressible relief. At eight o'clock, in the same state. *(Few spoonfuls of bouillon; diluent drink; antispasmodic mixture.)* On dressing the wound, a point near the ligature looked very angry, which gave rise to a suspicion that a coagulum had not yet formed. In the evening, pain in the throat; prostration of strength; pulse less accelerated; contractions of the heart less violent. 18th. No difficulty of deglutition; the same state of the heart and pulse. At five o'clock in the evening, countenance thin; swelling of the veins of the forehead; slept for an hour. At this time the patient wished to drink; in lifting her head to do so, she felt slight pricking in the wound, and dreadful hemorrhage immediately ensued. The dressing was immediately removed, and the finger of the *religieuse* pressed in the wound was not able to arrest the flow of blood. The house-surgeon immediately arrived and found the patient in a state of syncope; the hemorrhage had stopped; inspirations deep and rare; pulsations of the heart slow and feeble; pulse small and very compressible. *(Aspersion of the face with vinegar and water; friction on the precordial region and of the limbs.)* The pulse became insensible; the heart ceased to contract; at a quarter before eight all attention was now useless; the patient was no more. The tumour had diminished one-half.

Sectio Cadaveris, forty-five hours after death.—Embonpoint ordinary; slight rigidity of the limbs; skin blanched. *Head:* The base of the cranium presented a very remarkable alteration. The petrous bone of the right side had tripled its natural size; its superior edge was on a level with the small wings of the sphenoid. Its tissue was soft, friable. On detaching the dura mater, fragments of this bone came away adhering to the membrane. The interior of this bone was spongy, and of a reddish colour, resem-

bling the cavernous portion, slightly macerated. The cavernous sinus of the same side was flaccid at the internal extremity of the petrous portion. This portion extended to the posterior clinoid process, both of which appeared to form only one piece of bone. The disorganization of the bone in this part was such that a probe could be run in many points from the interior of the cranium to the cervical region through preternatural apertures. The thyroid gland was apparently healthy. The common motor oculi, the pathetic, the trifacial, and the external motor oculi nerves, did not present any sensible change of structure; but the acoustic and facial nerves were at least twice their natural size at the point before entering the petrous bone. The dura mater was much thickened in the right temporal fossa, and so adherent to the petrous portion as to render it impossible to separate the two without tearing off fragments of the bone. All the sinuses were enormously dilated, particularly those of the diseased side. The superior and inferior petrous and the cavernous sinuses of that side were filled with an erectile, spongy substance, divided into an infinite number of small cells, all of which communicating with each other; by insufflation, they could be distended into a polygonal form: they contained hardly any blood. The arachnoid and pia mater were thickened and adherent to each other over the lower surface of the middle lobe of the brain on the diseased side. *The brain did not entirely fill the cranium.* An interval of a quarter of an inch separated the cranial, from the cerebral, arachnoid. The brain was otherwise in the natural state, its colour only appearing rather paler. *Neck:* The fungous tumour was situated in the hollow between the posterior edge of the lower jaw, and the mastoid process, extending to the lower surface of the petrous portion of the temporal bone and the auditory conduit, to which it adhered by strong prolongations. Between the ramus of the jaw and the tumour was observed the superficial temporal artery and vein; the facial nerve enveloped in a hard cellular tissue; several veins in a remarkably enlarged state; the stylo-maxillary ligament, and the cervico-facial branch of the respiratory nerve. The internal carotid artery traversed the substance of the fungus, in which it gave off three thick branches; to the jugular vein, which contained within its canal a considerable prolongation of the tumour; to a great number of accidentally developed veins; to the pneumogastric and to the superior and middle cervical ganglions. The parotid gland was found in a state of great atrophy, reduced to a very small size. The skin over the fungus was healthy. The tumour, since the hemorrhage, had diminished very considerably. Divested of its cellular covering, and of the surrounding vessels, its size was not larger than that of a hen's egg. Its form and appearance might have been compared to those of the heart of a three-months fœtus. Its structure was soft, spongy, of little consistence, diminishing under the pressure of the fingers, of a dirty red or brownish colour. It was formed partly of aneurismatic vessels and partly of erectile tissue; it had no proper capsule. Its cells communicated with each other, and appeared to

consist entirely of arteries and veins in a dilated state, which formed the chief constituents of the fungus. The upper two-thirds of the wound resulting from the operation was cicatrized; the rest was filled by a fleshy substance. There was no abscess or purulent secretion any where surrounding the part. The ligature still embraced the artery; and, what was remarkable, the rupture had taken place fifteen lines below the ligature, and a coagulum filled the calibre, otherwise healthy, of the vessel, from the ligature to the opening where the hemorrhage had issued. *Thorax*: In the posterior mediastinum, some of the lymphatic glands were found softened, containing caseous matter, which had no connexion with the wound of the neck. All the other parts were healthy. *Abdomen:* All the abdominal viscera were in the natural state; a great quantity of gas had formed in the digestive canal and in the peritoneal cavity.

We have translated this very interesting case nearly at full length. It is very probable that, had hemorrhage not taken place, the patient must have soon died of the disease of the brain and of the bone. The case is altogether one of great interest.

6. *Sarcoma of the Lower Jaw—Amputation of the left half of the Bone* *.—Vaneisam (P. F.), aged 47, of a sanguineous temperament, of a good constitution, entered the hospital on the 9th of November, 1827, presenting a sarcoma of the lower jaw, extending from the left branch of that bone to the symphisis. The disease was of seven months' standing, and had come on without any evident cause. When first noticed by the patient, it was in the form of a small tumour, about the size of a common pea, scarcely distinguishable from the body of the bone; this grew progressively, until it at last attained a considerable size. The pain, at first slight and intermitting, soon became constant and lancinating. The tumour which formed in the mouth rendered mastication and speech difficult. At the time the patient entered the hospital, the gums were in a state of carcinomatous ulcer, from which sanious and very fetid discharge issued. The sub-maxillary lymphatic glands of the side affected were much enlarged; but the skin covering them, as well as covering the jaw, was in a state of perfect integrity.

Before resorting to any operation, M. Lisfranc tried antiphlogistics for some days; but from these no further advantage was obtained than a diminution of the glandular swellings. M. Lisfranc, therefore, resolved to operate, which he did on the 26th of November, in the following manner:—Having examined the interior of the mouth, and finding that the disease did not extend beyond the ramus of the maxilla, he made an incision, which, commencing at the middle of the loose part of the lip, extended to the inferior edge of the jaw, dividing the whole thickness of the soft parts covering the bone. From the point last mentioned the incision was prolonged an inch lower, owing to the size of the tumour;

* Clinique de la Pitié.

it was then carried transversely, from before backward, to a quarter of an inch below and behind the angle of the jaw. The flap was then dissected up, and two teeth were extracted, in order to admit the saw. The bone was divided behind close to the ramus, and anteriorly through the symphisis. The operator then took hold of the insulated portion, and by making a few slight tractions, was able to depress it. The tumour, which extended very deeply under the tongue, was dissected from before backward, and from above downward with great care. The raninal arteries were not divided: no bleeding of consequence took place; nor was it necessary either to tie any of the vessels or cauterize them.

The reporter remarks upon this case, that the multitude of spectators who witnessed the operation did not know which to admire the more, the courage of the patient or the coolness and steadiness of the operator. Three hours after the patient had been put to bed, M. Lisfranc brought the vertical portion of the wound together by points of the twisted suture; but the transverse portion was not united, in order to facilitate the discharge of fluid. No unpleasant symptoms took place during the day, beyond a little fulness of the pulse. He was ordered to remain perfectly quiet, and to abstain from all nourishment. He was bled from the arm in the evening to the amount of eight ounces.

It is sufficient to remark, that before the end of December the patient was perfectly well. He was kept a month longer than necessary in the hospital, in order to be assured that the cure was complete. When he left it, in the beginning of January, 1828, the cicatrix was scarcely visible when he had his cravat on; the side operated on was very little depressed; the right side of the jaw inclined a little to the left; but it could be easily moved to its original position; the left ramus of the bone fell rather inward; in every other respect the patient was cured without having run the least danger, and the deformity was scarcely apparent.

7. *Stricture of the Urethra cured by a Mercurial Treatment.* By Professor Graefe *.—A man who had had gonorrhœa several times was troubled for eleven years with stricture of the urethra, which was latterly so considerable as to produce a development of tumours along the passage, extending throughout the perinæum. He felt a constant inclination to make water, but the fluid only came drop by drop, in consequence of which the bladder was never completely emptied. The absorption of the urine had affected the constitution of the patient very much; and it communicated to the breath and perspiration a strong urinous odour. When the patient entered the hospital his suffering was in the extreme; the tumours had enlarged to such a degree that he had not been able to pass any urine for eight-and-forty hours. At this time he had a violent fever; the inflammation which supervened in the bladder and the scrotum had resisted blood-letting, general and local; and part of the urine had become extravasated into the surrounding cellular tissue through

* Instit. de Clinique Chirurg. de Berlin.

an opening which had formed behind the stricture. The puncture of the bladder, performed immediately, owing to the impossibility of introducing the catheter, removed the danger for the moment. The fever and the inflammatory symptoms abated under the use of appropriate internal remedies; but a considerable part of the scrotum had become gangrenous, and when the slough separated, a great quantity of urine, which had been extravasated, came away at the same time. In this state of things, and considering especially the original cause of this inveterate affection, mercurial frictions were prescribed. Under the influence of this treatment, the urethral tumours disappeared; the testicles, which were before naked, became enveloped in skin; the urinary fistulæ closed, and the patient quitted the hospital, leaving his blessing behind him, together with his old scrotum.

8. *Fracture of the Cranium, with Depression* *.—A little boy, nine years of age, was knocked down by a heavy piece of wood, which fell upon his head from a considerable height. Blood issued from the mouth, nostrils, ears, and eyelids. On examining the wound, the cranium was found slightly depressed in the direction from one ear to the other; and above the right ear there was a laceration, an inch long, of the skin. A probe introduced under the detached integuments penetrated easily so far as the opposite temporal region. A large crucial incision, which divided the integuments, brought into appearance a fracture of the bone, which extended from the temporal bone of the right side, across the parietal, to the left side of the head. The anterior portion of the bone was depressed about half a line below the level of the posterior. A second fissure, commencing at the termination of the first, directed its course across the frontal bone, towards the right eye. The edges of this fracture separated to the distance of about a line from each other, so that the pulsations of the brain were observable through it. A great quantity of sanguinolent fluid issued from the fissure. This last circumstance determined Professor Graefe to delay the operation of trephining, and to try the effect of blood-letting, cold applications to the head, laxatives, and vinegar lavements. The sensibility of the patient returned in a short time under the employment of these remedies. The whole of the denuded wounds of the bone, which were very extensive, were dressed simply with lint soaked in tepid water. By degrees, several portions of the denuded and contused bone separated, forming altogether nearly three square inches of surface. Under these portions of detached bone the dura-mater was converted into a fleshy substance of a good aspect, which, under the continued use of the simple dressing, already mentioned, became converted into a firm membranous substance. In about three months, the child completely recovered.

This cure, as well as many more of a similar nature, prove that the applicationof the trephine is not always necessary in fracture of the

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* Instit. de Clinique Chirurg. de Berlin.

cranium with depression. There is no operation to the performance of which the surgeon is called, so generally unsuccessful as that of trephining, and it becomes almost a question, at least in our mind, whether more recoveries would not take place, upon the whole, if this operation was never had recourse to. Unless the depression be very considerable, we conceive that it would be advisable to defer it for some time and give other remedies a fair trial.

9. *Hydatids of the Mamma—Operation* *.—A robust young woman, aged twenty-five years, was troubled for several months with pain in the right breast, which, after commencing at a small point at the upper and outer part of that organ, increased gradually in extent, and became at last very intense. On examining the part, a hard, moveable, thick tumour, like a hen's egg, was discovered, presenting several inequalities, and very much resembling a deep-seated scirrhus. All the means employed in similar cases were tried in this, but without effect, and the pain becoming insupportable, an operation for the removal of the tumour was had recourse to. On cutting down upon it, the knife arrived at a cavity, which was found to contain some round bodies as white as snow. These were loose hydatids, many of which immediately escaped out of the wound. Three of them were as large as nuts; the other seven were smaller. They were spherical and formed of a white shining membrane, very dense, and about half a line in thickness; they were filled with fluid aluminous lymph. The membrane of the small hydatids was thinner, more delicate, lactescent, but more translucid, than that of the larger. M. le Professor Rudolphi, the learned helminthologist at Berlin, could not determine the characters of their animality. The parietes of the cavity which contained these bodies were smooth, being lined by a firm, dense cellular tissue, which had almost assumed the nature of serous membrane. A plug of lint was introduced into the cavity in order to bring on a vigorous suppuration, and thereby give rise to adhesion of its parietes; but this application did not suffice; ichorous serosity continued to discharge from it for a long time, so that more irritating substances were found necessary. These, especially a solution of nitrate of mercury, brought on good suppuration, and adhesion ultimately took place between the sides of the cavity. It was two months after the operation before the patient was perfectly cured.

10. *Remarkable Case of Malformation of the Vascular System in a new-born Child.* By Professor Mende †.—The child who formed the subject of this case died immediately after its birth without any known cause. It did not show any anomalous appearance externally, but the vessels having been injected, a remarkable anomaly was discovered in the disposition of the umbilical vessels. The umbilical vein, instead of dividing into two branches to traverse

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* Instit. de Clinique Chirurg. de Berlin.
† Nova Acta Phys. Med. Acad. C.L.C. Nat. Curios., 1827.

the liver, continued in the form of one trunk, and ascended over the convex surface of the right lobe of that organ to the right auricle of the heart, where it terminated before and above the mouth of the inferior cava. The heart appeared to be pulled down by this insertion of the umbilical vein; its base was much inclined towards the right and towards the sternum; its position was, consequently, more transverse than ordinary. A single umbilical artery arose from the abdominal aorta, at its bifurcation, between the primitive iliacs; it passed on the left side of the urinary bladder, and continued its course to the umbilicus. No other anomaly was discovered in the abdominal, or the thoracic viscera.

We see no reason why this malformation should have caused the death of the child.

11. *Disease of the Heart, with a rare and remarkable Anomaly of the Vascular System* *.—This case is given by Professor Franche. The disease of the heart, of which the subject of it died, was an aneurism with hypertrophy of the left ventricle. The patient had also hydro-pericardium, and some traces of chronic inflammation of the liver; induration of the spleen; a strangulation of the stomach; a tubercular degenerescence of the kidneys, and traces of inflammation of the mucous membrane of the intestines. But that which rendered the case remarkable, was an anomaly in the position of the vena cava ascendens and in its relation to the aorta—an anomaly of which we have no second example, except in the work of Morgagni, *De sedibus et causis Morb., &c., lib. IV.* The aorta was in its natural position, but the vena cava ascendens did not lie on the *right* side of the former vessel; it, on the contrary, ascended over the fourth, third, and second lumbar vertebræ, on the *left* side of the aorta; opposite to the first lumbar vertebra, the vein crossed in front of the artery, immediately below the superior mesenteric. Having arrived on the right side of the aorta, the vein continued to ascend, as usual, towards the liver and diaphragm. At the point where the vena cava is formed by the union of the two iliacs and where the aorta bifurcates, the iliac veins were for the most part covered by the iliac arteries, but the former were rather more to the *left* than the latter, corresponding thus with the anomaly of the principal trunks. The aorta was in this manner quite embraced by the vena cava opposite to the lumbar portion of the vertebral column.

12. *Absence of the Gall-bladder* †.—Every fact relating to the anatomy and physiology of the liver must be interesting; because, as a very wise old man observed, it shows us our ignorance. It was thought at one time that bile could be made out of venous blood only, but Mr. Abernethy met with a subject where the vena portæ did not enter the liver at all, yet the gall-bladder contained bile. How far this fact goes to prove that bile is usually the product of

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* Zeitschr. für Natur-und Heilk. 1827.
† Mem. de Médecine Militaire.

arterial blood, we shall not now stop to inquire. The present case proves that the presence of the gall-bladder is not necessary to the life or the health of the individual. It occurred in a soldier who died in consequence of a fall while in a state of intoxication. M. M. Wergne and Drignel, on examining the body, discovered, in the natural situation of the gall-bladder, a projecting surface, perfectly healthy, covered by the peritoneum, showing no trace of previous disease. On dissecting the biliary ducts, there were found, at the point where the right and left lobes of the liver divide, two principal canals, formed by several roots, which give rise, in uniting at a right angle in the middle of the transverse fissure, to a canal double the diameter of that which exists in the natural state; it was from three to four lines in length, and it joined the pancreatic. The liver was healthy, and no other anormal appearances are said to have been noticed.

13. *Gun-shot Wound of the Chest, with lesion of the right Lung and of the Spinal Marrow* *.—M. F., officer of dragoons, in fighting a duel, and presenting the right side of the body to his adversary, received in the right side of his chest a ball, which traversed also the inferior and external part of the radius. The foreign body penetrated between the sixth and seventh ribs; a small quantity of blood issued from the wound; the lower extremities lost their power of motion. The patient was bled on the spot to the amount of sixteen ounces; and some time after the bleeding was repeated. He was taken, on the same day, to the military hospital at Strasbourg. The countenance was pallid; the skin cold; general and almost constant spasmodic movements were remarked in the whole of the abdomen and chest; pulse small and frequent; no expectoration; no cough. The pulse soon became fuller, but respiration continued difficult. The patient complained of great heat of the superior extremities, and of coldness of the feet. By means of the application of leeches, and of a strict antiphlogistic treatment, the symptoms were subdued, and respiration became natural; but no power of motion was restored to the lower extremities; these were also deprived of sensation, as was likewise the case with the parietes of the hypogastrium and inferior parts of the back. Divers painful attacks took place successively in the chest, but were easily subdued. Stimulating frictions were applied to the inferior members. On the third day after the accident, M. F. complained of continual, and sometimes lancinating, pain in the vertebral column, opposite the seventh and eighth ribs, where it was supposed the ball was lodged. On the fourth day, this pain was less severe, but it extended lower down. Leeches were applied on the track which it occupied. By degrees, the pain ascended as high as the cervical region, and became insupportably agonizing to the patient. Sanguineous depletions and opium relieved the pain in a great measure. On the 11th day, the superior extremities were found covered with a pustular eruption, which

* Mem. de Chirurg. Militaire.

appeared to have produced a diversion of the vertebral pain. On the 13th day, there were observed 'some electric shakings at long and unequal intervals;' the patient fell into a comatose state; respiration became difficult. A blister was applied to each arm, and to the nucha. On the 14th day, the left arm was completely paralysed. The 15th day, another blister was applied to the right arm, which was quite cold, while the parts which were paralysed were, on the contrary, as warm as natural. The patient died on the 14th day after the accident.

Sectio Cadaveris.—The ball had entered a little below the right axilla; it had broken off a semicircular portion of the edge of the seventh rib, and directed its course backward through the inferior part of the lung, to the posterior part of the vertebral canal, and had been arrested between the posterior extremities of the sixth and seventh ribs on the left side, at their articulation with the transverse processes. The right cavity of the chest contained above three pints of sanguinolent serum, and about a pint of black, dense coagula, slightly adherent to the costal pleura. This membrane was covered by a thick layer of fibrous substance, which adhered very strongly to it. The lung was healthy, with the exception of the wound, which traversed its lower part to the extent of about three inches. This was filled with a coagulum of black blood. The spinal marrow was examined with great care; its envelopes presented the following lesion; a longitudinal rent of the dura mater, of three lines in extent, corresponding to the mark of the passage of the ball in the spinal canal; the arachnoid cavity full of sanguinolent serum below the wound; the medullary pulp, at the injured point and three inches above and below, diffluent and reduced into a sort of pap, but with this difference, that the softened portion above the division retained its ordinary colour, whilst that situated below was of a dirty yellow colour, approaching to red.

14.—*Anasarca Cured by Tartar Emetic Ointment* *.—This case is related by Dr. Juger. The subject of it was a man, sixty-five years of age, of a feeble and cachectic complexion, much addicted to alcoholic drinks, and subjected often to chagrine and privation. This man, after having suffered, in the spring of 1824, obscure rheumatic pains, for which he was treated by sudorific drinks, became suddenly affected, in the month of August of the same year, with general anasarca. In this state he was hardly able to walk; his respiration became short and painful; his weakness increased, and febrile symptoms manifested themselves every evening. The urine was sometimes abundant, and at other times scarce; but the skin was always dry. As the internal administration of tartar emetic, acetate of ammonia, arnica, &c. did not appear to excite the activity of the skin, Dr. Juger had recourse to friction with tartar emetic ointment. He ordered the ointment to be first applied to the abdomen, then to the inferior extremities, until the parts were completely covered with pustules; and he took care to

* Journ. des Progrés, &c.

renew the friction so as to keep up constant and successive crops of pustules. He, at the same time, administered internally tonic and diuretic remedies. Under this plan the urine, as well as the stools, soon became copious, and the skin perspired profusely. The œdema from that time diminished progressively, first, in the lower extremities, then in the abdomen, and, in about four weeks, all the parts which had been anasarcous were returned to their natural size. The pustules produced by the ointment discharged a very great quantity of purulent matter. The internal remedies prescribed by Dr. Juger were composed of antimony, aloes, squills, digitalis, and cream of tartar, all combined together and formed into pills. Under the treatment here described, the patient recovered his health perfectly, and, at the end of two years after being discharged, he still continued well.

15. *Spreading Erysipelas arrested and cured by the Actual Cautery.* By Baron Larrey *.—A young soldier, of a lymphatic temperament, had a considerable swelling in the right axilla. Fluctuation was perceptible in the centre of the tumour, whilst the rest of it was hard, and appeared to be of a chronic character. Caustic potass was applied to the central point. The eschar was incised; but erysipelas supervened and extended, with great rapidity, to the lateral parts, anterior and posterior of the chest. The affected surfaces were slightly touched, at a great number of points, with the actual cautery. From that time the erysipelas ceased to spread, and a complete resolution took place in a few days.

16. *Hydrophobia.*—In a village near Posen, a pig, destined to be killed, was bitten by a rabid dog. Some time after, symptoms of hydrophobia appeared in the animal. The proprietor, not wishing to let it die naturally, killed it, salted the meat, and he and his family ate it in a few weeks. Long time after this Dr. Suttinger, the medical attendant of the family, having heard of this circumstance, went to see them, and found them in perfect health, and perfectly tranquil about the issue, for they had an idea that there was no danger in eating any part of the animal except the head, and as they had cut this part off and buried it, they thought that they had nothing to fear. All the members of this family have continued well ever since.

17. *State of the Heart in Pregnancy* †.—It is observed, we are told, that the activity of the heart is greater, generally, than natural when a female is in the state of pregnancy, and we are given to understand that no person ever discovered the cause of this before M. Larcher, who found that in the greater number of those who die pregnant, or soon after delivery, the left ventricle was in a state of hypertrophy. He says, that during pregnancy the parietes of this cavity are almost invariably a fourth, and sometimes a third, thicker than natural. The right ventricle and the auricles preserve their natural thickness. The left ventricle alone becomes thicker, more firm, redder, and more active than natural. The hypertrophy, whether the cause or the effect of plethora, always imparts an

* La Clinique. † Archives Gén.

energy to the circulation, which accounts for the vascular symptoms of pregnancy. If this be a fact, it cannot, of course, be controverted, but we should be glad to find it proved to be so by further researches. We know of no reason why a greater energy should be required on the part of the left ventricle during pregnancy than at any other time, because the course of the circulation is not longer than at other times. The circulation of the fœtus and of the umbilical vessels is carried on by the heart of the fœtus itself, and not by that of the mother.

18. *Polypus of the Heart* *.—M. Rigacci, of Florence, mentions a case where a well organized polypus was found after death in the heart. A young woman, affected with some disease of the heart, supposed to be an aneurismal dilatation of the left ventricle, after having been treated with digitalis and other means, died on the 18th of December, 1827. On examination of the body after death there was found, among other things, a body of a fleshy appearance, similar to that called sarcoma, in the left ventricle of the heart. This ventricle, very much enlarged, had its walls much reduced in thickness. From the interventricular partition arose one of the roots of the morbid production. Another root took its rise from the auriculo-ventricular valve, by two peduncles. These two united, and formed a round body, two inches and two lines in length, which terminated by a ragged point, the surface of which did not appear covered by any membranous layer. On the external surface of the polypus were seen three reddish fillets, which, arising from the carneæ columnæ, extended to the morbid production, and appeared to be lost in its substance. These, examined with a good lens, were found full of reddish fluid, and were recognized as sanguiferous vessels. In order to prove the fact the more satisfactorily, two of the fillets were injected with mercury. One of them burst at the distance of an inch from the introduction of the tube, but the other was completely filled, and exhibited its divisions and ramuscules, which became lost in the substance of the polypus. The polypus, attentively dissected, was discovered to be formed of four or five fibrous strata, superposed one upon the other and intimately united. The author remarks that these observations do not permit a doubt that this polypus was properly organized, and that its formation took place before death.

19. *Case of Tetanus following a Gun-shot Wound* †.—The present case is given by Assistant Surgeon Leah, of H. M. S. Albion, and the injury was received at the battle of Navarino:—John Key, seaman, was wounded, October 20th, 1827, by a musket-ball, through the left arm, a little above the centre, the shot entering a little posterior to the vessels and nerves, without injuring the bone. Little or no blood flowed after the accident. He came into the cock-pit immediately, having received his wound from a Turkish frigate which was boarded about that time, namely, fifteen or twenty minutes from the commencement of the action. On his

* Antologia Firenze. Feb. 1828. † Ed. Med. Surg. Journ.

coming into the cock-pit the wound was immediately examined, when, there being no hemorrhage, cases demanding more immediate care were first attended to As soon as time would permit he was examined more minutely, when the wound, being found to be a flesh one, simple dressings and a roller were applied. Next day, as he felt tolerably easy, the dressings were not removed. An opiate was given at night. 22d. The wound was dressed, and is looking well; sympathetic fever rather high. Bowels opened by medicine. The opiate was repeated. 23d. Passed a good night; arm feels comfortable; bowels free. 24th. The wound was again dressed; edges healthy; discharge rather thin. A piece of the tendon of one of the heads of the *triceps* hanging from the wound was cut away. Passed a tolerable night; general health pretty good. 25th. Passed again a quiet night; bowels regular. His diet has consisted principally of a daily portion of weak mutton broth, and the usual allowance of wine was stopped. From the situation in which the ships were placed subsequent to the battle, every thing being in readiness for a renewal of it, and the men and officers lying at their quarters every night, it was impossible to make any final arrangements for the wounded until they quitted the port of Navarino, which they did to-day a little after noon. 26th. The wound continues to do well; discharge rather thicker. This morning he was put into a cot in the sick birth, being previously obliged to sleep in a hammock in the cock-pit. 27th. 6 *a.m.* He awoke this morning after a quiet night, complaining of stiff neck, and inability to open his mouth, excepting in a very slight degree. The wound was immediately examined, and found to be discharging freely, and to have a perfectly healthy appearance. 8 *a.m.* Salts taken at six have had no effect. The muscles of the abdomen are now quite tense, and feel as hard as a board. The belly was ordered to be fomented frequently with hot water; a linseed poultice to be applied to the wound; and the angles of the jaw to be rubbed frequently with equal parts of spirits of camphor and laudanum. He was also ordered ten grains of calomel every other hour, a drachm of laudanum immediately, and half a drachm every other hour afterwards. This was continued up to 6 *p. m.* without any improvement. The bowels have not been acted on; his breath and gums give evident signs of the mercury having already taken effect on his constitution. There is such a copious secretion of viscid phlegm, that it is with the greatest difficulty he can swallow a tea-spoonful or two of barley water at a time, which is poured into his mouth with the assistance of an iron tablespoon fixed between his teeth. The spasms of the muscles of the neck and abdomen are violent, drawing the head forward on the chest, and approximating the latter to the pelvis. Neither the superior nor inferior extremities are at all affected. When he took the last dose of calomel there was so much of the viscid phlegm, that Mr. Leah believes the whole of the calomel was spit out with it, and the exertion of taking the medicine brought on the spasms. It was therefore thought advisable to desist from giving him any more calomel. He has been constantly asleep during the day, ex-

cept when roused by the spasms or to take his medicine. Perspiration very profuse; pulse quick and small; he has frequent desire to make water, but has not been able to pass any. On pressing the region of the bladder there was found to be little or no urine secreted. 28th. The laudanum was continued till four this morning, but the symptoms gradually advanced to a fatal termination, which took place at half-past four *a.m.*, being about twenty-two hours from his making the first complaint of spasm. He retained his senses to the last.

Mr. Leah regrets to say that no examination of the body took place, the part of the ship appropriated for that purpose being crowded with the wounded.

20. *Case of Tetanus successfully treated* *.—The injury which led to this case also took place at the battle of Navarino, and is related by Mr. Leah. October 20th, 1827, Mr. Gray, midshipman, aged sixteen, of a dark complexion, short for his age, but of a robust constitution, had his right arm shot away by a cannon-shot, excepting a small piece of muscle by which it hung. He was brought into the cock-pit immediately after. The hemorrhage was not profuse. He was in the highest state of excitement, and was calling out as he descended into the cock-pit 'Doctor, I have lost one of my flippers.' The shot had struck the arm about four inches below the shoulder joint, the inside of the bone being bared for about two inches, the muscles detached from it by the violence of the shock, and the extremity of the bone slightly shattered. It was thought by the surgeon of the ship, Dr. R. P. Hillyar, that after sawing off the bared rough extremity of the bone, and tying the humeral artery (considering the shot passed obliquely), there was plenty of muscle on the outside of the arm, so that, by bringing the soft parts into apposition with adhesive straps and a roller, union might take place, and a useful stump might be formed. This was accordingly done, and he was put into a cot in the cock-pit as soon as the firing had ceased. No medicine was ordered; in fact, the night was spent before they had finished their operations and attended to the numerous wounded.

21st.—Passed a restless night, which is not to be wondered at; there has been so much duty going on all night, in repairing damages and getting the ship in order. He feels occasionally a good deal of pain, and the pulse is above 100, but the fever moderate. At bed-time he was ordered half a drachm of laudanum. 22d. Having got a more comfortable bed, he passed a tolerable night, and slept some hours. Complains very much of pain in the stump; and on the dressings being removed, the whole extremity of the stump is found to be a raw surface, the integuments not having taken on the adhesive process, but rather the suppurative; pulse hard and quick; tongue white. The anodyne was repeated at bed-time. 23d. Passed a quiet night, but he is very much agitated occasionally, which is not to be wondered at, considering the noise

* Ed. Med. and Surg. Journ.

and bustle in the ship. Bowels have been opened by sulphate of magnesia. The anodyne was again ordered at night. 24th. Passed a good night. The stump was dressed; no prospect of adhesion, but, on the contrary, there is a very copious suppuration from the lacerated parts, and sloughing has commenced; in fact there is not the slightest adhesion in any part. The anodyne was directed to be continued. 25th. To-day the combined squadron left Navarino, and they were enabled to procure a more comfortable and airy situation for the wounded than the cock-pit, which was as full as they could hang the cots and hammocks. Mr. Gray had a part of Captain Ommaney's cabin, nearly the whole of whose accommodations were most humanely given up for the use of the sick. The patient had passed a tolerable night. In consequence of the unfavourable appearance of the wound, Dr. Hillyar determined to remove the limb at the shoulder-joint. The operation was performed with a catline. An incision was made along the inner edge of the deltoid from its origin, as low as the injured parts would allow, which was nearly to its insertion;—a corresponding incision was then made on the outer edge of the muscle, and these two were united by a third across the top of the cone formed by them. The muscle was then dissected back and the joint opened. The head of the bone was tilted upwards a little from the glenoid cavity, and then by one stroke of the catline the limb was removed. There was not so much flap saved from the deltoid as was necessary, on account of the inner edge of that muscle being lacerated; more, therefore, was saved from the axilla than is usual, in order to cover the glenoid cavity. The axillary and two smaller arteries were tied. Not more than two ounces of blood was lost in the operation, the pressure which was made on the subclavian above the clavicle having completely commanded the hemorrhage. The flap was then brought over the glenoid cavity, and the edges were kept in apposition by three sutures, adhesive straps, pledget, and roller. He bore the operation very well, and expressed great satisfaction that it had been performed. In the evening he felt tranquil, and the pulse was 110. The anodyne was again given at bed-time.

Every thing went on well until the 10th of November. This morning the stump was dressed, and looked very healthy; but the patient complains of pain and stiffness at the angles of the lower jaw; and deglutition of a hard substance gives him pain there as well as in the stump; but he swallows spoon-meat with facility, and can open his mouth about three-quarters of an inch. Considering the debilitated state of his constitution, and the little success which attended the treatment of the former case (although the manner in which the tetanus came on was different), it was determined to treat this case constitutionally, by supporting the general strength, and attending to the digestive organs. In the evening he was not worse, and was quite free from spasmodic twitching, or any other affection of the muscles of the neck or abdomen; pulse 112; bowels not open, although he has taken since morning three mercurial and three colocynth pills. They were therefore ordered

again. An anodyne was prescribed at bed-time, with eighty drops of laudanum; and the *linimentum ammoniæ*, with tincture of opium, was directed to be rubbed upon the jaw. 11th. Slept the whole of the night. He can only separate his teeth about a quarter of an inch; and the abdominal muscles on the right side are now rather tense. He eats spoon-meat with appetite, and swallows it without difficulty. He is in good spirits, and not at all aware of the nature of his case. He has taken during the day two doses of castor oil, which caused two copious healthy evacuations. In the evening the skin was cool; pulse soft, 95; and he felt easy and comfortable. He was directed to continue the anodyne, and to take a pill of four grains of calomel, and five of antimonial powder. 13th. Yesterday he was much the same; the pills and draught were repeated at bed-time. The tension of the abdominal muscles was less yesterday, and to-day is quite gone. The state of the jaw is much the same; he does not feel so much pain in swallowing solids, such as toast, &c. He passed a very good night; his general health improves; he is free of fever; the pulse is 80, and soft; bowels moved thrice by castor oil. The wound was dressed; it looks very healthy, and the edges are cicatrizing. He was allowed full diet of fowl, which he ate with appetite; and the pill and draught were repeated in the evening. 15th. No particular change. His mouth is a little affected by the calomel; the stump was dressed to-day, and is doing well; bowels free; affection of the abdominal muscles quite removed. The anodyne was repeated; the calomel pill stopped. 19th. The night before last the calomel was again repeated; and yesterday he took castor oil, which had the desired effect. The stiffness of the jaw continues, but he can now open his mouth about three quarters of an inch; the soreness of the gum is gone; the general health and strength improve rapidly; he has no fever, the tongue being clean; the pulse natural; the bowels open; and his appetite good; he sleeps well at night; and sat up yesterday for the first time. The wound has been dressed every second day, and there are two patches healed. The granulations, however, being rather prominent, caustic was partially applied to them. He was ordered four ounces of port wine daily; and the anodyne was increased to ninety drops. 21st. His general health continues to improve; the wound heals rapidly; and the stiffness of the jaw is gradually diminishing. He now walks out for a short time every day. Caustic is applied to the wound, and it is dressed with dry lint. The anodyne was diminished to fifty drops. 22d. Continues to improve, and walked out to-day without assistance. 27th. The improvement continues; he cannot yet open his mouth to the full extent; the outer incision of the stump is nearly cicatrized; there is still a discharge of pus from beneath the flap. The anodyne was now abandoned. 30th. He gains strength rapidly; the stiffness of the jaw is nearly removed, so that he can open his mouth almost to the full extent; the discharge from the glenoid cavity was much less yesterday. A compress is applied over the glenoid cavity, and the caustic is applied at every dressing. December 2d. The stiffness of the jaw

is quite gone; very little pus from beneath the flap; and the wound heals rapidly. He is allowed half a pint of port. 9th. No discharge from beneath the flap; the parts now unhealed might be covered with a half-crown; his health is very good, and the stiffness of the jaw is quite removed. 15th. The wound to-day was not so large as a sixpence. 21st. Was discharged to the ship on the 19th with the wound about the size of a split pea; and about a week after his return it was quite healed.

Mr. Leah notices another case of a similar nature, which was successfully treated with opium, camphor, and sulphate of quinia.

21. *Case of Monomania, caused by Circumscribed Chronic Meningitis* *.—John Anderson, M.D., aged forty-one, of fair complexion, sanguine temperament, and endowed by Nature with a healthy constitution, was, after the general peace in 1815, placed on the half-pay of the navy, in which, for many years, he maintained the character of an active and zealous member. He came to reside in Cupar, his native town, where, from the extent and variety of his information, the sociableness of his habits, and urbanity of his manners, his company and conversation were generally courted. He contemplated settling somewhere, but his designs in this respect were always frustrated; and from a repetition of disappointments, conjoined with domestic causes, he became liable to occasional fits of despondency. About the year 1820, his intimate friends began to remark a peculiarity of manner, and singularity of ideas; but these were only occasional, and during times of temporary excitement. Addicted to study from early youth, and distinguished for his acquirements in learning, he continued to read much both of English and French authors; and in the course of his reading he met with some articles that treated of animal magnetism, which struck his attention, and made a great impression on his mind. Pondering long on this subject, and beguiled by the subtle and speculative reasoning of these authors, he began first to admit the possibility of animal magnetism, and then imagined that he himself was subjected to its influence. Soon afterwards, from an occasional incoherence of action, and strangeness of exclamation, it became apparent to his friends that this opinion was assuming an ascendancy over his mind. They endeavoured, of course, to scout it as nonsense, and to rail at him for allowing so vague a chimera to disturb his thoughts; but still the idea gained ground, and in a few years took so firm a hold of his imagination, that what was formerly merely admitted as possible, now became matter of serious truth and cause of apprehension. He no longer attempted to conceal his belief, but avowed it openly, and even accused some of his best friends and acquaintances of being accessary to keeping him under its influence, and holding him in a continual state of alarm. His nights in consequence became greatly disturbed, and he seldom obtained any satisfactory rest. If he did sleep, he was tormented by oppressive dreams and other strange phantasms. His notion of animal magnetism was, that certain in-

* Dr. Scott, Ed. Med. and Surg. Journ.

dividuals, who had an antipathy to him, could wield at will an influence over him of so malignant a nature as to deprive him of every kind of enjoyment, and keep him in a continual state of discomfort and anxiety. He invested these *invisibles*, as he called them, with vast power. No place was proof against their malignity, nor could distance restrain it. He went to Paris in the year 1822, with the view of escaping from it, but he found its influence there as great as at home. He frequently during the night could hear his enemies planning schemes for his annoyance. In his imagination they had recourse to every kind of torment which the most wicked and inquisitorial minds could invent, and were inexorable and persevering in their attacks. In the night-time, for example, they would rest on his breast with the weight of a mill-stone, deprive him of sleep, disturb his digestion, lock up his bowels, &c. &c.; at other times they would stimulate the bladder and rectum so powerfully and so immediately, that he had not time to undress himself; and on some occasions they would take such unwarrantable liberties with him, that he was compelled, in self-defence, to roar out loudly, by which he thought he obtained a relaxation of annoyance. Several times he made application to the local authorities to control their malignity, and even took bond from some of his acquaintances that they should cease to disturb him. On all other subjects, saving animal magnetism, his judgment was sound, and indeed in reasoning he evinced much acuteness; a stranger, in short, when the peculiar subject was not agitated, could not detect any thing unusual about him. Latterly, however, he complained of an impairment in memory, and that of a peculiar kind. He could not recollect the words he was accustomed to express his ideas in; he would therefore stop during speech and labour for them; he seemed to perceive them as it were in his mind, but could not get his recollection to lay hold on them. He continued in this state for several years, without apparently suffering in health, or losing much flesh.

About a year before his death, he had several attacks of pneumonia of the left side. On these occasions, though seriously ill, there was considerable difficulty in getting him to submit to medical treatment. Having a great aversion to medicine, he considered it in his case as useless and inert, and by no means calculated to remove the cause. At these times the only chance of success with him was, to admit his premises, but to draw very opposite conclusions. With this view we acceded to his notions about animal magnetism, and held, that, so long as its influence was applied to the body generally, its efforts were innocuous; but as soon as so powerful a stimulant was for any length of time directed upon any single organ, the result could not be otherwise than hurtful, and would terminate in inflammation. In this manner, though he pertinaciously retained his opinion as to its cause, he would allow us to combat its supposed effects, and submitted to be bled, blistered, &c. &c.

For several months before he died, he had a short, dry cough, with other symptoms of thoracic disease. He was one day sud-

denly seized with coughing, hawking, and spitting of blood, which increased so rapidly, that, being unable to expel it, he died suffocated.

On examination of the body, it was found that the blood had come from a large aneurism of the arch of the aorta, which communicated by an opening with one of the bronchial tubes. In the brain, there was an inflammatory deposit, apparently of old standing, under the arachnoid coat, with thickening of the membrane itself, and adhesion to the parts beneath for about the space of an inch and a half in length, and one in breadth, on each side of the longitudinal sinus, midway between the *crista galli* and the level of the commencement of the lateral sinuses. The cortical substance of the brain under this spot was not changed in appearance, or altered in structure. The other parts of the brain appeared natural, with the exception of a little fulness of the cerebral veins.

22. *Case in which the Cæsarean Section was performed**.—In the month of April, 1826, Mr. Crichton was sent for to Stobsmuir, to visit M—— R——, a young woman, twenty-two years of age, who had been taken in labour six days before, and attended by several medical practitioners in succession, who had all given up the charge as a hopeless case. On his arrival he found her in a state of extreme exhaustion. She was labouring under urgent thirst, and vomiting of bilious matter; frequent voiding of urine, but without alvine evacuation for three days; the pulse was 150; and she had considerable tenderness of the abdomen. The waters had drained off several days before; and the great fetor of the apartment augured nothing favourable.

Upon examination the pelvis appeared remarkably distorted. The *rami* of the *ossa pubis* and *ischia* were so close as not to admit the finger; and the *coccyx* was turned to one side, by which the posterior portion of the outlet was enlarged so as to admit two fingers with ease. At the brim the *pubes* approached the *sacrum* in such a manner as to admit the finger with difficulty, and during a pain there was felt the pushing down of a substance, apparently a portion of the scalp of the child. Being astonished at so remarkable a deformity of the pelvis in a young woman otherwise well-formed, Mr. Crichton made more particular inquiry of her mother, who brought to his recollection that this was the same girl he had been called to see a good many years before in a different part of the country, in consequence of a severe injury sustained at a threshing-mill. She had got entangled betwixt the end of the beam and one of the pillars of the building whilst the machine was at work, and mangled in a shocking manner; the parietes of the abdomen being laid open from the umbilicus all the way to the perinæum, and the bones of the pelvis crushed in pieces. Contrary to all expectation she recovered, and her mother recollected an observation Mr. Crichton made at the time,—that it would be a fortunate circumstance for her daughter were she suffered to lead a single life. It so happened, however, that a young man, her cousin, had taken a lease of a toll in their neighbourhood, and

* Mr. Crichton, Ed. Med. and Surg. Journ.

rather imprudently she was sent to assist him in the charge until he should be otherwise provided for. She returned to her mother's house ailing and despondent, as if impressed with a presentiment of the fate that awaited her.

Taking out with him several professional friends, all concurred with Mr. Crichton in opinion as to the utter impracticability of delivery in any manner by the natural way. There was reason to think the child still alive. The young woman herself seemed sure of it, and while she appeared resigned as to her own fate, she shrunk at the thought of her child finding a tomb in the womb of its mother. The matter was explained to her, and she did not hesitate a moment.

In her exhausted state it would have been hazardous to have removed her from the bed. A folded blanket was, therefore, introduced beneath her, and an incision made in the direction of the *linea alba* by the side of the umbilicus, commencing three inches above, and terminating about the same distance below it. The peritoneum was then divided to the same extent, and the uterus brought into view. Cutting into it, the placenta was found adhering underneath, but was easily separated from its attachment by the fingers. Upon removing its contents the uterus contracted and the intestines protruded. These were gently retained by Dr. Nimmo during the sponging out and stitching up of the wound, whilst Mr. Alexander took charge of the child, which in a short time gave indications of life. The patient endured the whole operation with the greatest composure, not even uttering a sigh, but appeared sensibly affected and grateful when assured of the safety of the child ; and it appeared to all, that, if the operation had been undertaken previously to the commencement of fatal symptoms, a speedy recovery might have been looked for. She gradually sunk away without pain, and died about eight hours afterwards.

Mr. Crichton went out next day for the purpose of inspecting the body, but could not by any means prevail upon her friends to grant permission. A portion of the scalp of the child, sphacelated in consequence of the long-continued pressure of the head upon the pubes. Nevertheless he throve well, and is now a stout healthy boy.

23. *Account of a Case in which Hairs were passed along with the Urine* *.—In one of my late voyages, says Mr. Mitchell, to New South Wales, as surgeon-superintendant of convicts, a prisoner of the name of Jellet applied to me on account of suffering at times very severe pain in the region of the kidneys, with loss of appetite, and febrile symptoms. He said that he had been subject to this complaint for many years, and had, in consequence, been frequently an inmate of the London hospitals, the last occasion being recently before his conviction. He had lived a very dissipated life. He also mentioned, that when he came on board he was almost free from his complaint, but that of late (the vessel being at this time about two months at sea) he had suffered much from painful

* Mr. Mitchell, Ed. Med. and Surg. Journ.

spasms, attended with a discharge of gravel along with his urine. I desired him to bring me some of his urine, and on examining it, found it of a thickish consistence and white colour, so as to resemble the *mistura cretæ*. The man was much emaciated, very diminutive in stature, of a pale, sickly appearance, and his body seemed deficient in nourishment. Finding that the urine he brought continued for a considerable period to have the same appearance, and to deposit after a time a very large sediment containing *hairs*, I began to suspect he was playing me a trick. But, as on being strictly examined he constantly adhered to the declaration that the hairs were passed with the urine, I resolved to prevent deception, by causing him to make his water under my own eye into a bottle which I kept for the purpose in my own possession. I then allowed it to settle for some time and poured off the fluid. This process was repeated several times, till I had collected a large quantity of the powder, which was then dried and carefully examined. I found in it a considerable number of hairs, varying from half an inch to an inch and a-half in length, and of various colours, some of them of a vermilion hue. Before a powerful microscope they appeared smooth, and not serrated like those growing on the surface of the body; but in other respects I could not discover any difference.

Having thus satisfied myself of the truth of the poor man's narration, I hastened to endeavour to relieve his sufferings. These I judged to arise from the passage of the hair and powdery deposit from the kidneys. As I considered the substance to be a compound of lime, I thought the best way to render its passage easy, and to correct the alkaline state of the urine, would be to give large doses of the citric acid; and in order to allay pain and increase the quantity of the urine, I ordered opiates conjoined with the spirit of nitric ether and diluents. As it struck me forcibly that this alkaline state of the urine might be induced or aggravated by his living on salted animal food, I changed it for farinaceous substances. Under this treatment, in a few weeks, he improved much in health and strength; the urine lost in a great measure its turbid appearance; the attacks of pain became very trifling; and the urine afforded little or no deposit, so that at the end of a six months' voyage I discharged him at the colony fit for duty, and free from disease. I have not been able to learn since whether he had any relapse. The acid and vegetable diet I continued to the end of the voyage; but the opiates and nitrous ether were omitted in the course of little more than a month.

24. *Case of Apoplexy from Pressure upon the Internal Jugular Vein* *.—Joao Fernandez, a soldier at Madeira, was stabbed between the condyle of the lower jaw and the mastoid process, just below the lobe of the ear on the left side. The knife with which the wound was inflicted was about two inches and a half in length, about half an inch in breadth, with a slight curve at its point; and it had been plunged up to the handle. Profuse

* Dr. Heineken, Ed. Med. and Surg. Journ.

bleeding ensued, which one of his comrades stopped by pressing with his finger upon the wound, after a large quantity of blood had been lost; and he was removed to the Portuguese hospital. Upon examination the temporal artery was found to be wounded, and with considerable difficulty was secured by ligature. Upon the removal of pressure the hemorrhage returned almost as violently as ever, and in a constant full stream, of the size of a goose quill. As the man was greatly exhausted by the large quantity of blood lost, the first object was to suppress the hemorrhage as speedily as possible; and with this intent the wound was filled with pieces of sponge, and compresses were applied over them. In two hours from the suppression of the hemorrhage he became comatose, with paralysis of the right arm and leg, and a full pulse. Twelve ounces of blood were taken from the arm, an active cathartic given, and in the evening, as the symptoms remained the same, other twelve ounces were abstracted. On the following day the same plan of treatment was persevered in, and about every eighth hour more or less blood was withdrawn, but without giving decided relief. On the seventh day he expired apoplectic.

Upon examination, a wound more than half an inch in length was found in the internal jugular vein, immediately below the base of the skull, and, with the exception of the temporal artery before-mentioned, no other vessel, nerve, or part of consequence was injured. There was no opportunity for opening the skull.

Dr. Heineken says that he did not see the man while living, nor was he present at the *post mortem* examination; but he gives the case nearly in the words, and at the express desire, of the gentleman under whose care it occurred, and he has no doubt about the accuracy of the details. He thinks it very evident, that the pressure applied to stop the hemorrhage, by rendering the canal of the jugular vein impervious, produced apoplexy, which frequent and continued bleeding failed to relieve. It does not appear to us quite so evident that an obstruction of the jugular vein for so short a time is likely to have brought on apoplexy unless there was some disease of the vessels of the brain. However, as the head was not examined, and as the case is related in a very loose manner, the immediate cause of death cannot even be inferred.

25. *Chronic Abscess treated with Moxa.* By Dr. Anderson *(Glasgow Royal Infirmary).*—William Walker, aged forty-four, weaver, admitted 31st December, with constant pain about the right hip-joint, aggravated by walking, and producing lameness. Limbs equal in length, and no increase of pain when the articulating surfaces were pressed together. A firm elastic tumour, the size of a hen's egg, in the groin, and a softer, obscurely fluctuating swelling behind the trochanter major. Tumour in groin communicated an impulse on coughing, and could be reduced in size by pressure, which also occasioned some fulness above Poupart's ligament. Pain of four years' duration; swellings first observed about ten months before.

On the 9th January, the fluctuation was distinct in both tumours;

the posterior had increased in size, and firm pressure on either rendered the other prominent and tense. Two *moxas* were burnt on each tumour, so as to form sloughs. On the 17th, the sloughs were separating, and the anterior tumour was obviously diminished in size. On the 26th, there was still some fulness both in the hip and groin, but no remains of fluctuation. On the 2d February, no return of fluctuation had taken place; but as there was still some prominence both in the groin and buttock, the moxa was repeated, and the former sores kept open with savine ointment. On the 10th, the pain and swelling being nearly gone, he was dismissed, but desired to keep the sores open.

A complete absorption of the fluid was thus effected by the moxa, and there was reason to suppose that the cure was in other respects perfect. Shortly after dismissal, however, in consequence of walking, the pain of hip and loins returned severely, and extended down the posterior part of the thigh.

He was re-admitted on the 23d February, and as there appeared to be still some deep-seated disease about the hip, the subsequent treatment consisted chiefly in rest, the re-application of the moxa posteriorly, so as to increase the discharge, and the use of tonic medicines and diet. The fluctuations did not return.

Dr. Anderson has used the *moxa* in a great variety of cases; in diseases of joints, injuries and diseases of the spine, local paralyses, tumours, abscesses, hydrocele, &c. It is a very powerful excitant, and frequently succeeds when other remedies have been tried in vain. None of his patients have objected to its use, several of them have requested its repetition, and others, who had heard of its good effects, have presented themselves as out-patients, in order to have it applied.

26. *Case of Subfascial Inflammation—Ligature on the Humeral Artery.* By Dr. Anderson *(Glasgow Infirmary)*.—Mary Drysdale, aged thirty-five, admitted 1st March, having sprained the left wrist, while lifting a heavy weight eight days before. The two inferior thirds of the arm were much swollen, particularly on its anterior surface. Skin of a bright red colour, very tense, painful, and glossy. The swelling also extended to the hand, the back of which was œdematous. The pain was so severe, that she had not slept for several days. Pulse 110; tongue furred; bowels bound; skin hot; headach and anxiety of countenance.

An incision was made on the palmar aspect of the forearm, and she had a purgative. On the 2d, another incision was made in the direction of the ulna. Both incisions bled freely. On the 3d, the arm was easier, but she had not obtained the usual relief. The tension was less, however, and as the heat and pain were chiefly about the elbow, twelve leeches were applied, followed by a saturnine lotion. On the 4th, the whole arm was less inflamed, but the back of the hand had become more tense and painful. On the 6th, some suppuration had taken place in the palm, and about the thumb and little finger, where incisions were made, and a bandage applied. On the 7th, so little benefit seemed to have arisen from the incisions, that Dr. Anderson suspected they had not penetrated

to the seat of the disease, which seemed to be beneath the aponeurosis of the deep flexor muscles.

By careful examination, he thought he could perceive an obscure fluctuation; and after penetrating very deeply midway between the wrist and elbow, a quantity of purulent matter, mixed with sloughs, was discharged. By this incision, a large artery was divided, and bled profusely from beneath the fascia, which was immediately distended. Pressure was of little use, and Dr. Anderson's first impulse was to extend the incision, and endeavour to secure the vessel at the wound. The highly vascular state of the parts, however, the depth of the vessel, and the weak state of the patient, rendered it unadvisable to risk a further loss of blood from the division of other vessels. The humeral artery was therefore immediately secured by ligature above the elbow. The incision was afterwards enlarged for the free discharge of pus and clots.

The suppuration became profuse, and the ring and little finger, which did not at first seem to have suffered from the ligature of the artery, sphacelated, and were removed. The thumb also appeared livid for a few days, but gradually recovered, and she was altogether so much better, under the free use of quina, wine, and nourishing diet, that Dr. Anderson expected a complete recovery. But her strength had only been artificially kept up, and on the night of the 14th, the pulse became imperceptible, the stimuli lost effect, and she died next day.

The ligature had separated from the humeral artery, which was shut, and the external wound had nearly cicatrized. The vessel which had been opened in the forearm could not be discovered; but from the situation and depth of the incision, it was most probably the inter-osseous. The muscles and soft parts had put on a healthy appearance, and she seemed to have died at last from the debility induced by the profuse discharge.

27. *Exostosis of the Pelvic Bones. (Glasgow Infirmary.)*—John Henderson, aged thirty-nine, warper, admitted 8th September. About six months before, without evident cause, began to have occasional darting pains about the sacrum, and left hip-joint. These gradually increased, and extended to the knee and ankle. After three months, he became unable to walk, from the severity of the pain, particularly in the groin, and inside of the thigh. Some firm elastic swelling was now first observed between the sacrum and trochanter major. He was cupped, blistered, and had a caustic issue on the hip, but the disease did not yield. When admitted, the left hip was greatly swelled, but natural in shape. The swelling reached the crest of the ilium, the median line of the sacrum, and half way down the thigh. The affected limb seemed half an inch elongated, owing obviously to the inclination of the pelvis to that side. Was unable to rest on the limb from stiffness and pain, but had no pain from pressure of the articular surfaces together, or pressure on the trochanter. Thigh bent forward, and he could not extend it fully. Health fast giving way; feet œdematous; urine scanty and high coloured; body emaciated. He remained in

the house till he died, which was on the 22d November. During that time, the swelling of the hip and left side of the pelvis increased steadily, he became hectic, and affected with general anasarca, and sunk gradually with little increase of pain, and with no visceral disease.

Various diuretic, mercurial, and other medicines were used, but without effect. Some doubt having been expressed at a consultation, as to whether there was matter behind the trochanter, an incision was made in this situation, but none was found; and lastly, the hip was rubbed with the ointment of the hydriodate of potass.

The following were the morbid appearances: The hip was about double its natural size; the bones forming the left side of the pelvis, with the exception of the sacrum, were surrounded by a large quantity of firm, slightly elastic substance, easily cut, and having a semi-cartilaginous consistence. The cut surface presented an almost uniformly yellowish white appearance. On the dorsum ilii, this substance was from five to seven inches in thickness. The glutæi muscles were much diminished in size, and more superficial than the tumour. On the internal surface of the pelvis, this substance was from three to four inches in thickness, and occupied the situations of the iliacus internus, psoæ, levator ani, and obturator internus muscles, no traces of which remained, except a very small portion of the iliacus internus, which was near the crest of the ilium. It also arose from the anterior part of the os pubis, and the femoral artery was seen unaltered in structure, passing through its substance. It arose likewise from the bones about the foramen ovale externally, and passed an inch or two down the femur, but did not adhere to the periosteum of that bone.

Those parts of the tumour which were deep-seated, or near the perisosteum, were traversed by spiculæ of new bone. On the dorsum ilii, behind the acetabulum, this new bone was from half an inch to an inch in thickness. In all the other parts there was only a small quantity of new bone formed near the periosteum. The consistence of the tumour was firmer the nearer it was to the old bone, and firmer on the dorsum ilii than on the internal surface of the pelvis. The hip-joint was unaffected. The lower half of the body was very œdematous, especially the affected limb. The thoracic and abdominal viscera were healthy.

28. *Fracture of the Spine, reduced by Extension.* (*Glasgow Infirmary.*)—Thomas Shaw, aged thirty-four, labourer, admitted 29th March, having two hours before received a severe injury of the spine, by a heavy boiler falling on him from a crane, whence it was suspended. The 10th, 11th, and 12th dorsal vertebræ projected backwards, but more particularly the 11th, which was very prominent. Sensation and motion were completely lost below the nates, and the bladder and rectum were both paralyzed. The lower limbs were cold, and the pulse was feeble. Extension was now made from the shoulders and feet, and the displaced vertebræ pressed strongly forwards with the knee, by Dr. Craig. This was continued for some time; and although no sudden reduction was

felt, yet on examination afterwards, the projection had nearly disappeared. He was laid upon his back, with a firm pillow beneath the injured part. Sensation and heat almost immediately returned in the extremities, even as far down as the toes; but the power of motion remained the same, and the bladder and rectum were still paralyzed. The urine was withdrawn, he was cupped on the part, and had a dose of calomel and jalap, followed by an injection. On the 30th, he was easy, but there had been no stool from two injections. He had a draught containing three drops of croton oil, followed by a turpentine injection. On the 31st, the sensation in the limbs was nearly perfect, and there was now a slight degree of motion. There was no stool from the draught and another turpentine injection. Five pounds of warm water were therefore thrown into the rectum, by means of Jukes' apparatus. This produced two copious stools; and on the 1st April, the motion of the limbs had not increased, but he had passed some ounces of urine. The water injection was repeated.

On the 2d, notwithstanding every remonstrance against it, his friends insisted on carrying him home to a considerable distance in the country, and Dr. Anderson has not been able to ascertain the result.

Dr. Anderson is of opinion that there was a fracture in this case although no crepitus was felt, for the displacement was so considerable that he does not think it could have existed at this part of the spine without some degree of fracture. It is to be regretted that the patient left the infirmary before the result of the injury could be ascertained.

29. *Case of Vagitus Uterinus* *.—Although many German writers on obstetrics and medical jurisprudence believe firmly that the fœtus may be sometimes heard tocry in the uterus—and the fact is so generally admitted in the German schools, that several medical gentlemen who have visited this country have stated to us that they have themselves heard it, and all laugh at the idea of its being doubted—the accuracy of the fact nevertheless continues to be questioned, both in Britain and in France, more particularly, however, by the French accoucheurs. M. Lesauvage of Caen, well known to toxicologists, as having some years ago settled the question regarding the alleged poisonous properties of pounded glass, has declared his dissent from the general belief of his countrymen in the *vagitus uterinus*, and transmits as his reason the following incident to the Parisian Society of Medicine. A bitch fell sick when far advanced in pregnancy. On approaching her, there was heard distinctly, and even at the distance of ten paces, the cries of her pups, whose movements could be also seen through the abdominal parietes. She did not bring forth her young till two days after, 'so that the *vagitus* in this case necessarily supposes the spontaneous development of a gas in the amniotic fluid of each fœtus.'

* Revue Médicale.

GENERAL MISCELLANY

OF THE ACCESSORY SCIENCES.

1.—*Medicines used in different parts of Russia for the cure of Hydrophobia.*—Dr. H. de Martins, a physician at Nosten, has given the following list of vegetable remedies which are in popular use in Russia for the cure of Hydrophobia. Many of them, he states, have been employed from time immemorial with success. They are—

1.—Aconitum lycotonum. 2.—Alisma plantago. 3.—Anagallis arvensis. 4.—Artemisia vulgaris. 5.—Asperula odorata. 6.—Campanula glomerata. 7.—Chironia centaurium. 8.—Cichorium nitybus. 9.—Convallaria polygonatum. 10.—Cuscuta Europæa. 11.—Dipsacus fullonum. 12.—Eupatorium cannabinum. 13.—Galium aparine. 14.—Genista tinctoria. 15.—Gentiana amarella. 16.—Gentiana campestris. 17.—Gentiana pneumonanthe. 18.—Hypericum perforatum. 19.—Leonurus cardiaca. 20.—Lichen caninus. 21.—Lycopodium clavatum. 22.—Convalliaria bifolia. 23.—Paris quadrifolia. 24.—Polemoneum cæruleum. 25.—Polygonum bistorta. 26.—Ruta graveolens. 27.—Scutellaria galericulata. 28.—Tancetum Vulgare. 30.—Thalictrum flavum.

The plants numbered 2, 14, 15, 16 and 24 are the only ones of which he has himself witnessed the efficacy; of these he has proved the preservative power in hundreds of cases.—*Zeits-fur Natur und Heilkunde.*

2. *Dr. Wedekind on the modus operandi of Aloes.*—From numerous experiments Dr. Wedekind concludes that the purgative effect of aloes does not, like that of other cathartics, depend upon an increase of the intestinal secretion, and upon an immediate stimulation of the contractile fibres of the intestines, but that this substance is first absorbed, and carried into the circulation; that it is then secreted by the liver, augmenting the activity of that organ, and that it finally passes from the body by its purgative effect, which is secondary. This theory rests upon the following facts: aloes does not commonly purge for 12 hours after it has been taken. It purges those persons most, in whom the secretion of bile is most easily increased. This medium produces an excitation of the whole system, with acceleration of the pulse, heat in the abdomen, dryness of the mouth, &c. These effects increase when this medium is continued for some days; sometimes it produces hæmorrhoids, and other hemorrhages. These, effects take place also if the aloes be applied externally upon ulcers, &c. *Bullet. des Science Med.*

3.—*Remarks upon the Insects of the order Strepsiptera.*—Strepsiptera was an order proposed by Mr. Kirby in the Linnean Transactions, and the two genera it comprises are no less curious in their structure than remarkable in their economy, being the only true insects that have been discovered living upon others in their perfect state, if we except a few of the Hymenoptera, which are parasitic upon female aphides. In the early part of the year, a genus of bees (andrena) may be found with their bodies distorted towards the apex, by maggots or larvæ, whose heads are exserted between the segments. These continue enlarging until they become pupæ, and shortly produce an insect so anomalous in its structure, that it appears difficult to decide its natural rank in the scale of of animated nature. In the last Number (56) of that elegant work, Curtis's British Entomology, it appears, that the author has minutely investigated the subject, and, by dissection, he has arrived at some facts highly interesting to naturalists, which have set at rest the conflicting opinions of Kirby, Latuil and Leech, by proving that the appendages to the mesothorax are modifications of Clytra.

4.—*Lunatic Paupers in the County of Middlesex.*—The pauper Lunatics in this county are males 307; females 546; not mentioned 20; total 873, 409 of which have been above five years in an unsound state of mind.

5.—***Euphorbia Lythyris—its acrid principle destroyed by Acetic Acid.***—This species of the acrid genus euphorbia is common in our gardens, and known under the name of the English caper tree; from a popular belief that the young fruit are capers, persons have been induced to taste them, and have severely suffered for their incaution. A most distressing burning sensation is produced by it, extending over the whole tongue, fauces &c. Yet when they have been submitted to the process usually employed for pickling vegetable substances, they lose all their acrimony and are substituted for real capers. The people at Woodward's nursery gardens, Maida vale, use them as pickles frequently.

6.—*How to preserve Potatoes.*—These valuable esculent tubers may be preserved in a proper state for food for many years by scalding them, or by submitting them to a dry heat in an oven for a few minutes. By these means the vitality of the buds is destroyed, and they will not sprout on the return of spring. The skin should be preserved entire, and those which have been scalded should be carefully wiped dry.

7.—*Gare's Universal Family Ointment.*—This ointment which is so much extolled in the vicinity of Stockwell as the most wonderful thing that ever was invented for the cure of burns and scalds, as well as for wounds and ulcers of all kinds, is a very clumsily prepared mixture of semi-vitrified oxyde of lead, with linseed-oil, a bad imitation of the Linimentum Tripharmacum, of which the following is the formula in the Pharmacopœia of 1745. ℞ Emplast plumbi ʒiv; ol. oliv. f.ʒiv; aceti f.ʒ. Coque leni igue, assidue movens, donec linimenti crassitudinem habeant. This injected preparation is still used by some practitioners, and it is, perhaps, the best application for sore nipples that is employed.

8. *White Cats with Blue Eyes, always Deaf.*—This curious fact was mentioned in our first number. It has been confirmed by Mr. Bice, who states that a white cat, of the Persian kind, was kept in his family, and that she was quite deaf. She produced, at various times, many litters of kittens, of which, generally, some were quite white, others more or less mottled, tabby, &c. But the extraordinary circumstance is, that of the offspring produced at one and the same birth, such as, like the mother, were entirely white, were, like her, invariably deaf; while those that had the least speck of colour on their fur, as invariably possessed the usual faculty of hearing.—*Magazine of Natural History, No. II.*

9. *Observations on the Mammary Organs of the Kangaroo.*—A very interesting paper, by Mr. Morgan, on the mammary organs of the kangaroo, was lately read before the Linnæan Society, in which he stated that the marsupial bones are formed, first, for the purpose of giving that firm support to the superincumbent abdominal viscera which the narrow pelvis of the animal is incapable of affording, while in the erect posture; and, secondly, for the purpose of constituting a fixed point of resistance, against which the mammæ are squeezed by the muscular girdle already described as enclosing those glands between their fibres. By this arrangement, the female is enabled to empty, by compression, the excretory ducts of its mammæ, and thus to force their secretions into the mouth of the imperfectly organised young, which, during the earlier periods of its existence, appears incapable of extracting a nutritious fluid from that part, by the usual means.

It appears that the secretion of this fluid (or milk) takes place only in the larger and lower gland, and that its ejection through the inferior and longer teat is assisted by a muscular investment, which encloses the ducts throughout their whole course, from the gland to the extremity of the nipple. The existence of this structure has been noticed by M. Geoffroy St. Hilaire, who has assigned to it the same use. Under this compressing muscle of the lower, or, as Mr. Morgan has named it, the true, marsupial teat, a congeries of vessels, which principally consisted of veins, was described as forming a plexus around the central fasciculus of ducts. These veins, together with those of the gland, were stated to occasion a considerable distension of the mammary organ during the time of suckling, in consequence of the congestion which must necessarily occur in the vessels at that period, from the pressure made upon their main trunks by the action of the compressing muscle of the mammæ; for it has been found, that the size of the organ, on such occasions, exceeds that which a loaded

state of the ducts only could produce. The mammæ were found, as in the virgin animal, to consist in double glands on each side, the upper and smaller presenting the same anatomical characters as in the former instance; its excretory ducts, however, in their course towards the upper nipple, were found to be enclosed in an indistinct muscular sheath, and there was a faint indication of the existence of a plexus of vessels similar to that which was found in the lower or true marsupial teat. This smaller mammary organ is considered by the author as analogous to the supernumerary mammæ and teats of other mammiferous animals, since the lower, or true, marsupial mammary glands and their teats, appear to perform, exclusively, the office of preparing a nutritious fluid for the support of the young animal.—*ib.*

10. *Fossil Remains of the Mástodon, &c.*—A paper has been read before the Geological Society, "On the fossil remains of two new species of Mástodon, and of other vertebrated animals, found on the left bank of the Irawadi; by William Clift, Esq. F.G.S. F.R.S., conservator of the museum of the Royal College of Surgeons."

The author having been requested to describe the fossil remains which the zeal and liberality of Mr. Crawfurd have transferred from the deserts of the Irawadi to the museum of the Geological Society, confines himself strictly to zoological and anatomical details: and, following the system of Cuvier, commences with the

Pachydérmata proboscidífera.—The only genus of this order indicated by the remains is the Mástodon, and of this there are two species, Mástodon látidens and Mástodon elephantöìdes, not only commanding attention from their novelty, but from the beautiful gradation which they exhibit between the Mástodons already described and the elephant. On comparing the teeth of Mástodon látidens with those of the mastodon of the Ohio (M. gigantèum), the denticules are found to be more numerous and less distant, and the interstices less deep than in those of the latter; the teeth, in short, begin to assume the appearance of those of the elephant. On advancing to Mástodon elephantöìdes, these features of similarity are more strongly developed; the many-pointed denticules are still more numerous and more compressed, and the structure, were it not for the absence of crusta petrosa, becomes almost that of the tooth of the elephant. In both, though the teeth are formed upon the principle by which the tooth of the mastodon is distinguished from that of the elephant, the crown of the tooth wears away more like that of the elephant than that of the other mastodons.

Pachydérmata ordinària.—In this group we have the remains of the genera sus, hippopotamus, and rhinoceros. Of the first there is only a single specimen, consisting of a small portion of the lower jaw, containing one molar tooth, and the fragment of another; of the second there are but few fragments, nor are they sufficiently characteristic to warrant a definition of the species, which must have been comparatively small; of the third there is a portion of the upper jaw, containing two molar teeth, and portions of the lower jaw with molares, which seem to approach nearer to those of the rhinoceros of Java than to those of any other living species.

Ruminántia.—In this group we have fragments of the ox and the deer.

Reptília.—Chelònia *Cuv.* (Testudinàta *Bell.*) There are many fragments of a large species of trionyx, and some of an emys; but the remains are not sufficiently defined for specific description.

Saúria, fam. Crocodilìdæ.—Of this family we have the remains of two genera, viz. a Leptorhynchus, allied to, if not identical with, the great gavial, and a crocodile resembling Crocodìlus vulgàris. Of the former there are portions of the lower jaw and several vertebræ; of the latter there is the anterior termination of the lower jaw, which must have belonged to a very large individual.

The specimens, in general, do not appear to have undergone any mineral change, with the exception of being abundantly penetrated with iron, and are very brittle. This last circumstance, arising from the loss of their animal gluten, indicates great antiquity, and that they have not been imbedded in any very compact soil; unlike the teeth of the mastodon of the Ohio, which lie in a strong blue clay, and have almost as much animal matter as is to be found in a recent tooth.

The bones are almost in every instance broken, and, from the firmness of texture of most of them, the direction and cleanness of the fracture, and the sharpness of its edges, the injury, which must have been the result of an immense power operating with sudden violence, appears to have taken place at the period, or very soon after the period, of the destruction of the animal.

11. *Instructions for forming an Herbarium.*—We recommend the specimens to be dried between leaves of paper, under the pressure of a bag of sand or small shot, and, when perfectly dry, transferred to a bound specimen-book, and sewed (not gummed) to its leaves, in the order of gathering the specimens. The name should be attached to each specimen by a slip of paper. In the course of three or four years, two or three thousand specimens will have been dried, and these may then be transferred to another book or books, arranged according to the natural system, gummed on, and their names, &c. written beside them. The mode of forming the book for this purpose is as follows:—Suppose the size to be folio; then gum the specimens on one side of leaves of drawing cartridge-paper, paste a leaf of reddish-brown blotting-paper on the back of the leaf containing the specimens, and paste a margin of cartridge-paper all round both sides of each leaf, say half an inch broad at top and bottom, and the outer edge, and one inch broad at the inner or binding edge. This being done, put each leaf separately in a press, and let it remain there till it is pressed quite flat. Proceed in the same way with as many separate leaves as will contain all the specimens to be arranged, or as many as will make a proper sized volume; and then send them to a binder, to be bound in the usual way. The effect of the double edge will be, that each page of specimens will, as it were, lie fastened to the bottom of a shallow drawer, completely excluded from the air; and the volume may be kept in a book-case along with others, in the usual way, and, by its index, referred to with as much ease as any other botanical work. This is by far the best method of keeping specimens that we know of, for small collections; and we would strongly recommend all those who can afford it, to employ Professor La Gasca (*Gard. Mag.* Vol. II. p. 220) to form books of this sort, containing one or two species under each order and tribe of the natural system. There could not be purchased a work of equal value to the young botanist. Mr. Toward, flower-gardener to the Duchess of Gloucester, is the only person that we know of who possesses an herbarium done up in this way, and to him belongs the merit of the invention. The binder was Mr. Perryman, of Windsor, himself much attached to botany. (See *Gard. Mag.* for August, 1827.)

12. *Vegetable Rouge, and Pink Saucers* are prepared from the florets of the Carthamus tinctorius, which in the dried state are kept by the druggists under the name of safflower, in the following manner:— Wash safflower till no stain is given to the water, and then dry it. Of this take half an ounce; infuse it a short time in a pint of water, in which a dram of the subcarbonate of soda has been previously dissolved; strain off the liquid, to which add an ounce of finely levigated French chalk. The alkali will hold the colouring matter of the safflower in solution, and the chalk will remain colourless; but by adding a little tartaric or citricacid, the alkali will be neutralized, and the red colouring matter which is not soluble in simple water, being set at liberty, will fall to the bottom, combined with the chalk. Thus a beautiful pigment is produced, which may be dried and further levigated for spreading on saucers; or, ground with a drop or two of olive oil, will form the Spanish or vegetable rouge. Liquid pink dye is a similar preparation, with a portion of spirit of wine.

13. *New preparation of Magnesia.*—A preparation of Magnesia, called concentrated magnesia, is being introduced into London; it is said to be prepared by precipitating the magnesia from the solution of its sulphate by means of pure potass and immediately drying it, by which process pure magnesia is procured by a shorter method than that hitherto employed, and has the advantageous property of occupying much less space than magnesia in common use; it is at the same time more convenient, being without that exceeding lightness possessed by the old forms.

14. *The liability of the Mercury in Hydr. c Cretâ to separate in a metallic form.*—In four drachms of hydrargyrum ā Creta, the remains of four ounces which had been purchased at Apothecaries' Hall twelve months previously, were found two drachms and a half of metallic mercury.

(Continued from Page 260.)

15.—*Formulary of the* HOTEL-DIEU, *at Paris.*—The quantities are expressed in Troy weight and English fluid measure.

Sedative Collyrium.—Take of Infusion of Elder flowers ʒiv.—ʒijss. Acetate of Lead gr. v. Vulnary Spirit (a spirit distilled from various aromatic herbs) ʒij. Mix.

M. Récamier's Liquid Collyrium.—Take of Sugar-candy; Florentine Orris; Divine Stone *, of each ʒj. Brandy f. ʒj. Distilled Water f. ʒiss. Mix.

M. Récamier orders this collyrium for specks on the cornea in scrofulous cases.

Vinous Fomentation.—Take of Red Wine 0ij. Petals of Red Roses ʒij.

ANOTHER.

Take of Red Wine 0ij. Honey ʒiv. Mix.

These are used for ill-conditioned ulcers and wounds. Lint, imbued with fomentation, is applied as dressing.

Saponaceous Fomentation.—Take of Brandy 0ij. Hard Soap ʒj. Dissolve.

Used in cases of sprain, and different kinds of injury in the vicinity of articulations, after the inflammation has disappeared.

Antipsoric Lotion.—Take of Sulphuret of Potass ʒiv. Water 0j. Sulphuric Acid ʒiv. Mix.

This is successfully employed by M. Dupuytren for the cure of psora. The parts affected are to be touched twice or three times a-day with lint, or linen, moistened with the lotion; simple baths are used at the same time.

Chlorine Fumigation.—Take of Muriate of Soda ℔.ij. Oxide of Manganese ʒv. Water 0j. Sulphuric Acid (sp. gr. 1322) 0j.

Used to purify the air; the salt, oxide of manganese and water, are to be put into a glazed earthen vessel; the acid is to be poured upon them, and the mixture skimmed occasionally. (Used at all the Hospitals.)

Astringent Gargle.—Take of Barley Water; Decoction of Roses, of each f.ʒiij. Sulphate of Alumina ʒj. Honey of Roses f. ʒij. Mix.

Used in the third stage of inflammation when the heat and pain have ceased, and the tumefaction remains.

Antiscorbutic Gargle.—Take of Bitter Infusion f. ʒvj. Tincture of Wild Radish, or Spirits of Scurvy Grass f. ʒss. Honey of Roses f. ʒij. Mix.

Antiseptic Gargle.—Take of Decoction of Cinchona f. ʒvjss. Camphor gr. vj. Muriate of Ammonia gr. ixss. Mix.

Still employed, though less frequently than formerly, in putrid sore throat.

Narcotic Injection.—Take of Narcotic Species ʒiij. Water 0ij.

How the ingredients termed narcotic species are composed is not stated; probably of poppy heads and the dried leaves of some of the other narcotic plants.

Tonic Injection.—Take of Cinchona ʒij. Water 0ij.

Employed in chronic discharges which follow inflammation, such as are considered to depend upon a state of debility and laxity of texture.

Emollient Injection.—Take of Emollient Species ʒiij. Water 0ij.

Emollient species is composed of the dried leaves of mallow, marsh-mallow, mullein, pellitory of the wall, and rag-wort, in equal parts.

It is presumed that these injections are to be prepared by boiling. The formulæ are literally translated, &c.

Stimulating Injection.—Take of Warm Wine 0ij. Alcohol sp. gr. 837. The quantity according to the case.

Chiefly employed for the cure of hydrocele, and sometimes for fistulous ulcers. (Used in all the hospitals.)

Demulcent Lavement.—Take of Linseed ʒij. Water 0ij. Oil of Olives f. ʒij.

This is the common lavement.

(To be continued.)

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* Divine stone is prepared as follows:—Take of Sulphate of Copper, Sulphate of Alumina, and Nitrate of Potass, of each ʒiij; reduce them to powder, and melt them over a fire in a crucible; then stir into it camphor in powder ʒj. When cold, break the crucible and preserve the saline mass, which is *pierre divine*—divine stone.

16. *Change of Crystalline State in a solid Body.*—It was in the sulphate of magnesia that I first remarked the change, in form, of a solid body, or, more accurately, the change in the position of its atoms, without the assumption of the liquid state. If this salt or the sulphate of zinc be slowly heated in alcohol, and gradually raised to ebullition, the crystals will lose their transparency by degrees, and, when broken, they will be found to be formed of a great number of new crystals, entirely different in their form to those of the salt employed.—Mitscherlich, *Annales de Chimie*, xxxvii. 206.

This is a case of internal motion to be added to those already known of basalt, arsenious acid, barley-sugar, sulphur, &c. &c.

17.—*Fulgarites, or Lightning Sand Tubes.*—Some very fine fulgarites have been shown in Paris and London by Dr. Fiedler, procured from Westphalia. Some of them, which, although not put together, have been exhibited in fragments and in drawings, were 19 feet long. These tubes consist of sand vitrified on the internal surface, and rough on the exterior; they are formed by the passage of lightning through a sandy stratum; and although this has been well determined, yet M. Hachette thought it might be well to add to the knowledge already obtained some experimental proofs of the effect of powerful electric discharges through powders of a convenient degree of fusibility.

18.—*Preparation of Hydriodic Acid Gas.*—The following process is by M. Felix d'Arset. Hypophosphoric (hydro-phosphorous?) acid is to be evaporated until upon the point of evolving phosphuretted hydrogen gas, when it contains no more water than is essential to its composition. It is then to be put into a small tube closed at one extremity, and its weight of iodine added; on applying a gentle heat, hydriodic acid gas is liberated, and continues to be evolved for a long time. The gas is perfectly pure, being free from excess of iodine; it may be collected over mercury without the formation of any iodide of mercury, or by letting the conducting tube descend to the bottom of the collecting jar, in the ordinary manner for heavy gases. 90 or 100 grains of the acid gave as much as 120 cubic inches of hydriodic gas, pure and entirely absorbable by water.

The residue of the operation is a mixture of phosphoric acid, and the compound of hydriodic acid and phosphuretted hydrogen.—*Annales de Chimie*, xxxvii. 220.

19. *Test for Nitric Acid and its combinations.*—Pour a solution of protomuriate of iron upon the surface of an amalgam of zinc, and then place a crystal of nitre upon the latter in the fluid; a dark band immediately forms around the crystals, sometimes extending over the whole surface of the mercury. All the nitrates, as well as nitric acid, act in this manner: but other salts, as the chlorate, produce no effects of the kind; so that a very sensible test of the presence of nitric acid is thus afforded. It is necessary that the solution employed be a protosalt of iron. If nitric acid is supposed to exist in a liquid, it should be saturated with potash, evaporated to dryness, and the dry mass tried. Of course, salts of copper or of silver must not be present.

When an amalgam of brass is used instead of zinc, those effects are not produced; which M. Runge considers as a proof that the zinc or brass is combined, *chemically*, with the copper.—*Annalen der Physik*, 1827, p. 479.

20. *Migration of Butterflies.*—Madame de Meurin Wolff, being in the country with her family, in the district of Grandson, in the Canton de Vaud, perceived, on the 8th or 10th of June, 1826, an enormous quantity of butterflies (*Papilio Cardui*, L.) traversing the garden with great rapidity: they all proceeded in the same direction from south to north, not deviating to the right or left, flying close to each other, and not being disturbed by human beings. This continued for at least two hours; the insects did not stop on the flowers; their flight was low and uniform; the width of the column was about ten or fifteen feet.

Borrelli, at Turin, observed a similar circumstance with the same butterfly, at the end of March in the same year. They also flew from south to north; the air was filled in the places where flowers abounded, and at night the plants were covered; their number diminished after the 29th of March, but some continued to appear until June. M. Huber, who describes these and similar appearances (which are not uncommon,) supposes that the portion seen in Switzerland may have been a part of the column which passed over Turin.

The caterpillars of these butterflies do not live in society, but are isolated from the time they leave the eggs.

21. *A New Hospital.*—A new hospital has lately been established in Nutford Place, Bryanstone Square; it was opened in August, 1817, on the sole responsibility of one humane and energetic individual. It is now under the patronage of His Royal Highness the Duke of Sussex, their Graces the Dukes of Wellington and Gordon, and seventeen other noble Personages of very high rank. The hospital is fitted up in a very superior and ingenious manner; one long ward is furnished with the newly-invented wire beds, which add much to the comfort of the sick. Two thousand patients have been relieved within the last ten months, one hundred and forty of whom had been received into the house, and several of the more important surgical operations have been successfully performed. The support this Institution is receiving from the nobility and gentry in its vicinity is very great, and it is more than probable that the internal accommodations will very soon be considerably increased. The Medical Officers are—Physician, Dr. Scudamore; Assistant Physician, Dr. Harrington; Surgeons, W. W. Sleigh, Esq. and Robert Hicks, Esq.; Apothecary, Mr. O'Neal.

22. *Pulvis hydrargyri submuriatis compositus, seu pulvis alterativus.*—Take of submuriate of mercury, and precipitated sulphuret of antimony, of each equal parts; rub them well together, until the whole powder assume a uniform grey colour. This has been kept for many years in one of our metropolitan infirmaries and is still used there, and also in private practice, as an approved and very decided alterative, in doses of from one to three grains at bed time.

BOOKS RECEIVED DURING THE MONTH.

1.—A Practical Essay on Stricture of the Rectum, illustrated by Cases, showing the connexion of that Disease with Irritation of the Lungs; affections of the Urinary organs and of the Uterus, with Piles, Fistula in Ano, and various Constitutional Complaints. By Frederick Salmon, one of the Surgeons to the General Dispensary, Aldersgate Street. The Second Edition, pp. 223. London, 1828.

*** It is not many months since we gave a review of the first edition of Mr. Salmon's work, and we then had occasion to speak favourably of it. The present edition contains some alterations and additions, which we look upon as an improvement.

2.—Review of some of the Surgical Cases which have lately occurred in the Royal Infirmary of Edinburgh. A Clinical Lecture delivered to the Students of Surgery in that Institution, on Monday, 28th of July, 1828, by George Ballingall M.D. F.R.S.E. &c. &c.

*** The profession at large, as well as the Students of the Royal Infirmary, are much indebted to Dr. B. for the publication of his very interesting Clinical Lectures. We should be glad to find medical officers of public Institutions generally actuated by the same feeling of duty and love of science. 'Let me entreat you, Gentlemen,' says Dr. B. 'to rest the interests of your profession, and the rewards of your personal labours upon the only sure and lasting foundation—the abandonment of every thing like reserve, and a full disclosure of the results of your experience.' Would that every other Professor held out the same precept and laudable example to his pupils.

3.—An Introductory Lecture on the Rise and Progress of Midwifery, from the earliest period to the present time, delivered at the Central Infirmary, Greville Street, Hatton Garden, May the 30th, 1828. By Michael Ryan, M.D. &c. &c.

*** Dr. Ryan's Lecture abounds in learning and interesting information.

4.—Essay on Expansibility as a Vital Property, and on the Influence of the Capillary Tissue over the Circulation of the Blood. By Hugh L. Hodge, M.D. &c. &c. Philadelphia, 1828.

*** We shall probably take some further notice of Dr. Hodge's essay hereafter.

5.—Plain Observations on the Management of Children during the first month, particularly addressed to Mothers, with the appendix, containing a few practical hints for the farther guidance of the Nursery. Underwood, London, 1828.

6.—The Midland Medical and Surgical Reporter, and Topographical and Statistical Journal. No. 1, Vol. 1.

7.—Medical Botany, No. 20, by John Stephenson, M. D., and James Morss Churchill, F.L.S. &c. This Number contains a figure of the Acaciæ Vera, the only accurate one that has been published in this country. Churchill, Leicester Square.

8.—British Entomology, or Illustrations and Descriptions of the Genera of Insects found in Great Britain and Ireland, No. 56, by John Curtis, F. L. S. This work is the production of a most indefatigable and learned entomologist and accurate artist. It reflects honour upon the author and upon the country in which it is published. The plates exhibit beautifully executed coloured figures of insects, with dissections admirably displayed; in addition to which, on each plate is a plant in flower, drawn from wild specimens by the author, which renders it doubly interesting.

9.—A Manual of the Anatomy, Physiology, and Diseases of the Eye and its appendages. By S. J. Stratford, Member of the Royal College of Surgeons in London, Surgeon to the Dispensary for Diseases of the Eye, and late Senior Assistant-Surgeon of the 72d, or Duke of Albany's own Highlanders, pp. 199. London, published by Longman and Co.

10.—A Supplement to the Pharmacopœia: being a Treatise on Pharmacology in general; including not only the Drugs and Compounds which are used by Practitioners of Medicine, but also most of those which are used in the Chemical Arts, or which undergo chemical preparations. Together with a Collection of the most useful Medical Formulæ; an explanation of the contractions used by Physicians and Druggists; and also a very copious Index, English and Latin, of the various Names by which the articles have been known at different periods. The fourth edition, considerably enlarged; including the alterations in the new London Pharmacopœia, and the New French Medicines. By Samuel Frederick Gray, Lecturer on the Materia Medica, Pharmaceutical Chemistry, and Botany. London: pp 510. Thomas and George Underwood, 32, Fleet Street.

11.—The North American Medical and Surgical Journal. (In exchange.)

12.—Bulletin des Sciences Médicales. (In exchange.)

13.—Revue Médicale et Journal de Clinique. (In exchange.)

14.—Ephémerides Médicales de Montpellier. (In exchange.)

Literary Intelligence.

In the Press, Medical Essays on Fever, Inflammation, Rheumatism, Diseases of the Heart, &c. By Joseph Brown, M.D., of the Royal College of Physicians, of the Royal Medical Society of Edinburgh, and one of the Physicians to the Sunderland and Bishopwearmouth Infirmary, in 1 Vol. 8vo.

An Essay on the Operation of Poison upon the Living Body, by Dr. Addison and Mr. Morgan, of Guy's Hospital, will very shortly be published.

Notice to Correspondents.

Communications have been received from Mr. Dewhurst, Mr. Cribb, Dr. Nunn, Dr. Bailey, Dr. Kennedy, Mr. Curtis, Mr. Cornish, and Mr. Beechey.

Communications and Works for Review are requested to be addressed to the Editors; to the care of Messrs. T. and G. Underwood, 32, Fleet Street.

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CRITICAL REVIEW.

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I.—*Pathological and Surgical Observations relating to Injuries of the Brain.* By B. C. Brodie, F.R.S., and Surgeon to St. George's Hospital*.

To the moral philosopher, the physiology of the brain and nervous system forms a most interesting subject of inquiry. To the medical practitioner, whose views ought to extend far beyond those of the mere moral philosopher, inasmuch as they ought to embrace both the physiology and pathology, as well as the cure of the maladies, of this complicated system, a minute attention to this subject is of the highest importance. It is hardly necessary to notice in this place that the doctrine which assigns the brain as the seat of the intellectual faculties, is not of modern date. Although since the time of Hippocrates, and perhaps long before that, physicians and philosophers have assigned to the mind a local habitation, and a dependance on material structure, still, the majority of them have treated it as an entirely independent agent, free from any ties with the material fabric of the body. Whilst the mind was considered in this light, and whilst the fundamental principle of mental philosophy consisted in an immaterial essence, a knowledge of the physiology and pathology of the brain was, of course, perfectly unnecessary to the mere moral philosopher. Things are now, however, rather different. Without inquiring here into the truth or error of the phrenological system as now established, we may venture to state that the promulgation of the doctrine has imparted an impulse to the researches of physiologists; and that, should experiments even ultimately prove that the functions of the brain are indivisible as regards the manifestation of mind, still these experiments, as well as the minute observations which the phrenologists are prompted

* Medico-Chirurgical Transactions, Vol. XIV.

to make by the influence of their doctrine, will lead, and have already led, to discoveries which would otherwise have remained concealed for ages. Were it merely to prove the point respecting the natural foundation of mental philosophy, a subject which has not been considered beneath the notice of some of the greatest geniuses of all ages, the surgeon would have sufficient inducement to pay the strictest attention to the phenomena attending injuries of the brain. With regard to this subject, we must confess, that surgeons have hitherto displayed but little scientific induction in combination with the exercise of their art. Whether the cause of this be owing to the circumstance, that those who have the greatest opportunities of witnessing the effects of injuries of the brain, consider the physiology of that important organ beneath their notice, or above their comprehension, we cannot tell; but it is evident that nothing could tend more to lead to an exact knowledge of its functions than an accumulation of facts observed and accurately recorded in every instance of cerebral injury. In doing this, the exact situation of the injury, its extent, and every other circumstance, however minute, connected with it, should be marked down, and compared with all the symptoms attending the lesion. Nothing can be more deficient than our present knowledge on this point. It is observed that injuries, apparently of a similar nature, produce very dissimilar symptoms in different cases; it is therefore concluded that the functions of the brain are governed by no determinate laws, or else that the laws, if any exist, which govern them are beyond the reach of inference. Now, we find that nature is pretty uniform in her operations; that exactly the same causes never produce dissimilar effects. We have no right to suppose that the laws of nature are less determinate as regards the brain, than as they relate to other objects. Whether the brain be composed of one organ, or of an aggregate of organs, exactly the same sort of injury inflicted on it must produce very nearly, if not exactly, the same symptoms in every instance.

Mr. Brodie's essay is divided into twelve sections. In the first and second, he describes the effects of injuries of the head as indicated by dissection. These are, of course, various, according to the exciting causes of the injury. The scalp alone may be cut or lacerated, with or without injury done to the pericranium; the bone may be fractured, with or without any laceration of the scalp; the injury may extend to the cerebral membranes, or to the brain itself and its vessels; in fact, the appearances discovered on dissection are almost endless in their modifications, but they are such generally as might be expected to present themselves from

the nature of the organ and the causes by which the injury has been inflicted.

In the third section the author speaks of *concussion* of the brain. Concussion may be complicated with lesion of the scalp, or of the brain itself, or with fracture of the skull, with or without depression. But the brain may be affected, by a fall or a blow on the head, in such a way as to render it incapable of performing that part of its function which relates to animal life, where no anormal appearances would be discoverable on dissection. A person receives a blow on the head, and becomes immediately insensible to every thing around him. He may continue in this state for a few minutes, or for some hours, and then recover as perfectly as if no accident had happened to him, or as if he awoke from a profound sleep. During this state of insensibility the brain is capable of performing its office so far as relates to the phenomena of organic life: the heart contracts; respiration is carried on, sometimes as uninteruptedly as if the patient were merely asleep; in fine, all the automatic functions are often performed as regularly as if the patient were in health. When the accident has been very severe, however, the organic functions gradually decrease, and ultimately cease altogether. Mr. Brodie is of opinion that when concussion proves fatal, the immediate cause of death consists in the disturbance of the heart's action. Although the action of the heart is proved to have an indirect dependance on the brain, still we have reason to infer that the dependance of the respiratory muscles on it is more immediate. The action of the heart will necessarily decrease as respiration becomes more and more feeble; but it is probable that its action might be kept up for a considerable period in cases of severe concussion, unattended by compression, if respiration were produced by artificial means. This is a subject which Mr. Brodie overlooks altogether. Whilst respiration is kept up artificially, other means might be employed for rousing the action of the dormant organ. Under such a circumstance the practitioner would be justifiable in having recourse to the most powerful stimulants, in every form, regardless of any reaction which might afterwards take place. This treatment would, of course, only apply to cases in which the approach of death is discoverable owing to a want of nervous energy to carry on the functions of the automatic organs.

We now come to the section wherein the author treats of compression of the brain. He offers here a few remarks on the question, whether or not the brain be capable of being reduced in size by pressure. In a physiological and pathological point of view, this is a question of very little import-

ance. It is evident that pressure, applied either partially or more generally, will cause a disarrangement of the delicate fibres of which the organ is composed, and that it will thereby offer some impediment to the due performance of the cerebral functions. But we have reason to believe that, in many cases where the symptoms usually attributed to pressure are very marked, some other cause besides that depending on the actual amount of pressure exerts an influence on the organ. We not unfrequently find patients die under symptoms of extreme pressure, still, on post mortem examination, the quantity of extravasation or of effusion found in the brain is very inconsiderable; while, on the contrary, the pressure is sometimes so great, especially in cases of effusion, as to separate the bones asunder without giving rise to very marked symptoms of cerebral derangement. A very small quantity of pus thrown out in the substance of the brain or between the membranes, or a small quantity of blood effused, will produce severe symptoms of pressure, whereas, five times the amount of serum may exist in the cavity of the cranium without giving rise to such symptoms. In a case of slight depression of a part of the bone the severe symptoms of compression which now and then are observed, may be owing to the *irritation* produced by the depressed portion, or to the disarrangement of the delicate fibres of which the organ is composed, by the very partial application of the pressure, more than to the actual amount of that pressure in relation to the brain at large. When the symptoms are caused by the extravasation of blood, or by the effusion of pus, there is always some lesion of the organ or its membranes acting as a cause of the cerebral derangement, in addition to the actual pressure. Of one thing we are certain, namely, that a very slight depression of a part of the bone will sometimes cause total insensibility and other symptoms of compression, whereas, in other instances, the symptoms are very slight even when the depression is considerable. It should be noticed whether these equivocal effects be not influenced by the particular parts of the brain to which the pressure is more immediately applied. Mr. Brodie is of opinion, that pressure on the base of the organ produces generally more severe effects than when the upper parts of the organ form the seat of it, but he does not inform us whether this severity of the symptoms is manifested in relation to the mental or to the corporeal faculties.

The author arranges the symptoms of compression in the following order: 1st. *Pain in the Head.* This symptom can exist only when the pressure is slight. 2nd. *Insensibility.*

This symptom is frequently attendant on concussion, so that it is not sufficient of itself to lead us to a diagnosis of the malady. A person may receive a blow on the head which renders him insensible for a time; and he may recover from this and be able to walk about, and then relapse into a state of insensibility. When this occurs, Mr. Brodie thinks it probable that the insensibility in the first instance is the effect of concussion, from which the patient in a longer or shorter time recovers, but that extravasation is gradually going forward, from a lesion of some of the encephalic vessels, which ultimately puts a stop to the cerebral functions by actual pressure. The insensibility sometimes affects only certain parts of the body; at other times it is more general, or even universal, as regards the functions of animal life. 3rd. *Paralysis.* This symptom is also sometimes partial, affecting only one set of muscles, or even one muscle; in other cases it is so general as soon to put a stop to all the functions, both animal and organic. Mr. Brodie remarks that hemiplegia is a much more rare occurrence when pressure of the brain is the consequence of accidental violence, than it is when the pressure is caused by an accidental rupture of some of the vessels, as in apoplexy, and he attributes this circumstance to the different situation of the pressure. In apoplexy the extravasation occurs generally either in the ventricles or in the substance of the brain, whereas, in cases of depression the pressure is, of course, applied to the surface. 4th. *Convulsive actions of the Muscles.* It is sometimes observed that when a part of the muscular system is paralysed, the rest is affected with convulsive twitchings; but the author is doubtful whether the convulsions be owing to the pressure simply, or to cerebral irritation, because we observe the same symptom in cases of punctured and wounded brain. 5th. *Affections of the Pupils.* The state of the pupils of the eyes is by no means sufficient to guide us in our diagnosis of the injury, for in some cases of cerebral compression the pupils are found contracted, and in others dilated; occasionally they are sensible to light, whereas, at other times they remain immoveably contracted or immoveably dilated when light is applied to the eyes. It is also not an uncommon thing, in lesions of the brain, to find one pupil in a contracted and the other in a dilated state. 6th. *Affection of the Circulation.* Mr. Brodie believes, that pressure on the brain for the most part affects the action of the heart; not by producing actual interruption, but by causing its contractions to be either less frequent or less forcible than natural. In some cases of pressure the pulse becomes remarkably slow, and immediately on the removal

of that pressure it increases in frequency as well as in strength. 7th. *Sickness and Vomiting.* Mr. Brodie observes that 'these symptoms occur in some cases of pressure of the brain from injury, but that it may nevertheless admit of a question whether they should or should not be referred to the actual pressure.' Vomiting, indeed, is generally considered a symptom of concussion more than of compression; and the author states that he has sometimes known the patient to become sick and vomit immediately on the depressed portion being elevated.

The fifth section treats of 'Wounds of the Brain and its Membranes.' Leaving out of consideration the numerous observations made by the advocates of phrenology respecting the plurality of cerebral organs, the researches of modern physiologists have proved, undeniably, that different parts of the brain are destined to perform different functions. But Mr. Brodie observes, that those distinct results which are obtained in experimental physiology are not met with in cases of accidental wounds of the brain, inasmuch as the symptoms produced by the latter are always liable to be complicated with those of concussion, and often with those of compression. We have already noticed that, owing to the complicated nature of the brain, surgeons have almost despaired to trace that connexion between cause and effect relative to wounds and injuries of this organ, which they are able generally to do in lesions of other seats. Hence Mr. Brodie says that 'with respect to wounds of the cerebrum, such as are commonly met with, even without the complications produced by concussion, or depression of bone or extravasated blood, we find their effects to be so different in different cases, that they do not admit of being reduced to any general rule; and no data which we have hitherto obtained will enable us to predict the exact consequences to be produced by a wound of a given extent, or occurring in a given situation.' In support of this statement, Mr. Brodie refers to two cases, the one related by Morgagni, the other by Dr. Hennen. In the first of these, a sharp instrument passed between the eye and the roof of the orbit, penetrating through the latter into the substance of the brain to within a finger's breadth of the lateral ventricle. In this case no symptoms whatever occurred, and the patient was as if nothing unusual had happened until the end of the third day, when suppuration was established.' In Dr. Hennen's case, the end of a ram-rod entered the cranium immediately below the nasal process of the frontal bone, and penetrated an inch into the anterior lobe of one of the hemispheres. The patient was instantaneously deprived of life

by the accident. Mr. Brodie remarks that 'in each of these cases the wound was of the same kind, and *very nearly* in the same situation.' We must be allowed to observe that these cases by no means support the author's position, that the effects of wounds of the brain are so different as not to admit of being reduced to any general rule.

In the two cases just related, the wounds were anything but 'of the same kind.' One was occasioned by a sharp, penetrating instrument, whereas the other was caused by the blunt end of a ramrod, and must have been a contused or lacerated wound of the cerebral substance. Again, we are told that the two were 'very nearly' in the same situation. A musket-ball may pass through the chest *very near* the heart, without destroying life, but were it to pass through that organ death must necessarily follow. The fact appears to be, that the brain is composed of a congeries of organs, or of different parts adapted for the performance of different functions, some of which are of greater importance than others in the animal economy. Some parts of the brain may be injured, or even totally destroyed, without occasioning any perceptible interruption to the organic functions: the slightest lesion of other parts will instantly destroy life. Before Mr. Brodie can establish his statement, he must show that a part which cannot be injured without causing death in one individual, may be injured to the same extent with impunity, at any rate without endangering life, in another. The reason that we cannot reduce the effects of wounds of the brain to any general rule, depends upon our imperfect knowledge of the functions of the organ, or of the comparative importance of its various parts to the rest of the system. It is probable that the anatomical and physiological researches of modern practitioners will lead to a more correct knowledge on this point.

The symptoms of wounds of the brain are various, no doubt depending upon the situation and extent of the lesion. All the cerebral fibres which ultimately converge to form an important nerve may be divided or torn; or the injury may only affect a certain number of these fibres, with or without interfering with those which form the roots of other nerves. It is found that lesions of the superior parts of the cerebral hemispheres cause no perceptible derangement of the phenomena of organic life; but they disturb the higher faculties of the mind by which the moral movements of the animal are governed. This is proved by experiments performed on living animals; and Mr. Brodie also remarks, that in some cases in which the brain has been extensively lacerated, it has appeared to him that without the actual insensibility

adhered to for a considerable period, as, not unfrequently, inflammation comes on after weeks have elapsed. As a part of the treatment, cold applications to the shaved head should never be forgotten or neglected, and the head and shoulders should be constantly kept in an elevated position.

There is one remark which Mr. Brodie makes, and which we consider deserving of particular attention; namely, that 'where bleeding has been carried to a great extent, symptoms frequently occur, which, in reality, arise from the loss of blood; but which a superficial observer will be led to attribute to the injury itself, and concerning which indeed it is sometimes difficult, even for the most experienced surgeon, to pronounce in the first instance to which of these two causes they are to be referred.' The loss of much blood will very often cause hardness of the pulse, confusion of ideas, headach, and other symptoms similar to those dependent on plethora of the brain, which symptoms disappear on the lancet being laid aside, and a few doses of ammonia administered. This is more especially the case in young females of nervous temperament, as well as in other persons of weak habit of body.

The next section is on the 'Treatment to be employed in cases of Compression of the Brain not complicated with Wounds of the Brain or its Membranes.' The treatment in these cases must vary according to the cause of the pressure, whether it be owing to a depression of a part of the bone, to extravasation of blood, or to effusion of pus or serum. When a portion of the skull is beaten in below the level of the adjoining parts of the bone, and when the symptoms of compression are such as to endanger life, no treatment will avail until the depressed piece is elevated, or removed. But it requires no small share of judgment on the part of the surgeon to decide when the application of the trephine is absolutely necessary. There is perhaps no operation in surgery so generally unsuccessful as that of trephining, and it is, indeed, a question whether more recoveries, upon the whole, would not take place if this instrument were altogether discarded and the patients treated upon strict antiphlogistic principles. It is true that several lives have been saved by the use of the trephine, but we have our suspicion that a much greater number has been destroyed by it. No one can read the work of Mr. Pott on this subject without being surprised at the little hesitation with which he resorted to the operation of trephining even in cases which did not, according to later experience, at all call for it. Whether the fatal consequences which have generally followed the use of the trephine be attributable mainly to the operation itself, or to the injury

which has given rise to the necessity for it, is a question which can only be decided by those whose experience has been extensive in this branch of surgery; but there is no doubt that the irritation caused by removing a portion of the skull, provided even it be done with the greatest dexterity, adds in no small degree to the injury which the brain has already sustained by the accident. Unequivocal and long-continued symptoms of severe compression can alone justify the surgeon, in our opinion, in resorting to the operation of trephining the skull. Other means should be given a fair trial to first. Numerous instances of depression of a portion of the bone are now recorded, in which patients have done well without the operation.

The compression may be caused by blood effused between the skull and dura mater, and may exist without any fracture of the bone, or any other guide to lead us to an inference respecting the probable situation of the extravasated fluid; how then are we to determine the exact spot to which the trephine ought to be applied? Respecting this question we are glad to find that Mr. Brodie's experience enables him to agree in opinion with Mr. Abernethy, that 'blood is seldom poured out in any considerable quantity between the dura mater and the bone, except in consequence of a laceration of the middle meningeal artery, or one of its principal branches, and it is very rare for this accident to occur except as a consequence of fracture.' When, therefore, the symptoms of pressure are severe, where no depression exists, but where a fracture is discovered in the situation of the principal meningeal artery, we are to infer that a rupture of this vessel, or of its branches, has taken place, and the trephine is to be applied at that point, to give exit to the extravasated fluid.

Another sign of extravasation between the bone and the dura mater mentioned by Mr. Abernethy, and approved apparently by Mr. Brodie, consists in the separation of the pericranium from the bone at the point corresponding to that where the blood is extravasated. It is supposed that the bone, under such a circumstance, will not bleed, in consequence of its being separated from the membrane which supplies it from within. Mr. Abernethy does not insist on this as a fact, but he *believes* it to be such. We cannot help regretting that a question of so much importance should have remained so long undecided.

In the tenth section, Mr. Brodie speaks of the 'Treatment of Fractures of the Cranium unattended with Depression.' These do not call for the use of the trephine unless there be severe symptoms of compression, which can only occur from a rupture of some of the vessels within the skull. The irri-

tation and inflammation, however, caused by the violence which produced the fracture, may lead to the formation of pus between the dura mater and the bone, so as to require an opening to be made to give it exit. It was a fear of this consequence which principally induced Mr. Pott to recommend the skull to be bored in every case of fracture, whether attended with depression or not. It has been proved, however, since Mr. Pott's time, that this consequence may be prevented, in the majority of instances, by a strict attention to the antiphlogistic treatment.

Mr. Brodie speaks lastly of the 'Treatment of Wounds of the Brain and its Membranes.' The surgical treatment here must necessarily vary according to the nature of the wound. When a portion of the bone is smashed by a blow on the head, and when some of the fragments are driven into the substance of the brain, we are recommended to extract those which can be removed without offering any additional violence to the organ. Experience proves, however, that, in wounds of this organ, the less we irritate it in attempts to remove foreign bodies the better. Persons have recovered with fragments of bone, or other foreign bodies, remaining in the substance of the brain. The medical treatment of every variety of wounds of the brain and its membranes must be strictly antiphlogistic. It is upon this our chief reliance is founded.

We have now taken a view of the principal points contained in Mr. Brodie's essay. There is nothing of novelty displayed in it, but the author is entitled to the merit of having gathered together all that is known respecting injuries of the brain. We are promised another series of observations relating to the more remote consequences of inflammation of the brain.

II.—*A Series of Observations on Strictures of the Urethra, with an Account of a New Method of Treatment, successfully adopted in Cases of the most obstinate and aggravated form of that Disease. Illustrated by Cases and a Plate.* By Richard Anthony Stafford, M.R.C.S., and lately House-Surgeon to St. Bartholomew's Hospital, 8vo. p. 159. Longman and Co., London, 1828.

We believe that the anatomical characters of stricture of the urethra are now so well understood as to render it unnecessary to occupy much time in describing them. Mr. Stafford has consequently, and very properly, skipped over this part of the subject, offering merely a few remarks on some of the leading points connected with it. The work is divided into four chapters; the first treats 'of spasmodic stricture and

its causes; of the "mixed case" or inflammatory stricture; of permanent stricture and its causes; and of excrescences:' the second chapter treats 'of the situation of the stricture—its symptoms, and the morbid changes in consequence:' in the third, we have the 'treatment of spasmodic and inflammatory stricture;' and in the last chapter, the author gives an exposition of his 'treatment of permanent stricture.' We shall pass over the first three chapters without offering any comments, as they contain nothing, nor do they profess to contain any thing, which is not already very well known to every surgeon. Whatever of novelty the work may contain is to be found in the last division, and this, to save the author the trouble of writing a *book*, and to save the readers the expense of buying it, might have been easily compressed within half a dozen pages of any periodical journal. However, as book-making appears to be the order of the day, we would rather be at the trouble of picking up the few grains of information to be found in this way, scattered as they generally are among a heap of useless matter, than not obtain them at all.

Mr. Stafford's new plan of treatment applies to permanent stricture. The structure of the urethra becomes sometimes so much changed as to resemble cartilage more than mucous membrane; and the canal becomes contracted to such a degree as not to admit the smallest sized bougie. Sometimes the stricture occupies but a small portion of the passage; but often, a considerable extent of the canal is in a state of induration. When the urethra is in this condition the smallest bougie cannot, sometimes, be passed; and even when this may be done, the impression it produces on the thickened and indurated tissue forming the stricture is not sufficient to bring about a permanent dilation of the tube. To remedy this most troublesome and dangerous malady, it has been attempted, first, to make the part ulcerate by the continued pressure of a bougie upon it; second, some surgeons have endeavoured to force a conical sound through the contracted part; third, the most common method consists in applying caustic to the stricture; and, fourth, the contracted portion has been sometimes divided from the perinæum. Now, each of these methods is attended, not only with inconvenience and much time and trouble, but also with more or less danger to the patient. The practice of forcing the stricture is not very commonly resorted to at the present day, although some surgeons have still recourse to it. Such an attempt is generally followed by profuse hemorrhage, and, often, by subsequent inflammation, not only of the urethra, but even of the bladder and peritoneum, attended, in some instances, by violent constitutional symptoms. When

force is used in this way, the sound is much more likely to rupture the urethra anteriorly to the stricture and form a false passage, than to find its way through the hard, cartilaginous tissue forming the stricture. Even when it has been got into the bladder it has generally been, in all probability, by making a false passage on one side of the contracted portion of the canal, thereby perforating the coats of the tube at two different points.

The application of caustic to the stricture is not so objectionable as an attempt to permeate it by mechanical force. Still this plan is attended with numerous disadvantages, as well as danger. The irritation which the application of the caustic to the sensible surface of the urethra produces, sometimes gives rise to a violent constitutional disturbance; and false passages are likely to be produced, owing to the difficulty of applying the caustic to the exact point where the stricture is situated. Besides these uncertainties, the process of widening the canal by the application of caustic is, as is well known, an extremely tedious one, even when it ultimately succeeds.

Lastly, the plan of cutting down upon the stricture, from the perinæum, is, as Mr. Stafford justly observes, almost as violent as cutting for the stone. It is a tedious operation, and not always successful; still we consider it less dangerous by far than forcing the stricture, as some are wont to do. Compared with any of these methods, the plan proposed by Mr. Stafford appears to us very simple and safe. This consists in dividing the stricture within the canal of the urethra. The desired object is, in this way, accomplished in a few minutes; whereas, by the application of caustic, it takes weeks, and sometimes months, to get through the stricture. For the purpose of dividing the stricture, Mr. Stafford has invented two instruments, 'the one to divide permanent strictures, while yet a small bougie or wire can be passed through them; and the other to divide those strictures which are impermeable.' The following passage contains a description of the instruments, as well as of the mode of using them. In fact, it contains all the information which is to be derived from a perusal of the work before us. The information is highly valuable, and Mr. Stafford deserves the thanks of the profession for the ingenuity of his invention; still we do not see the necessity of mixing up a little novelty with a great mass of unnecessary matter.

'The instrument for operating on permeable strictures (which, for sake of distinction, I have called the Double Lancetted Stilette) consists of a round silver graduated sheath, open at both ends, of the size of No. 10 catheter,

with rather a less curve, and of a stilette, which is also hollow, and open at both ends. This stilette is furnished at one end of it with two oblong lancets; and at the other with a handle, resembling a button. When the instrument is complete, the stilette fits into the sheath, so that by pushing the handle, the lancets will project from the extremity of the tube, and by drawing it back they will retire into it again. When used (the mode of doing which will be presently explained), the instrument is passed over a wire down to the stricture, and the lancets are thrust forward on each side of it, by which the contraction is made as large as the natural size of the urethra*. The armed stilette, intended to divide impermeable strictures, exactly resembles the one just described, excepting that instead of the stilette being hollow it is solid, and in the place of two there is only one lancet.

Before using the instruments, the exact distance of the stricture from the extremity of the urethra should be ascertained. In the armed catheter, which is intended to divide strictures over the wire, which serves as a guide, the wire must be introduced through the stricture first. The mode of accomplishing this is, by passing the smallest possible-sized catheter, made to contain the wire, into the bladder. The wire, which is double the length of the catheter, and blunted at one end, so that it may not injure the bladder, is then pushed forward, and the catheter gradually withdrawn, by which the former is left in the canal of the urethra. The armed catheter is then passed over the wire, until its point rests against the stricture (which is known by means of the graduation), and being held securely in such position, the handle of the stilette is pressed gently and gradually. As soon as any impression is made, the lancets should be allowed to retire into their sheaths, and the blunt point of the instrument urged forward. If it do not pass on, the lancets may be again used as before. After the stricture is divided, the armed catheter should be withdrawn, and its place supplied by one of elastic gum of the same size. This should remain for a day or two, to prevent the re-union of the divided parts, and to preclude the possibility of extravasation of urine; and, on its removal, a bougie should be passed twice in the week, or as often as may be judged necessary, for some time; and the same treatment adopted as for stricture in general. The armed stilette, intended to divide impermeable strictures, must be used precisely in the same manner as the other, of course excepting the wire,

* This handle has hitherto been formed like a button; but I have thought it would be of advantage to have it made like two rings, large enough to admit the finger and thumb, similar to the handle of a pair of scissors.

which cannot be introduced; and the same directions for the after-treatment are necessary for both.'

More or less inflammation occasionally follows the division of the stricture. When this occurs, it is to be subdued by the application of leeches to the perinæum, fomentations, &c. and by a strict adherence to the antiphlogistic regimen. 'If the presence of the catheter that is left in the urethra cause considerable pain, it must be withdrawn; but in this case it is of material consequence to pass a bougie daily, lest the divided parts re-unite.'

Mr. Stafford very candidly confesses that it is possible that a false passage may, now and then, occur from the use of the single lancetted stilette, which, of course, has no wire to direct it through the natural canal, yet, with common care, this may be avoided. He has employed it himself, or has seen others employ it, in not less than twelve cases, and in none of these was there a false passage made. The cases are given at the end of the volume, and they afford a very satisfactory proof of the utility of the instruments invented by the author. The instruments may be had at Mr. Fergusson's, Giltspur-street, St. Bartholomew's Hospital.

III.—*Observations on the Depositions of Pus and Lymph occurring in the Lungs and other Viscera, after Injuries of different Parts of the Body.* By Thomas Rose, Esq. M.A., Surgeon to St. George's Hospital*.

The occurrence of abscesses in the liver, consequent on injuries of the head, has been long known to pathologists; but it has not been so generally noticed that injuries of other parts are liable to produce inflammation and deposition of pus and lymph in distant seats. Mr. Rose has, however, seen repeated instances of this, even in cases in which he was not able to discover any peculiarity of constitution which could be regarded as predisposing to it. Many young and previously healthy individuals have had abscesses formed in the lungs, liver, spleen, and other viscera, in consequence of compound fractures of the limbs or other serious injuries. Mr. Rose states, that in all the cases which he has seen the abscesses took place at some period between the end of the second and that of the fifth week after the accident which gave rise to them.

'It is not very uncommon to find inflammation or congestion taking place in particular organs immediately after the constitution has rallied from a shock given to it by a severe accident or surgical operation, though that accident or operation be in a part of the

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* Medico-Chirurgical Transactions.

body remote from these organs. In such cases the symptoms of inflammation are sufficiently marked; and should the disease proceed to a fatal termination, the appearances in the affected organ would, no doubt, correspond with those produced in it by inflammation or its consequences arising from any other cause. But the affections of the viscera, to which I have referred in this paper, have a peculiar character; and it appears to me that this may, in some degree, be accounted for by the rapidity wherewith, in the state of the constitution during which these abscesses occur, any congestion or inflammation, in whatever part it took place, would be followed by effusions of purulent fluid and of lymph. It is at the time when the parts, in which the injury took place, are in a state of suppuration; and in particular when, from the nature of these parts, or from the confinement of the matter, great irritation of the system has been for some time kept up, that such internal abscesses are apt to form; and it often happens, as is remarked by Bertrandi, that they have not been discovered until a post-mortem examination. But although constitutional disturbance, evidently referrible to an unfavourable state of the wound, has, in all the cases which have come under my observation, preceded the formation of these visceral diseases, yet a favourable change has often taken place in the wound before the symptoms of the internal abscess have begun to manifest themselves; and we are sometimes able to detect the existence of the latter by the presence of rigors and other symptoms of suppurative fever at a time when the wound itself is disposed to heal.

'The examination after death of those who have been affected with this disease, presents appearances which are well worthy of notice, though it is not easy to convey a correct idea of them in words. The disease consists, apparently, of depositions in the cellular texture of the affected organ, partly of a white or yellowish coloured lymph, and partly of pus. These depositions vary in size from beyond the bulk of the largest walnut to something less than a common pea. Where the lymph is most abundant, they may be described as a soft white tubercle of irregular shape, not contained in a cyst, but imbedded in the cellular substance of the part, and gradually blending with its natural structure. When pressed, some pus exudes from them. Where the pus collects in greater quantity, it is lodged in an irregular cavity, probably in the middle of some of the tubercles, and the walls of the abscess are formed of flakes of lymph. The number of these tubercles and abscesses vary in different instances, there being sometimes only one or two, and sometimes the whole viscus being filled with them. In the lungs they are chiefly formed in the parts adjacent to the pleura pulmonalis, and there is often at the same time an effusion into the cavity of that membrane of a sero-purulent fluid mixed with lymph. In the liver and spleen they are dispersed throughout the substance, sometimes showing themselves in one or more yellowish patches, not elevated, on the convex surface of the great lobe of the former viscus, and at other times lodged in its substance. The parts adjacent to them show evident marks of increased vascularity.'

These phenomena have been attempted to be accounted for upon various principles, both mechanical and vital, but the theory which attributes the inflammation and deposition to a disturbance of the nervous system produced by the accident seems to be that most generally adopted. This, however, affords no specific explanation of the fact. A person receives a blow on the head, which stuns him for a few minutes, but in the course of a few hours he feels as if no accident had occurred to him; no symptoms of disturbance of the nervous system remain. He may continue to feel well for a week or a fortnight, or for a longer period, still an abscess may be about to form in the liver or in some other viscus. To say that the abscess is produced by the disturbance of the nervous system in such a case is assuming a thing of which we have no proof. We know that a local injury is capable of producing a disturbance of the general functions, but we do not know that that disturbance is associated solely, or even chiefly, with the nervous system. Similar derangement may occur from a mixture of deleterious substances, such as pus, &c., with the blood. Unless the nature of the disturbance can be explained, and unless it can be shown how it may be avoided, or removed, no advantage is gained, either in a pathological or in a therapeutic point of view, by ascribing an obscure fact to agencies still more obscure. It is not intended here to deny that the nervous system may have some influence, or that it may be the principal agent, in producing the effects in question; it is only intended to show that such an opinion, according to the present state of our knowledge, is a mere conjecture, and that it is not worthy of the importance which some pathologists appear to attach to it. Let the manner in which the nerves act be first accounted for, even theoretically; we may then be able to form some notion of the manner in which their action may be disturbed, and to allot to them their proper share of the disturbance.

Admitting that the nerves have some share in the production of inflammation and of effusion of pus and lymph, there is reason to infer that living structures possess some properties not essentially connected with the nervous tissue which dispose them to assume the characters of inflammation. The morbid appearances observed in the following case can hardly be attributed solely, or principally, to nervous disturbance.

'William Deane, twenty-one years of age, was admitted, under my care, into St. George's Hospital, on the 23d of July, 1825, with a compound fracture of the tibia and fibula of his right leg, occasioned by a load of gravel having fallen upon him.

'On the 27th considerable tumefaction had come on in the limb,

inflammation having diffused itself through its cellular tissue, and a good deal of bloody serum had begun to ooze from the wound. This was followed by a sharp attack of erysipelas, which spread over all the thigh, and over the principal part of the integuments of the abdomen. By free incisions wherever matter could be detected, venesection once or twice repeated in moderate quantity, and saline diaphoretics, these symptoms subsided favourably, but left him a good deal emaciated. On the evening of the 2d of August the erysipelas had disappeared; he had little fever, but profuse discharge, and he then began to take light nourishment with appetite.

'On the morning of the 3d of August he was seized with a severe rigor, followed by sickness. His pulse at noon was 120; his tongue brown and dry; he had great heat of skin, and restlessness, and complained of a sense of uneasiness about the pit of his stomach. An aperient medicine was given him, and afterwards effervescing draughts, with small doses of antimonial wine.

'On the 4th he was better, and his pulse had sunk to 108. There was a slight relapse of erysipelas over a part of the abdomen. The wound discharged profusely; but no matter was lodged, as there were free and depending openings.

'On the 5th he was still better, his pulse was 96, and the erysipelas was again subsiding. Some wine was allowed him, and light nourishing but liquid food continued.

'On the 6th his countenance was not so favourable. He was ordered sulphate of quinine. This produced no good effect, his tongue gradually becoming more parched and dry.

'On the 9th, he complained of an unpleasant sense of rising from his stomach, with an excessive heat in his throat, but he could bear pressure on the abdomen without pain. In the evening of that day he had an attack of stupor, and lay for many hours in a state of nearly complete insensibility, with contracted pupils. He died on the evening of the 11th, being the twentieth day from the date of the accident.

'The body was examined on the following day. The vessels of the pia mater and brain were more turgid than natural, and there was a considerable effusion of serum into the ventricles. In the thorax there were several circumscribed abscesses in the lungs on each side, but chiefly in those on the right. These were situated in the outer part of the lungs, towards the pleura, and varied in bulk, from that of a small pea to that of a large nut. Their contents were evidently a loose sort of lymph, through which pus was everywhere beginning to be diffused, as could be shown by its issuing when they were gently pressed. On the upper part of the convex surface of the great lobe of the liver a large mass of a similar character was visible, of a perfectly white colour, appearing under the peritoneal covering. It was two or three inches in diameter, and when cut into, was found to extend at least two inches in depth, into the substance of the liver, which, everywhere bordering on it, had a natural appearance, and did not seem to be in any way condensed. A somewhat paler line marked where the two struc-

tures, that of the liver and of this mass, were blended. The mass consisted of loose lymph, with pus diffused through it, as in the lungs. On the right edge of the great lobe, under the short ribs, there was another mass of the same nature, but of a smaller size, and one or two similar patches under the capsule of the spleen. No attempt at union had taken place in the fracture.'

The abdominal and thoracic viscera are not the only seats in which abscesses are liable to occur in consequence of injury. A very interesting case, communicated by Mr. Lawrence, of constitutional disturbance brought on by bleeding in the arm, proves that the purulent effusion may take place in the cellular membrane, even in the substance of the muscles, or in the cavities of the joints. It equally proves that injuries which do not exert their influence on the nervous system in particular, are liable to lead to the production of abscesses in distant parts.

'H. A. Porter, fifty-one years of age, a corpulent man, addicted to drinking, was admitted into St. Bartholomew's Hospital the 19th of January, 1827, for an old ulcer of the leg, with much surrounding inflammation. He had a poultice to the ulcer, and was placed on milk diet; he was twice bled in the arm, and took opening medicine. Under this treatment the leg improved rapidly, and he felt altogether much better; but three days after the second bleeding the wound of the vein became painful, and was found to be slightly inflamed. (A bread poultice was applied to it.)

'January 30th. Although the arm was easier after the application of the poultice, shivering fits came on last night, followed by heat and thirst; pulse 120. (Venesection to ten ounces: the flow of blood was arrested by syncope: the blood was not buffed. Twenty leeches to the arm. A dose of calomel and jalap. A saline draught every four hours, with antim. tart. gr. j. and potassæ nitr. ʒss.)

'31st. Inflammation has extended to the axilla, the arm being red, swoln, and painful on pressure, from the elbow to that part. (Thirty leeches to the arm, and a large blister afterwards.) A severe shivering fit was experienced this afternoon.

'February 1st. Restless night from the blister; pulse 102, and small; tongue white; no appetite; bowels open. The antimony had been gradually reduced to a quarter of a grain in each dose, but it still caused so much sickness that it has been left off.

'4th. He has remained nearly in the same state, and has had several shivering fits. He complains to-day of severe pain in the left knee-joint, which is somewhat swoln. The arm is easy, and a small quantity of thin pus flows from the wound in the vein on pressure. The pulse hard, full, and 100; tongue white and dry; great thirst; bowels confined. (Senna mixture immediately; a saline draught every four hours, with tinct. digitalis ℥xij.)

'5th. He has passed a comfortable night. The left knee and thigh are greatly swoln and very painful. The joint is distended to the utmost with effused fluid, causing a large prominent tumefaction

above and at the sides of the patella. All the superficial veins of the knee and thigh are excessively swoln, and form a very conspicuous net-work. The limb is slightly red, and preternaturally hot. Pulse 140, and soft; tongue white; bowels open. (Six doses of the digitalis have been taken; let it be increased to ℥xv: four grains of calomel every four hours: ℥xvj. of blood to be taken from the knee by cupping.)

'7th. He complained yesterday of pain in the right shoulder, which continues, without swelling or redness. The knee was relieved by the cupping, and is nearly free from pain, though the swelling is not much diminished. The arm is less painful; bowels very open. (The calomel to be left off; the digitalis continued.) In the evening he was more easy; the pulse small, hard, and 120; tongue brown and dry; great thirst.

'He expired on the morning of the 8th, and the body was examined ten hours after death.

'The cephalic vein, which had been punctured, was thickened, and contained pus for about two inches below, and four inches above the wound, where a coagulum of blood was found, filling the cavity. Above and below these points the vessel was healthy, and the other veins exhibited no morbid change. The abdominal and thoracic viscera were healthy. The arachnoid membrane was thickened, opake, and whitish. The cellular texture of the pia mater was loaded with serum, and an increased quantity of fluid was found in the ventricles. The cavity of the knee-joint was filled with a tolerably thick pus, of an uniformly reddish colour, as if from an intimate admixture of blood. The synovial membrane was thickened, with an irregular and almost villous surface; it was extremely vascular in its whole extent. The cartilaginous coverings of the femur and tibia had undergone considerable absorption, so that the convexities of the femoral condyles and the corresponding excavations of the tibia were completely bare. The cellular substance covering the capsule of the knee, under the exterior muscles, was inflamed, thickened, and loaded with pus. This texture was in the same state on the surface, and throughout the whole substance of the vasti and cruralis muscles. Sections of these muscles presented a most singular appearance, their large fasciculi being separated apparently by layers of thick yellow pus. The matter, although precisely similar in colour and consistence to that produced by phlegmonous inflammation, was no where collected into an abscess, but was diffused through the cellular structure, as serum is in the case of anasarca. In the rest of the limb there was an effusion of a bright light-yellow serum. The cellular structure exterior to the orbicular ligament of the right shoulder was filled with thick yellow pus; but the cavity of the joint and the deltoid muscle were natural.'

Mr. Rose says nothing more of the treatment of these affections, than that our efforts must be directed, first, to subdue any excess of arterial action, and secondly, to quiet the disturbed state of the nervous system. He thinks with

Desault, that when the abscesses are once formed they are almost invariably fatal. From the pathological characters of the disease, it evidently demands a plan of treatment strictly antiphlogistic.

IV. *Of the Catarrhus Æstivus, or Summer Catarrh.* By J. Bostock, M.D. F.R.S., &c.*

The disease which Dr. Bostock calls summer catarrh was not noticed as a specific affection until within the last ten or twelve years. It is sometimes called the hay-fever. The author states that, with the exception of a single observation of Heberden's, he has not met with anything that can be supposed to refer to it in any author, ancient or modern. The words of Heberden are, 'I have known it (catarrh) return in four or five persons annually in the months of April, May, June, or July, and last a month, with great violence.' If this species of catarrh be really different from common catarrh, besides in the degree of its violence, we are disposed to think that it occurs more frequently than Dr. Bostock supposes. The number which he has seen or of which he has received a distinct account, amounts to only eighteen, besides about ten others, which are less correctly ascertained. All these agree in the occurrence of the complaint at the same season of the year; 'in its seat being the membrane lining the nose, the fauces, and the vesicles of the lungs; and, for the most part, in the paroxysms being excited and the symptoms aggravated by the same causes.' The malady commenced in these cases about the end of May, or the beginning of June, and continued from four to eight weeks.

'Most of them are attended with fulness of the head, stoppage of the nose, sneezing, watering of the eyes, and discharge from the nostrils. In about half of the whole number the respiration is considerably affected, and in three or four instances it is almost the only symptom. Some of the cases are attended with distinct cough, most of them with irritation of the fauces, and some with a degree of sore throat. Actual inflammation of the eyes is not a very common occurrence, and in some of the cases there is not even the discharge of tears, or the irritation of the eyes. The degree of general indisposition varies very much in the different cases; in some, the patient, during the whole period, is unable to use any exertion, or to continue his ordinary occupations, while, in other instances, he feels no inconvenience, except what arises from the fits of sneezing, and the copious discharge from the nose.'

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* Medico-Chirurgical Transactions.

Dr. Bostock has himself been subject to this troublesome complaint for several years. He remarks, that he has not been able to trace any decided connexion between the peculiar symptoms and any circumstance of age, sex, constitution, or mode of life in the patient. He has found for the most part, that in very young persons the first symptoms observed 'are sneezing and running of the eyes, that the chest is not affected until a later period of life, and that, as age advances, the purely catarrhal symptoms decrease, while the pectoral symptoms have a tendency to increase.' In the author's case the complaint commenced when he was about eight years of age, and he has received no account of its making its appearance earlier in any instance; nor has he ever heard of any very old persons being affected with it.

It is remarkable, as Dr. Bostock observes, that the summer catarrh occurs only in the middle and upper classes of society. He has made inquiry at the various dispensaries, in London and elsewhere, and has not heard of a single unequivocal case occurring among the poor. This circumstance goes a good way, in our opinion, to prove that the affection is not produced by the smell of new hay, as has been supposed. Let us hear what Dr. Bostock says upon this subject.

'In consequence of the benefit which I always experienced from fresh cool air, I made choice of Ramsgate as my residence during the summers of 1824, 1825, and 1826. The last two of these years will be long remembered for their excessive heat; but by procuring a house on the cliff, exposed to the German ocean, and commanding complete ventilation, by avoiding bodily exercise, and indeed seldom leaving the house until evening, during the year 1825 I nearly escaped the disease. In the year 1826, I have reason to believe that the disease was much mitigated by the comparative coolness of the situation, but still I had many decided and some severe paroxysms. Now it is well known, that there is not an acre of meadow-ground in the whole of the Isle of Thanet, and in the year 1826, in consequence of the great drought, all the little patches of grass, which may be supposed to exist on road-sides or elsewhere, were completely burnt up. Nor is this all; during many of the hottest days, the wind blew steadily from the south-east, so that the nearest land to windward of the house which I occupied, was on the French coast, a little to the north of Calais. Yet during this time, whenever I relaxed from my plan of discipline, and exposed myself to the sun's rays, or by any means quickened the circulation, the symptoms recurred in full force.

'The last year, 1827, with the exception of a short period in July, was cold. I could not conveniently remove to any great distance from London, and I spent the summer at Kew. This situation might have been chosen for the purpose of the experiment, for almost the whole of that part of the country consists of hay-

grass, which was cut while I was in the neighbourhood. In consequence of the coolness of the season I did not confine myself to the house, but walked out daily, occasionally in Kew gardens, and was surrounded by many hundred acres of hay-grass in all its different states, yet, except during the few hot days, when I suffered as usual, my complaint was in a much less degree than the average.'

The negative proof in support of Dr. Bostock's opinion is as strong as any proof of a negative kind can be. We do not find that hay-makers, and others who are for many days annually exposed to the effluvia arising from new hay, are peculiarly subject to the complaint in question. Indeed, it is a disease unknown among the farmers' labourers, who are those most exposed to the supposed cause. Dr. Bostock believes 'that in most cases we may explain the facts more naturally by supposing that the patients, at the time when they conceived themselves to be inhaling the effluvium from hay, were also exposed to heated air or sunshine, or had been using bodily exercise.' It will appear from the above passage that the author attributes the exciting cause of the disease to the application of heat to the skin, or to an increased evolution of heat from exercise. This cause, looking upon the subject in a general way, appears to us quite as doubtful as the effluvium of hay. We have no proof that the affection is prevalent in hot climates, although it is supposed to be peculiar to the warm season of temperate climes. We doubt much that a hot atmosphere would tend to bring on the complaint, were the body not exposed immediately afterwards to cold, so as to have the cutaneous secretion checked.

It is probable that the predisposing cause has much more to do in the production of this complaint, than the exciting. Dr. Bostock certainly observes, that he cannot trace any connexion between it 'and any circumstance of age, sex, constitution, or mode of life in the patient.' This may be, and this is the case with respect to numerous other diseases. No one can foretell, from the general aspect, or the sex of a person, before he has had the small-pox or measles, whether he will have these diseases mild or severe, yet we find the degree of susceptibility to them very different in different individuals. In the same manner, as local situation, and other external causes under whose influence the majority of individuals constantly live, do not commonly tend to give rise to the summer catarrh, we are compelled to infer, until further facts be adduced, that the complaint is brought on in consequence of some peculiar susceptibility, natural or acquired, of the mucous membrane of the air passages. What

the nature of this susceptibility may be, or whether its relations be with a hot or a cold atmosphere, or with the sudden transition from the one to the other, we are not in possession of a sufficient number of facts to prove. It must be very well known to every one that common catarrh often comes on without any *known* cause, and that some individuals are much more susceptible to it than others; but this predisposition is not particularly associated with one sex more than another, nor is there any thing different, to appearance, in the constitutions of the predisposed from those of others.

'The immediate cause of the symptoms seems to be sufficiently obvious; it consists in an increased action of the vessels of the membrane which lines the eye-lids, the nose, the fauces, and the pulmonary vesicles, by which it becomes acutely sensible to external impressions, has its natural secretions augmented, and probably its bulk increased; to this last cause I think we may ascribe the very distressing sense of dyspnœa which exists in some of the cases. Although this membrane is continued without interruption over the different organs that are the seat of the affection, yet it is observed that the different parts are affected in different degrees. Hence we may divide the disease into four varieties, according as the eyes, the nose, the fauces, or the lungs is the part more immediately affected. It is in the last variety only, that I have observed the constitutional symptoms of fever and the subsequent debility to exist in any considerable degree; and in this case I think we may account for the effect, by supposing that the thickened state of the membrane which lines the vesicles prevents the oxygen of the inspired air from duly acting on the blood.'

With respect to the treatment of this complaint, Dr. Bostock says that he has tried, with the greatest perseverance, every remedy which held out the least prospect of advantage, and he thinks himself warranted in asserting that, on the whole, the depleting system is injurious, and that some benefit is gained by a moderate use of tonics. But he appears to place very little reliance upon any plan hitherto adopted. It is but a poor consolation to be told that, within the author's knowledge, no one who has been once affected by this complaint has ever afterwards lost the tendency. We are well aware that, in common catarrh, no remedies hitherto tried have proved of any decided service. It is a question with us, whether the summer catarrh differs in *kind* from the common, or whether the difference in severity, as well as in susceptibility to the affection, does not depend upon some difference in the modification of the mucous membrane of the air passages in different individuals. Catarrh is generally much more severe when it occurs in the summer than in the winter, and there is some reason to suppose that it is sometimes contagious.

V.—*Observations sur les Effets Therapeutiques de la Morphine ou Narcéine.—Observations on the Therapeutic Effects of Morphine or Narcéine.* By V. Bally.*

Of the various poisonous substances employed by those unfortunate individuals who are prompted to put an end to their career of misery, real or imaginary, by resorting to the act of suicide, opium is the most common; it therefore behoves every medical practitioner to make himself fully acquainted with the effects of this substance on the system, as well as with the tests by which he is to discover, in doubtful cases, the nature of the poison employed. It is pleasing to witness the rapid progress which the science of medical jurisprudence is now making, but we are indebted for a great part of our knowledge of this subject to our continental brethren.

M. Séguin is supposed to be the first who gave a distinct analysis of opium. He communicated, in 1804, the result of his researches to the Institute. According to that account, opium consists, 1st, of a crystalline matter which he considered as an unknown principle (morphine); 2nd., of a new acid endued with peculiar properties (meconic acid); 3rd., of a bitter principle insoluble in water; 4th, of a soluble bitter principle; 5th, of acetic acid; 6th, of an amylaceous substance; 7th, of an oily substance. Little notice was taken of M. Séguin's communication at the time, nor did another memoir, by M. Sertuerner, in 1805, make any greater impression, and no further observations seem to have been made on the subject until 1816, when M. Sertuerner again called the attention of chemists and physicians to the active principle of opium, which he called morphine. Since that time several experiments have been made on animals with the different salts of morphine, as well as with the other materials contained in opium. From late researches it has been proved, at any rate rendered very probable, that the medicinal properties of this useful remedy depend chiefly on the morphine which forms a part of its composition.

M. Bally thinks it possible, in cases of poisoning with vegetable substances, to discover the kind of poison employed, by means of chemical tests. The attention of chemists has not been yet so minutely directed to the vegetable kingdom generally as to the mineral. As very slight causes sometimes tend to bring about great and lasting effects in the moral world, we may, perhaps, trace the cause of the decided preference given to mineral over vegetable chemistry to

* Mémoires de l'Académie Royale de Médecine.

the old notion that *gold* was to be expected to result from the combination of mineral substances only. Whether the preference be attributable to the insensible influence of this old golden notion or not, the fact is certain that chemists, even to the present day, have chosen to explore the bowels of the earth rather than the vital products which spring from it. It is probable that they have been fortunate in their choice, as the results of their labours have added considerably to the comforts of life. As the healing art, however, derives much aid from the vegetable kingdom, it is to be wished that some of our countrymen would devote a little more of their attention than they have hitherto done to an examination of its chemical properties.

Having given some account of the natural history and discovery of morphine, M. Bally proceeds to examine its therapeutic properties, and the tests by which it may be known in cases of poisoning.

The substance vomited by a dog which had been made to swallow twelve grains of acetate of morphine was a colourless fluid, without odour, slightly viscid. It turned frothy by agitation with solution of gum. It was about three ounces in quantity. Submitted to evaporation in a porcelain cup, it gave a small quantity of yellowish extract, of an odour of juice of meat, of a bitter taste, a little saltish, and it reddened tournesol paper. This extract, treated with boiling alcohol, separated into two portions, the one flocculent, insoluble, formed of the mucus and of the gelatinous matter; the other, soluble in this liquid, was evaporated to dryness. The latter, re-dissolved in a little water, let fall floccules of greasy matter. Submitted to slow evaporation, the aqueous solution gave a deposite of prismatic crystals, of a yellow colour, which presented the following properties: they had a bitter taste; a solution of them in water precipitated, by the addition of ammonia, in white floccules. Treated by concentrated sulphuric acid in a small glass tube, they disengaged a decided odour of acetic acid.

Dissolved in weak nitric acid, these salts immediately gave a dark yellow solution, approaching to the colour of blood.

This union of properties proved clearly that these crystals were acetate of morphine. The quantity obtained was about three grains.

The stomach of a cat which had been poisoned by twelve grains of acetate of morphine was boiled, for ten minutes, in six ounces of distilled water. The filtered liquor was evaporated and treated with alcohol in the way already mentioned. The alcoholic solution was slightly yellow, and it furnished by evaporation an extract of a similar colour, only a little

darker, of a saltish taste, followed by bitter, which manifested, by the addition of a few drops of nitric acid, a good yellow orange colour, approaching to red; phenomena which proved the existence of a small quantity of acetate of morphine.

But it is remarkable that, in some instances, these reagents will not enable us to discover any trace of morphine in the stomach, intestines, heart, or in the blood taken from an artery a few minutes before the death of an animal which has been poisoned by this substance. A hound was poisoned by twelve grains, but no trace of it could be recognized in any of those parts. Two kittens died from the injection into the stomach of a solution of acetate of morphine, the one of five, and the other of eight, grains. The stomach of that which had received the five grains showed unequivocal traces of the poison, easily distinguished by the re-agency of nitric acid; whilst in the other nothing of the kind could be discovered. From these facts, and several others of a similar nature, M. Bally concludes, 1st, that it is possible, in many cases of empoisonment, to discover, by chemical means, sensible traces of vegetable poison; 2nd, that it is always in the viscera to which the poison is first applied that we are to look for its presence; 3rd, that the matter thrown up by vomiting shortly after the injection of the poison into the stomach contains sensible quantities of it; 4th, that all the efforts made to discover it in the blood have been fruitless.

M. Bally next speaks of the effects of morphine on the different organs, and he begins with the mouth and œsophagus. A little bitter taste in the mouth is the only effect which it produces on these parts. It occasions no thirst, redness of the tongue or gums, or swelling of the tonsils. When given in moderate doses, morphine produces no loss of appetite or any other disorder of the digestive functions; wherein it differs greatly in its effects from belladonna. In most constitutions, however, it produces vomiting, if administered in full doses. This property it appears to possess in a very high degree, which is a great obstacle to its being used as a medicine. To avoid this effect, the dose at first should be very small, and should be very gradually and cautiously increased.

The principal effect produced by morphine on the intestinal tube is constipation, hence it may be advantageously administered in cases of diarrhœa. But M. Bally has known several instances where, after producing a constipated state of the bowels at first, a continuance of the medicine has brought on an abundant discharge of fecal matter. It sometimes produces colic pains about the region of the navel, but these are generally of short duration; and they cease of themselves, even when the medicine is continued, if the dose

be not regularly increased. The author has some reason to consider the medicine as a vermifuge also, and he relates cases where, under its use, worms have been discharged by vomiting. It is not improbable, however, that, if any other emetic substance had been administered in these cases, the same effect would have resulted. He has examined the intestinal canal in some instances in which morphine had been taken, but he could never discover any particular effects produced by it on the mucous membrane, probably owing to the smallness of the doses.

With respect to the urinary organs, the action of morphine is very decided on the bladder. In almost every instance it produces a difficulty of passing the urine, and this amounts sometimes to a complete retention; but the dysuria generally ceases as soon as the medicine is omitted. This property of morphine, however, only manifests itself in men: M. Bally remarks that the remedy never produces the least difficulty of passing the urine in females. This is an extraordinary physiological fact. Can it be accounted for by the circumstance of the mechanical construction of the urethra being different in the two sexes? or is it attributable to a difference in the vital functions of some of the organs? Morphine produces no sensible effects on the kidneys. The secretion of urine neither increases nor diminishes under its use; nor does the quality of the fluid become sensibly changed.

M. Bally states in positive terms that the vascular system is by no means excited by the exhibition of morphine in moderate doses. He thinks that the reason which has induced some physicians to consider the remedy as an excitant has been from observing its effects where very large doses had been administered, and where the functions of the circulating system were disturbed in common with those of all the other organs. The author relates several cases in support of his opinion respecting this point; and in conclusion he states, that if the remedy have any effect at all on the heart and arteries, it is a sedative, not an exciting, effect.

In the next place we are informed, that morphine has no tendency to produce hemorrhoids, that it has no emenagogue properties, that it will not provoke nasal hemorrhages, nor produce hemoptysis, that it will not allay cough in a satisfactory manner, that it is not diaphoretic, that it has no influence in the production of heat, that it will not oppress respiration, that it produces no flushing of the face or symptoms of asphyxia.

The exhibition of morphine gives rise, in very many instances, to an intolerable itching of the skin. The irritation in some cases extends all over the surface, in others it is partial,

confined more particularly to the nostrils, neck, loins, and the genital organs. The itching is not uncommonly accompanied by a cutaneous eruption.

The brain and nervous system are the parts upon which morphine exerts its influence most particularly. A man, aged sixty, of a plethoric constitution, was seized, in 1809, with apoplexy, followed by hemiplegia of the left side. In about two months the power of motion began to return; but the arm continued to waste, and it became contracted at the elbow joint. In 1821 the power of motion began to diminish again, and the patient, continuing to get worse, entered the hospital in May 1823. At this time his intellect was perfect, with the exception of a certain degree of tardiness in his mental operations. He spoke little, pronounced his words badly, and he was always disposed to lie on his left side. After a few bleedings, which produced no sensible effect, he was ordered the warm bath whilst ice was applied to the head. He had also a fourth of a grain of acetate of morphine morning and evening prescribed him. He had taken only seven doses of this medicine when there came on loss of sleep, cephalalgia, delirium, an attempt to jump out of bed, and other symptoms of cerebral excitement. The medicine was omitted, and recourse was immediately had to bleeding. By the next day all the new symptoms had disappeared, and the patient was much in the same state as before any remedies were applied. M. Bally attributed the untoward symptoms already described to the application of the ice to the head, he therefore prescribed the acetate of morphine again, in the same quantity as before. The pulse on the third day became hard, full and frequent; the tongue dry; agitation and delirium throughout the night. After two bleedings the delirium became furious, and a total extinction of intellect took place the fifth day. Respiration was laborious; the patient lost the power of expectoration; the saliva discharged involuntarily; the face pallid; the eye-lids remained half-closed; the eyes turned upwards, and the tongue dry and red. The patient died on the sixth day from the time he began to take the morphine.

The brain was very minutely examined. On raising the skull-cap no blood or serum was observed; there was not the least injection of the meningeal vessels; a considerable quantity of albuminous serum was found between the arachnoid and pia mater, although these membranes were not opake, nor were their vessels injected. Towards the lateral and middle part of the right hemisphere, one of the convolutions of the brain appeared much depressed; it formed a cavity full of limpid serum. A great quantity of this

serum surrounded the end of the medulla oblongata towards the occipital foramen. There was a sanguineous effusion in the posterior part of the left hemisphere, and this appeared recent; this part was in a state of ramollissement; the surrounding parts were in a healthy state. M. Bally attributes this extravasation to the action of the morphine. The brain presented several other morbid appearances, but not of recent date.

M. Bally is of opinion that the delirium brought on in the above case by the exhibition of the morphine is attributable chiefly to the disease of the brain, as the medicine does not commonly produce this symptom

Trembling and agitation of the muscular system are symptoms sometimes produced by the remedy, if continued for a length of time. It has also the property of occasioning dimness of sight, which renders it an improper remedy in amaurosis. M. Bally, having never administered morphine in very large doses, cannot speak with positiveness whether or not it have the property of occasioning dilatation of the pupils, but his opinion is, that it has not. A young man took, in a mistake, a pill containing three grains of it; in this case no dilation of the pupils took place. In cases of poisoning with opium we have witnessed the pupils contracted to the apparent size of pins' heads. The author has noticed similar effects produced by the acetate of morphine. MM. Orfila, Magendie, Dupuy, and Barthelemy state that the pupils invariable dilate in experiments with morphine on animals. Respecting this fact M. Bally observes that the iris of dogs, cats, and horses has a mobility much greater than that of man.

Morphine appears to possess all the sedative effects of opium, and the action of both on the system is very similar. The former, however, is not liable to produce headach and the other symptoms of excitement which usually follow the exhibition of opium. The stimulating effects of opium have been generally attributed to the narcotine which enters into its composition; but some chemists are of opinion that the latter substance is nearly inert when totally deprived of morphine, and that the stimulating properties which it appears to possess when administered to animals, depend upon some portion of morphine remaining in combination with it. It is scarcely necessary to notice that a combination of these two substances may possess medicinal properties very different from those of either singly. Although pure narcotine may be inert in its effects on the system, still by its combination with morphine its latent properties will be

developed, and will modify the therapeutic properties of the latter substance.

Morphine and its salts have not yet found their way into general use amongst medical men. This is rather to be regretted, as their medicinal properties are, so far as observation has hitherto proved, better adapted than those of opium for the purposes for which this is usually administered.

In the production of sleep, and in some other effects, M. Bally says that there is no proportion between the therapeutic properties of opium and its extracts, and those of morphine. Fifteen grains of crude opium contains, on an average, one grain of morphine. According to this proportion, it might be expected that a given quantity of morphine would have fifteen times the effect on the system that the same quantity of opium would produce. This is, however, by no means the case. M. Bally observes that it may be admitted, as very probable, that a grain of the aqueous extract produces greater drowsiness, than a quarter of a grain of its salifiable base. This is a circumstance well worthy of attention.

In summing up his observations on the action of morphine, M. Bally divides its effects into the direct and the indirect. The former are nausea, vomiting, gastralgia, eructations, constipation, and intestinal pains; the latter are ischuria, itching, and all the cerebral symptoms. It is to be observed, however, that most of these symptoms occur only when the remedy is administered in large or frequent doses. There is one very important advantage likely to result from the employment of the active principles of vegetable substances as therapeutic agents, namely, that they may be introduced into the system through the medium of the skin, in sufficient quantities to affect the constitution. Independently of the difficulty with which we sometimes meet of persuading individuals, particularly children, to take medicines, the stomach is often so irritable as to reject every thing in the form, or under the name, of medicine. M. Bally says that he has met with great success in administering the active principles of some remedies in this way, which he calls the *sub-epidermic* method. It consists in removing the epidermis by means of vesicatories and in applying the active substances to the surface of the true skin. Of two persons affected with *chiroplegia*, or paralysis of the hands, the one was cured by the action of a grain and a half of strychnine, administered according to this method daily; the other had recovered the use of one hand entirely, and very nearly the entire use of the other when M. Bally wrote his memoir.

Morphine in particular produces wonderful effects in rheumatism, lumbar neuralgia and sciatica, when employed according to the sub-epidermic method. It always gives ease as soon as it is brought in contact with the skin; and patients complain of great torments when its employment is discontinued for any time.

ORIGINAL COMMUNICATIONS.

I.—*Remarkable Case of Strangulated Hernia.—Post-mortem Examination, and Remarks.* By J. J. Cribb, Esq., Surgeon.

On Thursday, September 21st, 1826, I was called to attend Mr. Smith, a tall, spare man, aged about fifty; he had inguinal hernia on both sides, which he stated had existed for many years, and for which he was accustomed to wear a truss. About forty-eight hours previous to my seeing him, the contents of the hernia of the right side descended, and he had not been able to return them. On examination, the scrotum on that side, and the inguinal canal through its whole course, were very much swelled, and exceedingly painful, so that it was impossible to use the taxis with any effect. The integuments covering the tumour retained their natural colour. The symptoms of abdominal inflammation usually attendant on strangulated hernia were almost entirely absent; there was no pain or tenderness of the abdomen beyond the inguinal tumour; no sickness; the bowels had been once open the preceding day; pulse ninety-six, rather hard; fever but slight. Twenty-four ounces of blood were immediately abstracted from the arm. From a deliberate consideration of all the circumstances of the case, more especially the freedom from constitutional symptoms, it was determined to delay the operation of dividing the stricture for the present, and to treat it as inflammation of the hernial tumour merely. Twenty leeches were, therefore, applied, and two grains of calomel, and ℥ss of sulphate of magnesia, ordered to be taken every four hours.

22d. Seven o'clock, *a. m.* The bowels had been freely opened four or five times in the night; the hernial tumour not quite so painful, but still very tender to the touch; pulse somewhat increased in frequency, but diminished in force; tongue covered with a brown fur towards the back part, but moist; had slept at intervals during the night; in other respects the same. Ordered to continue the calomel and salts every six hours. Refrigerant lotion to the tumour.

23rd. The bowels have been freely opened since yester-

day; the inguinal tumour is much less painful, though but little diminished in size; the patient is in every respect better. As the stools had hitherto been almost entirely liquid, two pints of gruel were injected per anum, by the stomach syringe, without the least pain or difficulty; no solid fæces, however, were evacuated. Ordered to take laxative medicines sufficient to keep the bowels loose, to apply the evaporating lotion constantly to the tumour, and to take no diet but gruel, or the like. During the three succeeding days he continued to improve; the lotion had been continually applied, and the laxatives taken as occasion required. The tumour was almost free from pain and tenderness, and much diminished in size; the bowels had been freely open, and he had had good nights; he had some appetite, and had been allowed some light pudding for dinner for the last two days.—27th. On visiting him in the forenoon of this day, I was informed that he had become much worse the preceding evening, complaining of great pain over the lower part of the abdomen; the bowels had been open the preceding day, and there had been no sickness. On inspection, the inguinal tumour and scrotum were found much enlarged, presenting a shining, red surface, very tense, pitting on pressure of the finger, slightly crepitous, and exquisitely painful; several large tumefied patches of the same kind had also taken place on the integuments of the abdomen, below the umbilicus, and chiefly on the right side; these were excessively painful; the patient extremely irritable; pulse rapid and small; tongue dry; great thirst; a laxative was given, which operated freely; fomentations were prescribed locally, and bark and opium internally. But the unhappy patient persisted in refusing all medicines and applications, and it was but too obvious they could be of little avail if used. On the 28th (next day) a dark-coloured mortified patch of the integuments appeared at the bottom of the scrotum. On the 29th, a similar one took place just above Poupart's ligament, in the situation of the inguinal canal; these continued to spread until the whole of the right side of the scrotum and inguinal canal presented a mass of slough. He continued to sink gradually, and died on the 3rd of October, fourteen days from that on which the hernia first became irreducible, and six from the time the symptoms of mortification first appeared.

Dissection, six hours after death.—External appearance: the hernial tumour, of considerable size, occupied the scrotum and inguinal canal of the right side; the integuments covering it were in a state of slough; several large, tumefied patches were dispersed over the lower part of the abdomen, as described in relating the case; these were of a livid

hue, not having proceeded, like the tumour, to mortification, externally. The body presented no other superficial appearances worthy of remark. An incision was first made into the tumour, longitudinally, from the upper extremity of the inguinal canal, down to the lowest part of the scrotum; the whole mass, however, was so completely disorganized, that it was impossible to distinguish its several parts with any certainty. An incision being then made through the skin from the sternum to the pubis, it was dissected from the subjacent muscles; the parts under the integuments, where the livid coloured patches were situated, were in a state of the most loathsome gangrene; the integuments themselves somewhat thickened; the cellular membrane appeared as if dissolved into the most fœtid pus; the muscles were partly disorganized. The cavity of the abdomen was next fully exposed: the viscera at first view appeared in their natural situation, and in a healthy state, except that the vessels of the omentum and peritoneum of the intestines seemed somewhat more injected than usual. On more carefully examining the situation of the omentum, it was found to extend low down, in the direction of the right inguinal canal, and, on drawing it up, its lower margin was seen to be thickened, hard and livid, as though a portion had been removed by ligature. This appearance was so striking as to leave no doubt in the minds of the inspectors that a portion had actually been strangulated and had sloughed off. The finger was now introduced into the inguinal canal, from the abdomen; it could be passed for about an inch only; but, what caused the impediment could not be discovered, from the disorganized state of the parts. A female catheter passed freely down to the bottom of the scrotum, and upon this a scalpel was introduced, and the whole tumour laid open; still, from the great decomposition of the parts, their structure could by no means be clearly distinguished; they resembled a mass of sloughed cellular membrane. The spermatic cord, however, on careful examination, was distinctly seen, but its tissue gave way on the slightest attempt to handle it; the number of sebaceous tubercles which were dispersed throughout the mass showed, almost to a certainty, that it was composed of omentum.

There was no appearance of intestine being connected with the hernia. To ascertain the relative situation of the alimentary canal with more certainty, it was carefully traced from the duodenum downwards; it was found quite natural in situation, also in structure, with the exception of a slightly increased vascularity, especially in the ileum, extending as far as the termination of this intestine in the cœcum. Just at this point, which laid in close contact with the entrance to

the inguinal canal, was discovered an ulcerated spot, about the size of a halfpenny piece, which, however, did not perforate the gut. The appendix vermiformis was separated, and found lying loose in the immediate vicinity; it was perfect and uninjured, except at the point of disjunction, which had exactly the appearance of having been separated by ligature. The alimentary canal, below as well as above the cœcum, was quite pervious, free, and of a natural appearance; it contained but little fæces, and these of a fluid or soft consistency.

Remarks.—'Had this man been *operated on*,' the reader will exclaim, 'in all probability his life would have been saved;' and few, perhaps, will dispute the position, for it requires not the wisdom of a Solomon to form a *de post facto* judgment; but such a judgment, alas, however correct, comes too late to save, and can only be useful, like the buoy over the shipwrecked vessel, to warn others off the rock on which she has perished. In this way, the present case may not be without its usefulness; and I beg to take this opportunity of reminding my professional brethren, that failures in practice too frequently occur, the publication of which would afford more useful information than that of many of our most brilliant successes. This observation requires no other proof than an appeal to the recollection of every medical man of much practical experience.

The grand peculiarity of this case (and, so far as my researches extend, it is a very rare one indeed) is the almost entire absence of what are commonly called the constitutional symptoms of strangulated hernia. The chief sources of danger in this complaint are, obstruction of the passage of the alimentary canal, and inflammation of the abdominal viscera. Without either of these evils, the complaint would, probably, in most cases, not prove very formidable *. Now, in the present case, neither of these existed; the symptoms were those of inflammation of the contents of the hernial tumour alone; and the point to be decided was, whether to perform the operation of dividing the stricture at once, or to attempt the reduction of the inflammation without the operation? To the medical gentlemen † who saw this case, the latter plan

* Mr. Lawrence, in his excellent treatise on hernia, says in one place, that 'a strangulated epiplocele is, indeed, seldom fatal,' p. 30, 1st edition. Again, 'the employment of venesection, clysters, and purgatives, if the stomach will bear the last mentioned remedies, will generally relieve the distressing symptoms of an epiplocele, and preclude the necessity of having recourse to the operation. The application of leeches to the tumour affords a prospect of benefit in this case.' p. 87.

† Two of my medical friends of this town, of great experience and reputation, did me the favour to visit this case with me, and to give me their opinion upon it.

appeared preferable, chiefly for the following reasons: could the inflammation, and consequently the size of the hernial contents, be diminished, it was not improbable that they might be returned into the abdomen without the operation; or if this could not be effected, adhesion might take place between them and the sac; an event by no means to be deprecated in omental hernia, as thereby the future descent of the intestine would be prevented. But above all, the entire absence of all urgent symptoms promised a security against any evil consequences from delay, and to leave time for a successful operation, should the other plan fail. For five days the case appeared to be doing well under this treatment. The signs of mortification showed themselves somewhat suddenly on the evening of the 26th; at least, they had considerably advanced on the following morning, when I visited him. The time of the commencement and process of mortification is an interesting question in the history of this case. Two hypotheses appear admissible—first, that the circulation being, from the first, impeded by the pressure of the stricture, but not entirely stopped, the mortification of the part was gradual and slow (as when a ligature, only moderately tight, is applied to the part for its removal), and hence, might possibly arise the diminished sensibility and even size of the tumour, after the pain and swelling of the first stage of strangulation had subsided, and that irritation of the parietes of the hernia was not produced until mortification had made some progress, and, perhaps, until putrefaction had commenced. The remarkable non-excitability of this man's system tends to increase the probability of this supposition. The second is, that the favourable appearances really did arise from reduction of the inflammation of the parts, and that, from some unknown cause, a more complete degree of strangulation subsequently took place. This speedily produced the mortification. It may, perhaps, be impossible to decide which of these hypotheses is the true one; but the latter surely appears the most probable, as it is not likely that mortification should be going on in a part surrounded by, and in close contact with, a living covering, however slow and however torpid the constitution, without producing some symptoms which could be distinguished from those of convalescence. As the event turned out, certain it is that the operation, and probably the operation only, performed early, could have afforded relief; and the case presents a strong and somewhat uncommon illustration of the danger of deferring the operation, whenever even a doubt exists as to its necessity. The universal testimony of the best surgeons enforces the expediency of operating without any

longer delay than may be necessary to give a trial to the most efficacious means of reduction. 'I have often,' says the wise and venerable Hey, 'had occasion to lament that I performed the operation too late, but never that I performed it too soon;' and when it is considered how generally successful the operation is when performed skilfully, and in due time, will not the experienced surgeon subscribe to it as an axiom—*When you are in doubt, it is safest to perform the operation?*

Cambridge, September 10, 1828.

II.—*Remarks on Dr. Lucas's Paper on the Circulation.* By F. Bailey, M.B. Cantab.

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

Gentlemen,—Sometime ago I appeared in your columns as the advocate of the doctrine which supposes the heart to be the sole organ concerned in the circulation. More recently, Mr. Davies has appeared on the same side; but, in your last Number, I perceive this theory has been attacked by Dr. Lucas, who assures us, that Dr. Hastings 'has proved the muscularity of arteries by a body of evidence perfectly irresistible.' Not having, as yet, had the good fortune to peruse Dr. Hastings' essay, I can of course be no judge of its merits; but since it leads to inferences at variance with the conclusions of some of the most celebrated modern physiologists, and derives no solid support from the more ancient writers on the same subject, I am almost tempted to suspect some fallacy on the part of the Doctor. Dr. Lucas himself, indeed, towards the conclusion of his remarks, seems to intimate a certain degree of doubt as to the validity of this doctrine, when, relaxing from his high strain of eulogy, he observes that 'a presumption (only) will arise in its favour.'

To the question of the muscularity of arteries I have myself given some attention. I have frequently and very carefully dissected these vessels, but never could I discover in them any resemblance to muscular fibre. Often also have I, with the aid of a microscope of sufficient power, watched the motion of the blood in the capillary vessels. The red particles, whose figure I could distinctly perceive, appeared to roll onwards with a perfectly uniform and uninterrupted motion. No alternate fits of motion and quiescence, such as happen to the contents of all other muscular tubes in their progress, were discoverable here; and this, I apprehend, is a fair ground for concluding that such particles must have been propelled by a dissimilar power. Haller, again, that illustri-

ous physiologist, plied the arterial tubes with a variety of mechanical and chemical stimuli, such as would infallibly have roused into action any other hollow muscle, but could never succeed in producing (what Dr. Lucas contends for) their alternate contraction and dilatation. At a later period Dr. Parry and his associates put this point to the test of ocular proof, by means of accurate and very delicate admeasurements, and they also came to the same conclusion. They could discern no alteration in the size of the artery as the blood flowed through it, no evidence of systole or diastole, although at that very moment the vessel yielded, on a slight compression between the thumb and finger, all the phenomena of the pulse. Both these writers, indeed, have borne ample testimony to a vital or tonic contraction occurring under certain circumstances; but neither of them ever confounded this mode of action with that alternate contraction and dilatation upon which the pulse is supposed to depend, and by which, alone, a muscular tube can be conceived capable of carrying forwards its contents. By a careful examination, I am aware a fibrous appearance may be developed in the arterial tunics; but it would be a gross perversion of truth to call those fibres *muscular*, which are wanting in *the external characters of such fibre, are dissimilar in point of chemical composition, obey not the same laws, and display none of the phenomena that are its inseparable concomitants.*—I entirely agree with Dr. Lucas, that the question must be decided by facts—clear and indisputable facts; and I therefore wonder that, with such facts as these before him, he can any longer stand up in defence of the muscular theory. But, for the sake of argument, we will even suppose the vascular system to be provided with muscular fibres. If, as is generally believed, these fibres are arranged circularly around the vessel, or rather in planes perpendicular to its axis, it is certain the consequence of their contraction will be to propel the blood as forcibly back towards the heart as from it, and thus to defeat the intention assigned them, that of assisting in the circulation. For, although (as Dr. Lucas very properly observes) no actual regurgitation into the heart can take place, by reason of the valves placed at the origin of the aorta, yet the momentum of the retrograding blood must present an obstacle to the successive efforts of the ventricle in the expulsion of its contents, far greater, indeed, than can be imagined to arise on the supposition that it has to contend against the inertia of volume merely. In short, the abettors of this doctrine are reduced to the necessity of maintaining that the heart continually generates motion for the purposes of circulation, which fails in its object; an absurdity, the bare

mention of which is sufficient to throw discredit upon the theory from whence it proceeds, and to prove its repugnance to that wisdom and simplicity everywhere discoverable in nature's works. To obviate this difficulty, one suggestion has been offered, not devoid of plausibility. It consists in supposing that the fibres are arranged not circularly but obliquely, in regard to the axis of the vessel, and that, by contracting towards that point which is farthest removed from the centre of circulation, they must necessarily assist the heart in giving to the blood its progressive motion. To this, in common with many other equally ingenious conceits, there lies this simple objection, that they are all mere creatures of the imagination, having no foundation whatever in nature, fact, or truth.

Impressed with the force of these considerations, to which many more might be added, I can by no means concede to Dr. Lucas the assumption with which his essay commences, 'that the arteries are muscular tubes.' In error, as I candidly believe him to be on this point, he seems to me to deviate still further from the right line when he attempts to define the uses to which that other well-known property of arteries, their elasticity, is made subservient.

What, for example, can be more untrue in point of fact than his opinion, that the contraction or diminution in the calibre of an artery from exposure, laceration, or other injury, is effected by virtue of its elastic power? That such contraction or diminution in the cavity of the vessel results from the operation of a very different cause is most satisfactorily shown in the experiments of Dr. Parry, already alluded to. That observant inquirer drew blood largely from a vein at short intervals, and, after each successive bleeding, ascertained, by a very delicate admeasurement, what change had occurred in the dimensions of a large artery, laid bare for the purpose of observation. He found, that with every evacuation it contracted in size, and that just before death it had reached its minimum. A few hours afterwards, however, when every spark of vitality had become extinct, and the vessel was left to the sole influence of its elastic energy, it again dilated nearly to its original dimensions. From these facts, therefore, it inevitably follows, that dilatation is the proper effect of arterial elasticity*, and that the contraction of these vessels is accomplished upon a very different principle—a principle which is inherent in its fibrous texture, and

* I wish this to be understood with some limitation. I do not mean to say that an artery may not contract itself when immoderately extended. This were absurd; but all I intend to convey is, that, in the ordinary state of a living artery, dilatation is the proper effect of its elasticity.

which, being extinguished with life, is aptly enough designated by the title of vital contractility.

Having thus endeavoured to prove that the blood-vessels are not actively concerned in the circulation, it may not be improper to state in what sense they ought to be considered as subservient to that important function.

Upon the authority of facts and experiments already quoted, it is, I think, fair to conclude that the arteries are endowed with two very opposite properties or powers; one to diminish their capacity, called vital contractility, the other to increase it, denominated elasticity. Now, by a due adjustment of these opposing forces (agreeably to the analogy which seems to subsist everywhere), the artery, I conceive, is reduced to the condition of a *rigid tube*—a condition plainly incompatible with all idea of its exerting a contractile effort on its contents. It is, in truth, a mere passive tube, whose influence on the circulation is strictly negative; and the only sense in which it can, with propriety, be said to act at all is, by diminishing resistance, not by supplying force; and, although these operations are, in effect, the same, yet in a physiological point of view must they be distinguished, or much reason will there be to fear the introduction of practical as well as speculative errors.

Seeing then that arteries are, in effect, rigid tubes, it may very reasonably be asked, how can they be capable of increase or decrease, so as to suit every alteration in the quantity of the circulating mass? Such a contrivance would, *à priori*, seem contradictory and impossible; and yet it proceeds upon a plan exceedingly simple. We have only to suppose, what we know to be fact, that the vital contractility of an artery is *variable*, whilst its elasticity remains *the same*. If, then, that vital contractility increase, it must produce upon its antagonist power a corresponding effect; it must diminish the calibre of the vessel, until the equilibrium of the opposing force is restored. In like manner, if it be supposed to diminish, then will the elastic power predominate, and go on increasing the diameter of the artery until the two powers again become in exact equipoise. Of so easy solution is this apparently difficult problem; and never can we sufficiently admire the wisdom displayed in such a provision.

The principle upon which I have endeavoured to explain the adaptation of the arterial system to the opposite states of plethora and inanition, would, if pursued, go very far, I apprehend, in accounting for all those disturbances in the balance of circulation which constitute so great a sum of human misery; but this is foreign from my present purpose. From what has been advanced, I trust it may

now sufficiently appear *that the arteries are a system (in effect at least) of rigid, passive tubes, serving merely as conduits to the fluid that may be destined to pass through them.* In estimating, therefore, the obstacles which the heart has to overcome in the circulation, we must strike out of the account *that enormous sum of resistance, originating from a supposed contractile effort of the blood-vessels on their contents, and constituting one of the greatest difficulties with which the question of the heart's power has been encompassed.* Another equally erroneous element in that calculation is derived from the consideration of the various angles at which the arterial trunks send off their ramifications. To acquire a correct notion of the circulation, we must conceive a system of tubes in free communication with each other, all in a state of repletion, and to one point of which a force is applied. In other words, we must imagine the simple case of an enclosed vessel filled with liquid. Now, if to *any part* of this vessel you administer force or pressure, it is immediately extended *to every other part.* In like manner, I apprehend, it happens, that *the force or pressure communicated by the heart to the contents of the aorta is instantly propagated to every part of the vascular system, notwithstanding the infinite variety observable in the angles and directions of the vessels of which it consists.* Friction and inertia, then, seem to be the only real impediments to the circulation; friction against the sides of vessels, and the inertia of the mass to be moved—and, sceptical would that person be justly esteemed, who should refuse to so powerful a muscle as the heart the ability to surmount such obstacles. For, if the sufficiency of this organ, for the purposes of circulation, could not be disproved, even on the supposition that it had to contend against gratuitously assumed resistances, how much more equal to such a task must it appear, when it is considered, *that the chief of those resistances have only an imaginary existence.*

To this theory, however, Dr. Lucas has proposed two objections that require a moment's consideration. The first is, that the blood continues its motion in the capillaries after apparent death, or even after excision of the heart; and the other, that the great arteries are found empty on dissection. With regard to the former of these objections, I would observe, that we are not told how long after the heart had ceased to beat, or after its removal from the body, this phenomenon continued. To the validity of the objection such information is very material. For it would be as unreasonable to suppose that the previously acquired momentum of the blood should be immediately annihilated on the abstraction of the heart's power, as that a ball should cease to move as

soon as it had escaped from the cannon's mouth. In both cases the motion must remain for a considerable space after the power which produced it has ceased to be. In reply to the latter objection, which is founded on the vacuity of the great arteries after death, I would remark, that this appearance is very easily explained without any reference to the muscularity of the capillary system. Hunter has recorded an instance, in which the dimensions of an artery were so reduced by simple exposure, that it became an impervious cord. States approaching to this are, indeed, no uncommon occurrence, and, doubtless, result from the operation of that principle we have so often adverted to, *vital contractility*. It follows then, that the same thing may happen to the aorta, and its immediate branches. Suppose them, therefore, greatly reduced in their diameter from such a cause, and that, in this state of contraction, death supervenes. The contractile energy depending on life vanishes, and the vessels are left to the uncontrolled influence of their elastic principle, by whose agency they acquire a greater capacity, perhaps, than they had ever previously attained. Hence the vacuity on which so much undue stress has been laid. In despite, therefore, of every argument to the contrary, I am still disposed to adhere to my old, and long-cherished opinion, that *the heart is the sole cause of the blood's motion, and that the channels through which the blood passes are mere conduits*, endowed, by a peculiar construction, with the power of obviating resistance to the utmost possible degree.

I remain, Gentlemen, your's, &c. F. B.

Reading, September, 1828.

III.—*Remarks on the 'Evidences against the System of Phrenology.* By Thomas Stone, Esq.'

(Continued from page 265.)

Phrenology includes two primary branches:—Psychology, the doctrine of the mind as a system of elementary faculties, depending on the instrumentality of correlative organs for their manifestations; and organology, the doctrine of the brain as a system of organs, by whose functions the conditions of the mental faculties are correlatively manifested. Against the phrenological organology, Mr. Stone, as we have just found, has been altogether unable to do more than reiterate, with maudlin urgency, the objections contrived by his predecessors; and, at the same time, to render those conceits of theirs still more miserably futile by the contamination of his own perverse imbecility. Let us now consider

the expedients wherewithal he struggles to 'put down' the views entertained by phrenologists regarding the *functions* of the cerebral organs.

'The functions ascribed to these alleged *distinct* parts of the brain,' he begins, page 19, 'are not *the less* remarkable for their want of accordance with all the known phenomena of the human mind: each, it is said, is the organ of *some* innate special faculty.' This summary denunciation, in the hands of a modest person, would have been accompanied by some sort of 'evidence;' but Mr. Stone, who is neither modest nor upright, has advanced nothing of the kind; with him, to quote his own misapplied quotation, the rule is—*sic volo, sic jubeo, stat pro ratione voluntas!* As this arbitrary judgment is nothing other than an emanation from his own splenetic unconscientiousness, and expresses the reverse of what is truth, it may be sufficient to state, in proof of this his inveteracy in unveritable assertion, that, of the *functions* which phrenologists ascribe to certain parts of the brain, one-third of the number has been recognized as manifestations of the mental powers by other metaphysicians *.

Mr. Stone next propounds a very inexact definition of the term '*faculty;*' ascribes to the founders of phrenology an appearance of 'using this word in the same sense as did Locke, Reid, and other metaphysicians,' and then takes occasion to say, 'the former, however, differ from *all* their predecessors, in assigning to the mind only a definite number of these faculties; in considering that each has its own peculiar and restricted mode of action; and in believing that they are all severally connected with different portions of the encephalon. The phrenologists having repeatedly disclaimed the necessity of any inquiry into this part of their system, its incongruity should excite no surprise.' Here, then, according to the 'Evidences,' are three principal positions, in maintaining which, the phrenologists '*differ from all their predecessors,*' consequently, those three positions 'entitle them to some praise for the *originality* of their views,' and, at the same time, demonstrate the recklessness of their detractor's self-contradictions. Again, phrenologists do *not* 'assign to the mind only a definite number of faculties;' they merely describe such as have been ascertained by observation of many diversified and well-authenticated facts. Farther, they discriminate the *peculiar functions* of a mental faculty, but never talk of 'each having its own peculiar and *restricted mode of action;*' the mode of action of a faculty admits of many modifications dependent on the causes

* See the Phrenological Journal and Miscellany, Vol. IV, page 30, 33.

which vary the degrees of its energy, and regulate its tendency: at the same time, the *function* of each organ remains invariable, whatever direction its manifestations may take, in consequence of its *acting* in combination with other organs. Once more: did the sophist expect to be believed, when he said, 'the phrenologists have repeatedly disclaimed the necessity of any inquiry into this part of their system?' Has he not found Dr. Spurzheim* declaring, 'I have neither the wish nor the intention to persuade, and therefore invite every one to convince himself by personal examination;' and again†, 'I invite every inquirer to repeat the observations, to obtain self-conviction;' and Mr. Combe‡ also, 'those persons who desire philosophical conviction, are requested to resort directly to nature, which is always within their reach; for self-conviction can be obtained only by self-observation.' Lastly, and by way of epilogue to his own oracular obliquities, Mr. Stone superadds a piece of cavilling, alike contemptible for its impertinence as reprehensible for its mis-representation. 'As an example of the inconsistency,' he says, page 19, 'I could almost say positive ignorance, which prevails upon these subjects, we need only refer to Mr. Combe's definition of the word *faculty*, remembering, at the same time, how frequently he has used it, and how much he has made to depend upon its signification.' Let the reader mark well this 'example of inconsistency or positive ignorance,' and he may perhaps be able to discover where the epithets, *ignorant* and *inconsistent*, are rightly applicable. Mr. Combe§, in 1824, proposed a 'definition of the word *faculty*,' which he himself afterwards felt to be defective: accordingly, in 1825‖, 'he gave a different meaning to the word,' and thereby evinced his candour and desire of philosophical improvement. Notwithstanding this, however, his reviler transcribes the first, and makes it the subject of a flippant and most illogical censure. Moreover, as if this artifice had been insufficient for the gratification of his malignity, he practises a subsidiary fraud, and, by garbling the second definition, makes way for a charge of '*contradiction*' against one whose writings are as unlike the 'Evidences' as the character of a gentleman is exalted above that of a

* Phrenology, or the Doctrine of the Mind. London, 1825, page 124.

† Physiognomical System of Drs. Gall and Spurzheim. London, 1815, page 289; and Phrenology, page 97.

‡ System of Phrenology, second edition. Edinburgh, 1825, page 60.

§ Elements of Phrenology. Edinburgh, 1824. Mr. Stone quotes the second edition of 1825, page 16, and in doing this cannot resist his propensity to misquotation; on this occasion he garbles Mr. Combe's definition to make way for a piece of parasitical rant.

‖ System of Phrenology, second edition. Edinburgh, 1825, page 51.

sycophant or a ruffian. This act of knavery will stand exposed in a contrast of the falsified with the true definition :—

Mr. Stone, page 20, makes Mr. Combe say, '*The term faculty is used to denote a particular power or feeling connected with the brain.*'— The contradiction is here so manifest, that it requires no comment. *Ex uno disce omnes!*

Mr. Combe * himself says, 'The term faculty is used to denote a particular power of feeling or thinking, connected with a particular part of the brain.'

The perversion of Mr. Combe's meaning here was premeditated and is palpable; but, allowing the alleged contradiction to be real, which it is not certainly, the deduction from it is utterly repugnant to every principle of equity and good manners. It would be most unfair to charge *all* that has been written against phrenology with being churlish and sophistical, because the paralogies of Sir William Hamilton are scandalously remarkable for petulancy and shuffling: and it would be most unjust to stigmatize *all* the anti-phrenologists as slanderers and dunces, because the 'Evidences' of their underling are replete with prejudice, calumny and error.

Already have we found Mr. Stone unwarrantably *imputing* to phrenologists the folly of 'assigning to the mind only a *definite* number of faculties;' we now hear him, page 20, expatiating on the opposite absurdity. 'That the mind does manifest consecutively an *almost infinite number and variety of faculties*, there can be no doubt; but we have no reason to presume that it is at the same moment an aggregate of an arbitrary and definite number, all co-existing with different portions of the cerebral substance, and restricted in their individual modes of operation: the unity of consciousness would, on such principles, be necessarily destroyed.' This passage comprises three assumptive fancies, in support of which nothing whatever is advanced beyond the assertion of a capricious dogmatist, whose veracity is too lethargic, and whose knowledge is too superficial, to authorize his pronouncing dictates on such questions. *That* whereby he declares the mind capable of manifesting an almost *infinite* number and variety of faculties, is a freak of inebriated

* System of Phrenology, page 51. The definition is repeated in another work, in the following terms: 'The word faculty means a mental power of a particular kind, either of propensity, sentiment, or intellect, attached to a particular portion of the brain, and varying in natural energy as the organ varies in size.'—*Transactions of the Phrenological Society, Edinburgh*, 1824, *page* 31.

ideality, and constitutes an incomprehensible absurdity which common sense cannot apprehend, nor philosophy demonstrate ;—*that* which imputes indefinitely to others the doctrine of the mind's being an aggregate of 'an *arbitrary* and *definite* number of faculties,' '*restricted* in their individual modes of operation,' pre-supposed an unphrenological opinion, which they who entertain it, if such there be, may undertake to substantiate, according as their pleasure is, or their power ;—and *that* which exhibits a speculatist stating peremptorily, that the unity of consciousness would be necessarily destroyed by the principle of a definite number of mental faculties, who in the preceding sentence had as peremptorily allotted to the mind an *infinite* number and variety of faculties, exhibits at the same time an 'evidence' confirmatory of his own inconsistency and ignorance of the topics whereon he ventures to utter oracles. Some metaphysicians recognize *two*, others *five*, others *nine*, primary faculties of the mind ; many of the phrenologists regard the mind as an aggregated system of faculties ; and the law of the 'Evidences' is 'that the mind does manifest consecutively an almost *infinite* number and variety of faculties, *there can be no doubt.*' Now, on any one of 'such principles' —the metaphysical, phrenological, or lithographical—that mystical shuttlecock, 'the unity of consciousness,' seems equally, though in different degrees, exposed to destruction. It is, therefore, as incumbent on the metaphysician, and especially on Him of the infinite faculties, to *keep up* this unity, as on the phrenologist who fears no danger to its integrity from admitting either a duplicity or a multiplicity of mental faculties with their co-existent organs in the brain.

Another absurdity occurs in the next sentence ; it is this, p. 21 ; 'according to the phrenological scheme, different states of mind are conceived to originate separately, and independently of each other, by the supposed activity of different material organs.' This statement exhibits a perfect departure from veracity :—by the phrenological scheme, no such thing is 'conceived' ; according to this scheme, 'different states of mind' originate *from* different external or internal *causes*, and those states are made perceptible to consciousness or to observation by the activity of determinate cerebral organs. Then follows the ludicrous induction, 'Dr. Gall attributes to each of these organs *five*,' and Dr. Spurzheim 'only *three* degrees of activity' ; hence, concludes our logician, 'the brain is thus made an aggregate of so many distinct *minds.*' Thus, because three or five degrees of activity are attributed to the brain, therefore the brain is made an aggregate of three or five distinct *minds!*

Before attending to the mass of unintelligible and incongruous jargon, diffused over the next two pages of these 'Evidences,' regarding 'our personal or mental identity,' the 'unity of consciousness,' and the *imputed* phrenological sin of 'subdividing the unity of the mind itself,' it may be useful to premise, that Mr. Stone himself, while disgorging his nonsense on those subjects, distinctly makes a *subdivision of the mind*, and blames the objects of his invective for not taking cognizance of those among his own infinite number and variety 'of the mind's faculties,' which he chooses, p. 24, to designate 'volition, attention, memory and judgment.' Keeping in view this inconsistency of his, let us hear what he says on the subject of 'our personal or mental identity.' 'The supposition,' he says, p. 21, 'that different states of thought and feeling originate separately and independently from one another, *through* the instrumentality of perfectly distinct agents, will thus be found incompatible with the evidence of our personal or mental identity.' Now, this 'supposition,' which Mr. Stone would represent as accurately phrenological, is a deformed conception of his own, and implies two postulates which he never once attempts to prove: *that* different states of thought and feeling *should not* 'originate separately and independently from one another'; and *that* different states of thought and feeling *ought* to originate *through* the instrumentality of *one* perfectly identical agent; consequently, *that* the 'supposition' must include both those pre-requisites before it can 'be found compatible with the evidence of our personal or mental identity.'

It appears, however, that there is authority *against* 'the supposition,' and this authority is nothing else than an extract, *without reference*, from the writings of Dr. Brown, who has been *made* to say—'the identity of our mind is its continuance on the subject of various feelings, or at least, of that which is susceptible of various feelings: the belief of it, therefore, can only arise from the consideration of its successive phenomena, and is, indeed, involved in the mere consideration of these as successive.' Taking these ambiguous sentences as Mr. Stone has chosen to fashion them, we shall find that, if any degree relevant to the question, they tend to evince the probability of the separate and independent origin of thought and feeling. Thus, if the identity of mind is its continuance as the subject of that which is susceptible of various feelings, the identity of mind must also be its continuance as the subject of that which is susceptible of *different* feelings; and, if the belief of this identity can only arise from, or be involved in, the mere consideration of the mind's phenomena as successive, when its identity is its

continuance as the subject of *various* feelings, the position is self-evident, that such belief must remain unimpaired by the notion which may hold its identity to be its continuance as the subject of *different* states of thought and feeling. Variety is just as incompatible with sameness as is difference; and the agents which originate variety must necessarily be as distinct, separate and independent, each from the rest, as those which originate difference: the relation of mental phenomena indeed cannot be successive without being interrupted; nor can it be various without being different; and, in being different, it cannot be identical.

Mr. Stone proceeds, p. 22: 'instead, however, of regarding our several thoughts and feelings as relations of the same mind to any of its own antecedent thoughts, they are, we are distinctly told' by the phrenologists, '*considered relations of the simple substance, mind, to certain portions of the encephalon.*' Here, after the usual manner, we are required to believe, without reason or evidence, that we *ought* to regard our several thoughts and feelings 'as relations of the same mind, to *any* of its own antecedent states;' now, we are again and again directed, in the 'Evidences,' to admit that the mind is a unity; and, as every several thought and every several feeling must have each its several efficient cause, it should therefore follow, that every efficient cause of thought and feeling is capable of changing the relations of the entire mind, and, consequently, that the 'indivisible mind' cannot be susceptible of more than one state or relation at the same instant—a supposition altogether gratuitous, and contradicted by the general experience of mankind. Farther, Mr. Stone only adds to the superabundance of his guilt when he asserts that Dr. Spurzheim considers our several thoughts and feelings as 'relations of the simple substance, mind, to certain portions of the encephalon.' The Doctor no where speaks of the mind as a simple substance, nor does he regard our thoughts and feelings as *relations* of any kind, but as *functions* of mental faculties. With respect to the imputed consideration, therefore, it is only necessary to say, that, although given as a fair quotation, it constitutes a perversion of the Doctor's sense, and was intended to throw ambiguity into his doctrines.

Taking authority from his own fabrication, Mr. Stone affirms, p. 22, 'it therefore is evident, that, by this theory, not only is the relation of one state of mind to another interrupted, but an absolutely different thinking principle is established between them.' Here it is again assumed by the same kind of implication, that the relation of one state of mind to another *ought* to be uninterrupted—a thing quite

incomprehensible and altogether unreal. Thus, since many different states of thought and many various states of feeling interchangeably occur in the *same* mind, so there must also be many different relations between those states; consequently, each antecedent relation must cease before the consecutive begins: without interruption the first relation would be permanent, the mental state immutable, and feeling not various; for, even according to Dr. Brown himself, the powers, thoughts, and feelings of the mind are not different from the mind, but merely *the mind itself* existing in *different* states. Again, even with Mr. Stone's falsified version, which *makes* the phrenologists consider our 'several thoughts and feelings as relations of the simple substance, mind, to certain portions of the encephalon,' nothing short of ebriety or distraction could have induced him to assert that, 'by this theory, an absolutely different *thinking principle* is established between them;' that is, as he unintelligibly terms it, 'the relation of one state of mind to another.' But let that pass as trivial, 'tis only an obscurity crowning a departure from veracity.

Finally, on this head, comes one of those moral prodigies which indicate unerringly the most headlong stupidity, or the utter abolition of regard for truth. 'Thus,' it is said, p. 22, 'the perception, memory, and judgment, arising from the "three degrees of activity" peculiar to the organ of veneration, must be essentially different from the perception, memory, and judgment, that result from the functional activity of every other organ in the system.' For the purpose of 'putting down' their doctrines, Mr. Stone has read the writings of Dr. Spurzheim and Mr. Combe with the keenness of a cynic, and the malignity of an apostate; and, consequently, he knows perfectly that phrenologists do not ascribe 'perception, memory, and judgment' to veneration *, or to any one of the propensities and sentiments; this last misrepresentation of his, on 'mental and personal identity,' is

* Dr. Spurzheim, in the Physiognomical System, 1815, says, 'the moral sentiments have no memory, no judgment, they produce only feelings.' page 292. Again, 'memory is the reproduction of perceptions; propensities and sentiments cannot be reproduced voluntarily, consequently it is impossible that we have any memory of them,' page 468. Again, 'it does not seem to me that judgment is an attribute of *every faculty* of the mind; judgment belongs only to the intellectual faculties,' page 470. And again, 'I make use of the name perception only in respect to the intellectual faculties,' page 468. So also Mr. Combe, 'as the faculties of the propensities and sentiments do not form ideas, and as it is impossible to excite or recall the feelings or emotions produced by them, directly, by an act of the will, it follows that these faculties have not the attributes of perception, conception, memory, imagination.' Again, 'judgment, in the proper sense of the word, is a perception of relation, or of fitness, or of the connexion betwixt means and an end, and belongs *entirely* to the *reflecting* powers.'—*System of Phrenology*, page 376, 395.

therefore a fabric of nonsense, constructed on a foundation of envy and untruth.

Mr. Stone's next two paragraphs are remarkable for the dogmatism, incoherency, and frantic vapouring wherewith they are characterized. They open with this *perspicuous* oracle :—'the unity of consciousness and the evidence of our personal identity would hereby necessarily be destroyed;' nor is it of any avail to argue in reply, 'that the several organs exert a subsidiary and mutual influence over each other, which is alone sufficient to prevent any such anomaly.' Now, we have no authority whatever for asserting a necessity for such destruction, save the word of a writer whose 'Evidences' abound with all sorts of things, except 'purity from the crime of error.' On the contrary, every body knows, and of course it would be a work of supererogation to prove, that consciousness is *not always* single, and that histories illustrative of *divided* personality have been contributed to science by physiologists, who cannot assuredly be charged with entertaining the phrenological heresy. Consciousness may be regarded conventionally as single: not however as a primitive faculty of the mind, but as an actual function of one or more intellectual faculties: when, for instance, such function gives the perception of personal identity, consciousness seems to be single; but, it is so only in the sense that a plant is a single thing, or a man a single being, in whom a multiplicity of elements combine to form the aggregate of individual unity. Again, the argument 'in reply' was never so expressed by phrenologists: their doctrine simply is—'the various faculties are manifested by means of peculiar organs; these exert a mutual influence, on the due continuance of which the unity of animal life depends: for, if this unity be deranged, the unity of animal life is deranged also; there is, however, a great difference between saying that the various organic parts exert a mutual influence, and saying that each part does not perform its own particular function'*. Having artfully perverted this doctrine, Mr. Stone exclaims, 'an assertion of this kind is so extravagantly hypothetical, so obviously suggested to suit the convenience of the moment, that it has no legitimate claim to any serious consideration.' So says our wrangler supposititiously; unconscious all the while that his reproach is directed against a fantasy of his own, and by a consequence deserving to be censured as extravagantly absurd and reprehensibly unequitable. Another misquotation follows: and, on the assumption of its being a fair one, Dr. Spurzheim is charged with having 'recourse to a direct eva-

* Dr. Spurzheim; *Phrenology, or the Doctrine of the Mind*, 1825, p. 73, 74.

sion.' Thus, the Doctor is made to say, 'the organs of our *system* are double, and consciousness is single; so also are not our eyes double? yet we see singly; our ears double? nevertheless we hear singly†.' All this, as it stands in the 'Evidences' is contemned as an attempt to 'illustrate the *obscurum per obscurius*, and in no wise calculated either to remove or palliate the difficulty.' Nevertheless, this '*obscurius*' of the smatterer is admitted by himself, in his next sentence, to be a luminous perspicuity; for, he says, 'our sense of vision, and that of hearing, are, it is true, single, because the impressions received by these organs (what organs? are our sense of hearing and our sense of vision organs?) are conveyed to one mind, as so many rays of light which concentrate in a single focus.'

Now, if our sense of hearing and that of vision be single, because the impressions received by their double organs are conveyed to one mind, it ought to follow, by the same rule, that our sense of justice and our sense of veneration, for instance, are single also, because the impressions received by their double organs are in like manner transmitted to one mind. Instead of essaying to invalidate the 'Evidences' which uphold this last position, Mr. Stone, either from neglect or necessity, leaves it entire, and proceeds thus:—'subdivide, however, this sentient and thinking principle—scatter its energies—endow thirty-five parts of the brain, all coexisting at the same moment, with as many distinct powers of perception—and then is it likely the same unity would be preserved?' If this jumble of declamatory babbling have any meaning, it implies that phrenologists make a subdivision of the mind, which their adversary would 'put down' as erroneous. This person, however, must become intelligible and consistent at least, before his bare assertion can conduce much to the purpose, for attaining which he has so recklessly endangered all that is held reputable by mankind. While, in general terms, he here condemns a visionary subdivision of the mind, he himself, at the same instant, does subdivide 'this sentient and thinking principle.' Thus, in endowing it with a *sentient* and a *thinking* power, he 'subdivides the mind and scatters its energies:' and in giving it, as he has

† The true version of this is, 'The organs of every external sense, as of the functions of animal life in general, are double: there are two eyes, two ears, two nerves of smell, of taste and of touch: some authors have denied the doubleness of the cerebral organs, but the denial was founded on their mistaking doubleness for symmetry. It is true that both sides of the brain are seldom symmetrical, but is not this the case with the eyes, ears, and other double parts? Thus the want of symmetry does not prove that they are not double. Another generality of the five senses is, that while each has two sentient apparatuses, and, accordingly, receives double impressions, consciousness is still only single.' Dr. Spurzheim: *Phrenology, or the Doctrine of the Mind*, p. 218, 219.

done, p. 24, the *four faculties*—'volition, attention, memory and judgment,' he still farther 'subdivides the mind and scatters its energies.' This being the case, his asking censoriously how the same unity can be, where subdivision is, necessarily exposes himself to that charge of preposterousness which he has often most senselessly misapplied. Again, his talking about thirty-five parts of the brain, all co-existing at the same moment,—as if *all* parts of the brain were not co-existent in mature life, is pure insignificant trifling; his conceit of endowing thirty-five parts of the brain 'with as many distinct powers of perception,' the dream of a licentious and misconstructed fancy:—the justice of this decision is self-evident. Nevertheless, so resolute is he in urging his objection, that he once more repeats his repeated repetitions of it; and, having delivered himself of his false conception, he sinks into a sort of hysterical ecstacy, the 'evidences' of which are, of course, abundantly pathetic. With these, however, it might be deemed invidious to interfere; let us, therefore, attend cursorily to the re-echoed echo of a sound which he marks in *italics*, to enhance its attractiveness. 'It is not,' he says, p. 23, 'on the duplicity of the several organs only that *this* objection (what objection?) is founded: *it is upon the circumstance of the phrenologists having subdivided the unity of the mind itself.*' Next, and with a superfluity of vulgar impertinence, he disingenuously attributes to Dr. Spurzheim a zealous attempt to refute the 'circumstance' whereon '*this* objection is founded.' Accordingly, he represents the Doctor as saying, in a precise quotation—'the explanation of this phenomenon (what phenomenon?) may, indeed, remain unknown for ever; but it is not the less true that the brain is double, and that each half is composed of different parts or organs.' Here the same moral obliquity which has already been often exposed, and will hereafter be often detected, appears in all its odious deformity. Dr. Spurzheim's* express words are, 'philosophers repeat incessantly that the organ of the soul cannot be complicated because consciousness'—not the mind—'is single.' 'Van Swieten relates that, as we have two ears and two eyes, and as the consciousness of the impressions of two similar organs is single, so the consciousness of the mind is single, though the brain is double. I suppose, indeed, that this

* Physiognomical System, 1815, p. 220, 221. Again, 'Van Swieten observes, that as the consciousness of impressions in two similar organs is single, as for example, in the two ears or two eyes, so mental consciousness is single, though the brain be double. The phenomenon of single consciousness (*not the unity of the mind*) may never be explained, but the truth of the brain being composed of two halves, each made up of different parts, will not *therefore* be impugned.' *Phrenology, or the Doctrine of the Mind,* p. 72, 73.

phenomenon (the singleness of consciousness, not of mind) may remain unknown for ever, but it is not, *therefore*, less true that the brain is double, and that each half is composed of different parts: are there not many things that cannot be explained? Automatic life is one; but is it not composed of different functions, which are produced by different organs? It is always single, though it is more or less complicated in different kinds of animals. It is the same with animal life, which is also more or less complicated in different kinds of animals; the different faculties are manifested by means of different organs; these organs exert a mutual influence, and as long as this mutual influence exists, the unity of animal life also exists:' 'whether the unity of consciousness may ever be explained or not, it is indubitable that all the organs of animal life are double.'

Having thus concisely noticed the incoherent scraps relating to 'unity of mind,' and 'unity of consciousness,' which Mr. Stone has huddled together, so ungrammatically, as 'Evidences' against the first phrenological proposition, let us, with reference to his misapplications of them, consider briefly the import of those mystical expressions. We have just observed an unsubstantiated censure, administered emphatically to '*the circumstance of the phrenologists having subdivided the unity of the mind itself:*' previously, however, to making this charge, its author ought to have proved, *that* there actually does exist in nature the thing he so often and expressly denominates 'the unity of the mind;' *that* phrenologists have actually subdivided the unity of the mind; and *that*, by making this subdivision, they have perpetrated what is unphilosophical or immoral. Not one part, however, of this, his manifest duty, has he attempted to execute; he merely *says*, in sovereign style, that the phrenologists have 'subdivided the unity of the mind itself,' and then *implies* that such subdivision is improper or faulty, or unjustifiable. So to *say*, and so to *imply*, may be applicable to the fabrication of a '*plain tale*,' but such expedients can obviously never constitute an evidence of error in any one of the phrenological doctrines. Unity does not necessarily exclude the idea of complexness: whatever constitutes an aggregate or system, is a unity: thus, an animal or the universe is each a system, and at the same time a unity: so also, according to phrenologists, the mind is a systematic unity dependent on the aggregate of its own primitive constituent faculties. Other philosophers entertain the opinion, that the mind is a simple and indivisible substance, and that its powers, thoughts and feelings are not different from the mind, but merely the mind itself existing in different states; an opi-

nion which makes the entire, simple, indivisible mind capable of entering into a variety of different states at the same instant, and consequently not very evidently consistent with experience and the analogies of organized beings. Nevertheless, whether we regard the mind as an aggregated system of faculties, or view it as a simple substance capable of existing in a variety of states, we shall find that, in either case, its perceptions are those of an entire, substantial unity, which phrenologists neither desire to divide nor sub-divide, but whose manifestations they zealously endeavour to explain.

Consciousness is a perceptive function, whereby the mind obtains knowledge of its own conditions; and its unity or singleness, which is general, not universal, implies not that the mind is incapable of experiencing more than one perception at the same instant, but, that the mind perceives each feeling, sentiment, and thought, produced by internal or external causes, as a single perception or perceivable unity, although the knowledge of such feeling, sentiment, or thought, be acquired through the instrumentality of more than one material organ. Each of the external senses receives impressions through the co-operative agency of two distinct but co-essential organs; and the 'simple indivisible mind,' as some philosophers call it, apprehends its own 'successive relations' through the entire brain, which is indisputably a double organ. Now, if consciousness be single when this perceptive function is performed by a duplicity of organs, there exists no apparent reason why the singleness of consciousness should be 'destroyed' were the function executed by a multiplicity of organs. In either case, the causes of this singleness have hitherto eluded physiological research; but its *general* existence, being demonstrable by *general* experience, constitutes a certain principle in philosophy. Seeing, therefore, that Mr. Stone himself, p. 24, in common with some metaphysicians, assigns *four* faculties to the mind, and, by his own 'extravagantly hypothetical' 'anomaly,' p. 20, declares that it 'undoubtedly does manifest an infinite number and variety of faculties,' while, at the same time, he admits that the brain—a double organ at least—is the 'emporium of thought,' it was on his part a most 'preposterous' sort of argument to say dogmatically that, because phrenologists assign, as he phrases it, a 'definite number' of faculties to the mind, and a corresponding 'definite number' of organs to those faculties in the brain, consequently 'the unity of consciousness must necessarily be destroyed' by this phrenological theory. So to say, is manifestly to dogmatize both arbitrarily and extravagantly: duplicity, multiplicity, and infinitude are all essentially incompatible

with unity; but, if we find that singleness of perception is naturally and physiologically co-existent with a duplicity or infinity of mental faculties, having their conditions manifested by a double cerebral organ, nothing but positive demonstration can operate as 'evidence' against the truth of that doctrine which holds the number of those faculties and their organs to be 'some,' 'several,' 'definite,' or 'many,' and admits moreover, without pretending to explain the fact, that the singleness of consciousness is a *general* law of the intellectual economy. Vision and hearing, in fine, are mental faculties, and their perceptions constitute true mental functions, performed, as all men know, by double organs; *all* the mental functions, according to 'the phrenological theory,' execute their determinate functions through the instrumentality of double organs, which convey their impressions to one mind. When, therefore, Mr. Stone decided imperiously, on the one hand, that, p. 23, 'our sense of vision, and that of hearing, are, it is true, single, *because* the impressions received by these *organs*' (meaning probably organs of these *senses*) 'are conveyed to one mind,' he was required by every obligation of consistency, courtesy, and philosophy, to advance something better than his own *simple* assertion, in support of the arrogant and unrighteous judgment, whereby he as imperiously declares, on the other hand, that 'the unity of consciousness,' and the evidence of our personal identity would, by the phrenological hypothesis, 'necessarily be destroyed.' Exclusively, however, of that afforded by analogy, the evidence resulting from a multitude of actual and exact observations must be counterbalanced, or '*extinguished*,' before the accordance of this 'hypothesis' with the economy of truth and nature can be successfully controverted by any one of its reproachful assailants, and far less so by a zealot, whose imperceptible veracity disqualifies him from conceiving a fair judgment on the question, to which his ungenerous prejudices are contumaciously opposed.

Thus, then, we have retraced the labyrinth of metaphysical subtleties so unskilfully fabricated by Mr. Stone, as a chief mean of suppressing the first phrenological proposition; and, it is not without feelings of commiseration and disdain, that the mind is obliged to regard it as an ignominious exemplification of man's frailty, inasmuch as the higher sentiments of his nature suffer outrage from the loathsome patches of inconsistency, hebetude, and misrepresentation which occur incessantly, with scarcely one gleam of pure philosophical ratiocination to beguile attention from the gross moral deformity.

(To be continued.)

MONTHLY SYNOPSIS OF PRACTICAL MEDICINE.

1. *Wound of the Femoral Artery.—Ligature.* By M. Lisfranc *. —M. T., aged twenty-three, of a sanguine temperament, of an excellent constitution, of a violent character, siezed, during a fit of passion, on the 3rd of June, a knife, nine inches in length, and ran it through his thigh from side to side. The blade penetrated from without inwards, about two-thirds up the thigh, and came out about an inch above the aponeurotic ring through which the femoral artery perforates the triceps muscle. The hemorrhage which instantly came on was frightful; his strength forsook him, and he fell down on the pavement, before he could have time to aim another blow at his heart, which he attempted. He was immediately conveyed to the hospital and placed on a bed. This was at five o'clock in the afternoon. Drs. Devilliers and Salone, who arrived a few minutes after the accident, exercised successively with M. Martinet, the elève of the hospital, strong pressure on the artery, just below Poupart's ligament. The patient was seized with vomiting, which rendered compression very difficult; the accident took place immediately after his repast. M. Lisfranc arrived at ten o'clock, and found the patient in the following state: constant vomiting; starting of the tendons; syncope; extreme pallor and sinking of the countenance; the wounded member was nearly double its natural size, but the colour of the skin was not changed. It was a question whether the enlargement of the limb was caused by the injection of blood into the cellular membrane, or by inflammatory tumefaction. M. Lisfranc considered it to be the latter, as he had before witnessed cases where inflammation and tumefaction came on in the course of an hour or two, contrary to the opinion of most authors; he therefore acted upon the strength of his diagnosis, and proceeded to tie the vessel. He made an incision three inches and a half in length by the side of the wound, commencing half an inch below the opening through which the artery perforates the tendon of the triceps muscle. The sub-cutaneous cellular tissue was double its natural thickness, but there was no sanguineous infiltration. Having exposed the sartorius muscle, which was found swelled, the operator met, at its inner edge, the course of the wound, near the opening in the tendon of the triceps. The tissues were of a dark colour at this point, and slightly infiltred with blood. The sartorius had contracted intimate adhesions with the subjacent parts, owing to the inflammation of the tissues. These adhesions were destroyed with the finger. Under the muscle, at the point where the vessel had been wounded, were found dense clots of blood. The sheath of the artery was next laid open to some extent, and the vessel was found contracted to a very small size, being quite empty. The vein, on

* Clinique de la Pitié.

the contrary, was very large, and its volume singularly augmented every time the patient exerted himself in vomiting. Owing to the contracted state of the artery, the wound in its coats was so much reduced that M. Lisfranc could not discover it until the pressure above was removed for an instant. When the vessel was set at liberty, the blood was immediately thrown out in a very thick column and with great force. The operator instantly clapped his finger on the wound, and the pressure was renewed. A ligature was now passed under the vessel, which was tied above the wound. Another ligature was applied below it, but it was necessary, before this could be done, to slit the tendon, through which the artery passes, to the extent of about a third of an inch. The wound caused by the operation was then closed, and its edges kept together by adhesive plaster, over which a compress was applied; then a bandage was twisted round the limb all the way from the crural arch to the toes. From eleven o'clock at night until the following morning the patient felt very severe pain in the inner ankle and instep; great tumefaction of the whole limb; no sleep. At seven o'clock, it was found necessary to slacken the bandage; the pain immediately abated. *(Gum-water; absolute abstinence.)*

June 4th. Until four o'clock, slight pains towards the extremity of the member, which was placed in the demi-flexion on its outer side. The limb was covered with a bolster, for preserving its warmth; its natural temperature never forsook it. Vomiting intermittent, and without any effort; a few minutes' sleep in the day. Towards ten o'clock at night, slight delirium; pulse full and frequent; skin hot; but, as the patient had lost a great quantity of blood, it was not judged proper to have recourse to bleeding. At intervals, during the night, the patient had about three hours' sleep. *(Same prescription.)*—5th. He slept during the whole night; the suppuration which commenced to be established was of a good quality, and it issued in great abundance from the outer wound caused by the knife. The heat of the limb was natural. *(Gum-water; abstinence; dressing renewed twice a-day.)*

The patient was kept under a similar treatment until the 14th, when he was allowed chicken-broth in addition. The wound continued to discharge very profusely for some days, but by the 17th the discharge had nearly ceased. His diet was gradually increased from the last mentioned period; and by the 30th, he was perfectly recovered and able to return to his occupations. The limb never lost its natural temperature. The lower ligature came away on the 13th, and the upper on the 14th.

There is one circumstance well worthy of notice in this case, namely, the sudden manner in which the inflammation and tumefaction of the limb took place in a case of clean incised wound. We cannot help noticing also the favourable and rapid cessation of the swelling, when neither surgical nor medical means were resorted to for their reduction. All the medicine which the patient took was gum-water. Not a grain of cathartic medicine of any sort was administered; nor is there a word said about the state of the bowels.

2. *Inflammation of the Pericardium, with Hepatization of the Lungs, &c.* Treated by Professor Chomel *.—Beauviager, aged forty, plumber, well constituted, enjoyed good health, with the exception of a slight cold for a few days, when, on the 6th of February, he had a shivering fit, which was soon followed by excessive heat and a severe pain in the right side of the chest. He went to his work, however, the following day; but the day after, he was obliged to take to his bed. He took a quart of hot wine and sugar, which produced abundance of perspiration without any relief to the pain. As the symptoms increased, he entered the hospital on the 10th, in the following state: below the right breast, severe pain, which did not increase so much on pressure as by respiration and motion, and which rendered it impossible for the patient to lie on that side; very frequent cough; easy and abundant expectoration of viscid mucus; twenty-two respirations in a minute: the sound rendered on percussion was rather clear on both sides; anterior and external part of the right side, sonorous râle; crepitating and humid râle in some points, and dry in others; at the posterior part of the same side, respiration was generally good, excepting a slight crepitating râle; respiration good throughout the left side; no resonance of the voice; no symptoms of disease of the abdomen; pulse sixty-eight, rather full. The patient was bled the night before; the blood was covered with the inflammatory crust. (*Fifteen leeches to the side of the chest; sweetened infusion of violet flowers; gum mixture; abstinence.*) 11th. No sleep in consequence of the cough, which is very troublesome and frequent; pain in the side a little diminished; other symptoms as before. (*V.S.* ℥*xij., &c.*)—12th. The bleeding has not been performed. General anxiety; respiration more frequent (forty in a minute); pulse eighty, full; expectoration transparent and viscid; sonorous rattle in the left side of the chest, which did not exist before. (*V.S.* ℥*xij., &c.*)—13th. Respiration still more frequent (fifty-two in a minute); sound dull in the anterior region of the right side; respiration bronchial; crepitating râle less distinct. Back part of the left side, respiration rather bronchial; no resonance of the voice; no new signs on percussion. No abdominal symptoms. Pulse eighty-eight, rather hard. The blood forms a firm coagulum. (*Tartarized antimony, gr. vj. in a pint of linden-flower water highly sweetened; infusion of violet flowers, &c.*) 14th. Less agitation; scarcely any sleep; respiration rather less frequent; symptoms of the chest the same as before. Four abundant alvine evacuations; no inclination to vomit; tongue natural; no tenderness of the epigastrium; pulse seventy-eight. (*Same prescription.*)—15th. Countenance more sunken; two stools. (*Tartar emetic, gr. xij., &c.*)—16th. Sound obscure in the cardiac region; the same results from auscultation; respiration thirty-eight in a minute; cough still more frequent; expectoration as before, containing no blood; no alvine evacuation; no vomiting; tongue without redness; pulse 108, small and irregular; pulsations of

* Clinique de la Charité.

the heart irregular, without any other special phenomenon. General debility very great; anxiety greater than on the preceding days. (*Tartar emetic, gr. xxiv., &c.*)—17th. Extreme agitation during the night; profuse perspiration. The morning: pulse ninety-two, regular; respiration frequent; sound always dull, and respiration almost absent in the left side anteriorly; a little crepitating rattle behind, and respiration bronchial; no resonance of the voice; the right side in the same state as before. (*Tartar emetic, gr. xxxvj., &c.*) 18th. Return of the frequence and irregularity of the pulse; crepitating râle over all the anterior part of the left side; cough and expectoration the same as before; some inclination to vomit at times; debility and general anxiety very great. (*Same prescription.*) 19th. Pulse ninety-two, small, and regular when the patient is at rest, but the least movement brings on irregularity in it; no sickness; no alvine evacuation; abundant yellowish sediment in the urine.—20th. Respiration has acquired rather a purulent aspect; no vomiting; no stool. Death.

Sectio Cadaveris, thirty-two hours after death.—Cranium: The brain, cerebellum, and their membranes were in the natural state; the ventricles contained about two drachms of serum. *Thorax:* The left lung adhered throughout to the pleura costalis by old cellular attachments; the tissue in its upper part was compact, humid, heavy, of a greyish colour and easily broken; the lower part was red, granular, not crepitous, heavy and hard. The right lung, equally adherent throughout its extent, presented in its inferior lobe greyish hepatization; the hepatization of the middle portion was in the first degree, and the structure of its upper part was red, but crepitous. At the posterior part of the larynx, near the superior edge of the thyroid cartilage, the mucous membrane presented a small ulceration from one to two lines in diameter; several ulcers of a similar kind were observed on the loose edge of the epiglottis, whilst in the rest of the larynx, trachea and bronchi, no redness was discoverable. *Heart:* The pericardium contained about a glassful of whitish, purulent fluid. The whole of its serous surface was covered by a soft, yellow, false membrane, from a line to two lines in thickness, reticulated over nearly the whole of its extent, and villous on the posterior surface of the heart. The heart itself, and the large vessels, were in the natural state. *Digestive Canal:* In the pharynx, over all the superior part, were observed a number of small, confluent ulcers, about two or three lines in diameter, yellow in the middle and white at the circumference; these did not perforate the mucous membrane. The mucous lining of the œsophagus was healthy. That of the stomach presented the different appearances of grey, intense red, brown and yellow; its consistence was natural throughout. In the duodenum the mucous membrane had a blackish tint. The valvulæ conniventes of the jejunum were large, soft, and of a brownish colour. Towards the commencement of the lower third of the small intestine, the mucous lining had a uniformly red tint, and there were observed on the edge of its valves a great number of small, white elevations, containing small ulcers in the middle with

yellow points in the centre; these ulcerations extended down so far as the cæcum, which contained only three or four ulcers. The mucous membrane of this intestine was of a red colour; the redness disappeared gradually in the large intestine. The other viscera presented nothing remarkable in their appearance.

The above case is very interesting in several points of view. In the first place, it proves that no dependence can be placed on tartar emetic in thoracic inflammation; and in the second place it proves that this substance, administered in large doses, may produce fatal mischief by its action on the mucous lining of the alimentary tube; for it can hardly be doubted that the ulcerations of the pharynx and intestines in this case were the effects of the remedy. The bleeding was not carried sufficiently far to check the thoracic inflammation; no blisters were applied, and no attention paid to the state of the bowels. In a word, the case does any thing but reflect credit on the physician who treated it.

3. *Remarkable Case of Sudden Coma.—Post-mortem Examination.** —Chasal, aged 15, jeweller, of a delicate constitution, and narrow chest, had been affected for six weeks with cough, to which he paid no attention, and with pain in all his limbs; he had also general illness and great debility, when he entered the hospital, on the 25th of April, under the care of professor Chomel. He was thin, but never had been stout; respiration was habitually difficult, he coughed very frequently, and his expectoration was yellowish and opake. The posterior and inferior part of the left side of the chest imparted an obscure sound on percussion, and respiration was more feeble in it than in the opposite side. During the five preceding days, he had slight diarrhœa, perspiration during sleep, and a regular febrile paroxysm every evening. The appetite was good, and the stomach did not show any symptom of disease. Demulcent drinks and a diet of milk and vegetables were all that were prescribed, and no particular change took place in the condition of the patient until the first day in June, when he witnessed two of his neighbours die of pulmonary phthisis. His imagination now became singularly seized with the notion that he was affected with the same malady. He became gloomy, he constantly cried, and complained of pain in the head, loss of sleep, and painful dreams. The 12th of June (he had no remarkable symptoms the evening before) he was found in a state of great drowsiness, moaning, and fearing to be moved; when spoken to, he answered slowly and by signs; the eye-lids were half closed; the pupils rather dilated; the face pale; the pulse weak and slow. *(A blister to each leg; tartaric lemonade; lavement with senna.)*—13th. The same state, slight epistaxis, pulse more frequent and strong. (*Eight leeches behind each ear; sinapisms to the lower extremities.*) In the course of the day the drowsiness became very profound; slight strabismus was observed; coma with stertorous respiration supervened, and the patient died.

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* Clinique de la Charité.

Sectio Cadaveris, twenty-eight hours after death.—Cranium: Sanguineous injection of the meninges strongly marked; cerebral substance generally pointed with blood, and rather softer than natural; lateral ventricles dilated, containing two ounces of serosity on each side. Ramollissement of the septum lucidum, and of the posterior parietes of the ventricles, to the thickness of from one to two lines. A little serum at the base of the skull. *Chest:*—The upper part of each lung contained two or three soft tubercles about the size of a walnut, with a few smaller ones in their neighbourhood. At the top of the right lung a cavern was found, nearly full of soft tuberculous matter, and large enough to contain a nut. The rest of the lungs was healthy, with the exception of slight sanguineous engorgements. The heart appeared rather large. *Abdomen:* The texture of the stomach was found in a very remarkable condition. The organ was empty, and its tissue could be torn with extreme facility; the mucous membrane of its cardiac extremity was entirely destroyed. Its muscular coat was softened, of a yellowish colour, and furrowed in small black lines, indicating the course of the vessels. In some points the muscular coat was entirely destroyed, and the wall of the organ was formed by the peritoneal covering alone. All this portion of the organ was semi-transparent, yellow, soft, and gelatinous. The mucous membrane of the pyloric portion was softened, reduced into a sort of yellow pulp easily detached, and covering uniformly the subjacent tissue, the course of the larger vessels excepted, which appeared naked. The small intestine presented numerous large ulcers. The large intestines, as well as the rest of the viscera, were healthy.

Was the softening of the stomach in this case produced by the action of the gastric juice? It is hardly credible that it could have been reduced by disease to the state described, without manifesting some symptoms indicative of disorder of the organ. We shall insert another case equally interesting.

4. *Remarkable Case of Disease of the Stomach, with Rupture of the Organ* *.—A woman, named Roder, aged twenty-two, mantua-maker, well constituted, married some years, has never had any illness since her infancy, except some sickness and vomiting at the commencement of her pregnancy. In the month of February, the catamenia, having appeared at their usual period, were immediately followed by profuse metrorrhagia, which did not cease until the 15th of April; it again returned in about ten days, but did not continue more than a few hours. At the same period, Roder was subjected to the influence of painful mental affections, and a notable derangement of the digestive functions took place. She was affected with constant uneasiness, anorexia, thirst, tenderness and pain of the epigastrium increasing always after meals; latterly she had vomiting of yellow, bitter matter. The last mentioned symptom had continued three days, when the patient entered the hospital, on the 24th of May, under the care of M. Chomel. Her general appearance at this time was not much

* Clinique de la Charité.

altered; the expression of the countenance was natural; the skin cool; the pulse not frequent; tongue natural; mouth bitter; slight thirst; the epigastrium, habitually sensible, had become more so since the commencement of the sickness and vomiting; but the rest of the abdomen manifested no symptom of disease. The patient vomited ten or twelve times daily some yellow, bilious matter, containing, sometimes, small streaks of blood. The bowels were regular. The uterus did not manifest any augmentation in volume; its neck was perfectly conical, and bent back on the uterine body; its orifice was scarcely perceptible. Diluent drinks, cataplasms, emollient fomentations to the abdomen, emollient lavements, leeches to the epigastrium, baths, were all successively employed, but without any success. Seltz water, iced drinks, ice applied to the abdomen, and, lastly, a blister to the epigastrium, did not prove more successful. Extract of gum, opium, magnesia, and several other remedies which were tried, did not afford any relief. The patient continued to get worse, and to lose flesh and strength; the visage indicated great sufferance; the pulse increased in frequency; the skin continued cool; an aphthous eruption appeared in the mouth; the tongue was sometimes red, at other times natural; in fine, an abscess formed in the right buttock. June 24th, the vomiting entirely ceased; the epigastric pains also disappeared; but the general symptoms continued to increase, and debility was rapidly gaining ground. The patient took a good deal of drink, without any inclination to vomit, but she had no desire for food. The disease made rapid progress, and the patient died on the 9th of July, after forty-eight hours of extreme agony.

Sectio Cadaveris, thirty-two hours after death.—External appearance: Marasmus; unequivocal signs of decomposition. *Cranium:* The cerebrum, cerebellum, and their membranes, presented nothing remarkable. *Thorax:* The right lung, generally crepitous, had a little engorgement at its external part. The left lung was crepitous throughout, and without any appearance of disease. The heart was rather flabby. *Abdomen:* The stomach was found ruptured along its anterior side all the way from the cardiac orifice to the middle of the organ; no fluid was found escaped into the cavity of the abdomen. On examining the stomach closely, it was observed that the mucous membrane of two-thirds of its left side was totally destroyed, whilst that of the pyloric portion, where it still existed, was thickened and soft, of a whitish-yellow, opake colour. Where the mucous lining was absent, the cellular and muscular tissues were soft and thin, and could be torn with extreme facility. In some points they were all destroyed, and nothing but the peritoneal covering remained. This membrane retained its ordinary transparency. The mucous lining of the intestines appeared healthy, with the exception of a few reddish spots here and there. The uterus contained a fœtus of about three months. This organ was healthy; so were also the other viscera.

In the present case, the symptoms were sufficiently indicative of disease of the stomach, and the case forms a decided contrast to

the preceding one in that respect; but the morbid appearances of the organ were very similar in both.

5. *Case of Rupture of the Stomach.* By Mr. Weekes *.—George Andover, aged thirty-four, had been liable for about two years to paroxysms of pain in the stomach. The pain usually continued for several hours, and generally went off with vomiting, and it returned at uncertain intervals, frequently of many weeks. Between the attacks the patient enjoyed tolerably good health. About Christmas last he vomited a large quantity of blood, which rendered him so feeble, that he was confined to his bed for five weeks. Since that time, his health has been much impaired, and the attacks of pain followed by vomiting have been more frequent.

On the evening of April 13th, he was brought to St. Bartholomew's Hospital, where I first saw him. He was then suffering great pain, extending from the epigastric region over the whole abdomen, and accompanied by nausea; there was neither tenderness nor tension of the abdomen—the pulse was frequent, tongue clean. He had shortly before his admission drunk some shrub and water, to which he in great measure attributed these symptoms, and told me he had had a similar attack a week ago, after indulging in spirituous liquors, and that it went off with vomiting. On the following day the pain had subsided, there had been no vomiting, but he complained of nausea; the abdomen was distended by flatus, and he had frequent eructations—the pulse was weak, tongue natural.

At eleven o'clock, *p. m.* he had a sudden attack of most severe pain. I was called to him about an hour afterwards, and found him groaning with agony at the pit of the stomach; the abdominal muscles were hard and contracted; the belly was neither painful nor tender on pressure; his pulse was small and feeble; he was extremely restless, and his countenance expressive of the greatest suffering. I instantly gave him sixty drops of tincture of opium, and as he found no relief they were repeated, but without benefit. He continued to suffer most acute pain for about two hours, when he was suddenly seized with violent vomiting. After this the pain somewhat abated; there was no return of vomiting,—but he sunk rapidly, and died at four o'clock in the morning.

Examination.—On opening the abdomen, the stomach was observed to be flaccid and empty, and its contents, which consisted of a large quantity of dark-brown fluid, were effused into the peritoneal cavity, through a ragged opening situated on its anterior surface, and near the œsophageal orifice. The rupture extended from below the lesser arch of the stomach to near its cardiac extremity, and was about four inches in length. The three membranes were not torn equally, the rupture of the peritoneal extending an inch farther than that of the muscular or mucous coat. On the posterior surface of the stomach was a laceration, measuring three inches in length; and there were two or three small ones, from an inch to an inch and a half in length, at its great arch. These lacerations

* Medico-Chirurgical Transactions.

extended only through the peritoneal coat of the stomach, the muscular and mucous tunics remaining perfectly whole. The mucous membrane of the stomach was lined with a great deal of dark-coloured secretion, beneath which the membrane itself was of a deep red colour throughout; its texture was softened and partially emphysematous. The stomach in other respects appeared healthy; the liver was pale and softened; the gall-bladder contained a calculus; the structure of the spleen was unusually soft; the other viscera were healthy.

6. *Suppuration of the Liver consequent on Wound of the Head.** —Jean Verni, aged 24, soldier of the 2nd regiment du Génie, sanguine temperament, brown hair, was subject, from the age of 15, to attacks of epilepsy. On the 14th of November, 1827, being intoxicated, he fell down and received a wound, an inch and a half in length, over the posterior and superior angle of the left parietal bone. He lost a great quantity of blood from the wound, but he was not stunned; he was immediately conveyed to the hospital, and placed under the care of M. Lallemand. On the morrow, the 15th of November, the head was shaved, and the edges of the wound were brought together by strips of adhesive plaster, over which an emollient cataplasm was applied.—16th. The patient had an epileptic fit, of short duration, in the night.—17th. He felt a confused and deep-seated pain in the head; swelling of the occipital lymphatic glands; his general appearance was greatly altered; his eyes sunk; pulse frequent and irregular; the wound appeared in a good state; no gastric symptoms. (*V. S.* ℥ *xvj.; veal tea with a grain of emetic tartar and an ounce of sulphate of soda; emollient lavement.*) The evening: the patient has taken but a small quantity of the emetic tisan; has vomited twice; pain of the epigastrium; profound and lancinating pain in the head; pulse full and frequent. 18th. Head and abdomen painful; tongue red; pulse full; he has slept several hours; has had four alvine evacuations, general appearance less altered. (*V. S.* ℥ *xvj.; veal tea, with an ounce of sulphate of soda; bouillons.*) The patient is better; wound discharges but a small quantity of pus; pain in the head less; pulse less frequent. (*Same tisan; bouillons; emollient cataplasm to the head; the adhesive plaster to be omitted.*)—22d. The patient continued to improve until to-day; but erysipelas has now made its appearance on the left side of the face and head, extending to the eye-lids of the same side; tongue red and dry; intense thirst; cephalalgia; wound as before. (*Abstinence; lemonade.*)—23rd. The erysipelas is nearly in the same state as yesterday, but a desquamation of the cuticle takes place at some points; the cephalalgia has disappeared; the tongue is more humid than it was yesterday. (*Same prescription.*) The patient continued to improve from this time, and was nearly cured, when, on the 6th of December, at the morning visit, M. Lallemand found him much worse again; the abdomen was distended and painful; yellow tint of the complexion and of the conjunctivæ of the eyes; tongue whitish in the middle, and red

* Clinique de l'Hôpital St. Eloi de Montpellier.

at the edges; constipation; pulse frequent and hard; general illness; respiration painful; cough. The patient says that he had a fit of epilepsy in the night. The pain and tension of the right hypochondrium announced to Professor Lallemand the existence of acute hepatitis. On examining the chest with attention he discovered, by auscultation, a pleuro-pneumony of the right side, and a pleurisy of the left. (*Twenty leeches to the base of the thorax; emollient fomentations to the abdomen; veal tea and linseed tisan for drink; abstinence complete.*)—7th. Coma; delirium; answers slow, and incorrect; face and eye-lids infiltred; pulse very frequent; tongue very dry, yellow in the middle, and red round the edges; right hypochondrium painful on pressure; dyspnœa, accompanied by a small, frequent and dry cough; snoring rattle (*râle ronflant*) supervening on the tracheal; sound very dull on the right side of the chest; pain of the inner side of the arms. (*Large sinapisms over the anterior and lateral parts of the chest; emollient fomentations and lavements; tisan with a grain of emetic tartar, and two ounces of sulphate of soda.*)—8th. Coma and delirium increased; pulse very frequent and irregular; respiration and rattle as before, sound dull to a great extent over the right side; pain of the arms very severe. (*Two large blisters to the chest, two purgative lavements, blister to the left arm, fomentations, pectoral tisan, linctus containing a grain of kermes for facilitating the expectoration.*)—The symptoms increased during the day, the agitation was extreme, and the patient died at six o'clock in the evening.

Sectio Cadaveris, twenty-seven hours after death.—Abdomen: Recent peritonitis; the convolutions of the intestines glued together by an albuminous substance. The liver was very voluminous; on its convex surface were found twelve or fifteen spots of a yellowish white colour, surrounded by a black areola. On cutting into the liver at this point, a purulent abscess was discovered, the parietes of which were lined by a membrane. The whole tissue of the liver was infiltred with purulent fluid, which came out in drops when the organ was pressed. The hepatic tissue surrounding the abscess was of a dark-red colour, and of a softer texture than natural. The gall-bladder was distended with thick bile. The spleen was of its ordinary size. The duodenum was injected. The other viscera of the abdomen appeared healthy.—*Chest:* Effusion of several pounds of purulent serum, resembling whey and curds, in the right cavity. The left cavity contained less fluid, of a thinner consistence. The two lungs were driven back towards the vertebral column, and occupied only a small part of their cavities; they contained no air, their texture was fleshy and dense. *Head:* No fracture; pericranium in a state of suppuration and detached from the bone at the point where the wound was situated. Dura mater healthy; arachnoid thickened; serum under this membrane, in the ventricles, and in the spinal canal; substance of the brain injected.

7. *Accidental Hypospadias.—Operation, followed by Abscess of the Liver, &c* *.—Bodier, soldier in the 2nd regiment du Génie, aged

* Clinique de l'Hôpital St. Eloi de Montpellier.

twenty-two years, of a strong constitution, entered the hospital on the 19th of November, 1827, having a fistulous opening on a level with the frœnum of the penis, in consequence of a syphilitic ulceration. The urine and the seminal fluid escaped through this fistula instead of following the natural channel.—23rd. Professor Lallemand proceeded to remedy this accidental defect in the following manner: he introduced a catheter into the urethra and emptied the bladder. The fistula was circular; the operator converted it into a transverse ellipsis. The edges, being thus rendered fresh, were brought together and held in apposition by two stitches of the quilled suture. A pledget spread with cerate, supported by a bandage, composed the dressing. The catheter was fixed in the urethra. The operation was very painful.—25th. The patient complains of sharp pains in the right hypochondrium; he feels nausea, and has frequent vomiting of a green, bitter matter. The face and conjunctivæ have a yellow tint; the skin is dry and burning; the pulse small; the general aspect of the patient is greatly altered; his bowels are constipated. *(The catheter to be withdrawn; V.S., in the arm, ℥viij.; thirty leeches to the abdomen.)*—26th. Symptoms the same; he had delirium in the night. *(Thirty more leeches to the belly; emollient fomentations; abstinence. In the evening, sinapisms to the thighs.)*—27th. The general aspect of the patient is better, but the vomiting of bilious matter continues; the right hypochondrium is rather less tender on pressure; the pulse higher; he has slept two hours. *(Fifteen leeches to the hepatic region; stimulating liniment to the limbs; emollient tisan; anodyne draught.)* The wound on the penis was examined, and the stitches were removed with precaution; the union appeared immediate. It was now dressed with adhesive plaster.

From this time until the 10th of December the patient continued to mend daily; the urine issued almost entirely through the natural orifice, but still a little passed through the fistula. All the hepatic symptoms have disappeared. M. Lallemand, thinking that the fistula would not get well as long as any urine was allowed to pass through it, introduced the catheter again. Scarcely was this done when symptoms of hepatitis made their appearance; nausea; vomiting of green, thick bile; sinking of the countenance; complexion icteric; pulse wiry; abdomen and right hypochondrium excessively tender to the touch; irregular shiverings; constipation. (*Twenty leeches to the hepatic region; emollient fomentations and lavements.*) M. Lallemand announced the existence of a great number of abscesses of the liver.—13th. The symptoms are aggravated; the skin is always hot and dry; the countenance discomposed; the pulse small, frequent and weak; the tongue contracted, dry and rough; the voice is scarcely audible; the patient feels pain in the right knee, and in the ankles. *(Two doses of anti-emetic mixture; sedative liniment for the knee and ankles; emollient fomentations; vegetable lemonade for drink; two bouillons.)*—14th. All the symptoms of the preceding evening are present in an increased degree; the right knee is distended by a collection of fluid, and is more painful than before. Death at seven o'clock in the evening.

Sectio Cadaveris, eighteen hours after death.—Head: This part presented nothing remarkable. *Chest:* The lungs and heart were healthy; the right lung was pushed up by the liver. *Abdomen:* The liver was very volumnious, and presented on its superior surface several yellow spots, which were connected with abscesses formed in the proper tissue of the organ. On dividing the substance of the liver, several more abscesses were found situated more deeply. These were all surrounded by a violet coloured areola, at which point the hepatic parenchyma was less consistent than natural. The parietes of the cavities which contained the purulent matter were lined by a firm, dense, thick membrane. The stomach was injected, and there were slight ecchymoses at some points. The remainder of the digestive tube was healthy. The spleen was larger and firmer than ordinary. The urinary bladder presented some reddish streaks; and its coats were rather thicker than natural. The wound caused by the operation was not cicatrized. The canal of the urethra was red, and its vessels much injected; the urine was infiltred into the cellular tissue of the penis; there was an abscess on the left side of the bulk of the urethra, extending into the cellular tissue of the perinæum, but it did not communicate with the canal. There was a purulent collection in the capsule of the right knee, and a slight collection in the left sterno-clavicular articulation: the other joints had no fluid in.

8. *Lithotritie, or Operation for breaking down the Stone in the Bladder, followed by Abscess in the Liver, and Death**.—Pierre Gibert, husbandman, aged twenty-six years, born of healthy parents, endued with a strong constitution, of a nervoso-sanguine temperament, entered the hospital, on the 18th of November, 1827, affected with stone in the bladder. The father stated that his son, at the age of two years, was attacked with acute pain, which increased when he made water, and which lasted for two days. A quieting mixture sufficed to relieve him at the time. The patient himself stated that, at the age of six, he extracted a small calculus, which presented itself at the orifice of the urethra. Between that time and May, 1827, a period of about twenty years, he perceived no complaint about the urinary organs; and he had nearly forgotten the circumstance which happened to him in his boyhood, when, at the last mentioned epoch, sharp and acute pains in the region of the bladder, and a difficulty in passing the urine, obliged him to seek succour at the hospital. Professor Lallemand discovered the presence of a stone, and proposed to grind it down, according to M. Civiale's method. The canal of the urethra was large: in order to dilate it further, elastic gum catheters were introduced for several days, and their size was daily increased from No. 11 to No. 14; several injections of tepid water were thrown in. It was found necessary to make an incision of the meatus urinarius before the sound No. 14 could be introduced.

December the 16th, M. Lallemand proceeded to perform the operation of lithotritie in the presence of Professors Delpech,

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Dubrueil, Dugès and Delmas. The canula was introduced, and the operator made several attempts to seize the calculus, but could not succeed. The difficulty arose from the position of the stone in the bladder; it was situated behind the neck of the organ in such a way that the instrument could only touch the upper part of it. The fluid which had been injected into the bladder, forced by the straining of the patient, escaped through the canula, the different pieces of which were not properly joined. A part of the fluid passed also between the instrument and the canal of the urethra. M. Lallemand postponed the operation, and the patient was carried to bed. Between the bills of the forceps was found a substance, which was at first supposed to be mucus; but, upon examination, it was ascertained to be a portion of some lines in extent, of the mucous membrane of the bladder. *(Abstinence; edulcorated barley-water; baths; bouillons.)*—7th. The patient is calm.—8th. At the hour of visit, he complained only of slight pain in the hypogastric region. In the course of the day he was seized with shivering, general uneasiness, and pain in the right mammary region. In the evening he had great anxiety, and intense pain in the stomach. He also felt severe pain in the gluteal region, in the outer side of the right knee, and in the lumbar region of the same side. He had great agitation; countenance animated; temperature high; pulse full, strong, and frequent; intense thirst; tongue dry. *(Bouillon to be omitted; edulcorated barley-water with sprup of gum; V.S. ℥xv. from a large orifice; a grain of opium, to be repeated in two hours.)*—9th. Pains continue; the general traits of the patient are altered; conjunctiva of a slightly yellow tint; tongue dryer than before; thirst very intense; slight tenderness of the abdomen. *(Abstinence; twenty leeches over the origin of the sciatic nerve.)*—10th. The general aspect of the patient changes more and more; he has slight nausea at times.—11th. Professor Delpech resumes the service at the hospital. The patient is in a state of extreme exhaustion; the tongue dry and rough; pulse small and weak. *(Rice and gum tisan.)*—12th. All the symptoms aggravated; the complexion presents a yellow tint; great prostration of strength; the urine issues in small quantity; pain in the lumbar and right hypogastric regions, extending to the mammary region of the same side. *(Twenty leeches to the abdomen; emollient fomentations; sedative liniment to the right thigh.)*—13th. Abdomen distended and painful; slight œdema of the right inferior extremity and of the right side of the trunk; pain in the right knee, extending all the way up the thigh, as far as the right loin; severe pain in the same side of the chest; prostration; hollow expression of the countenance; yellowness of the conjuntiva, and a slight icteric tint of the face; tongue dry and contracted; delirium; pulse small and weak, without acceleration; orifice of the urethra swelled and inflamed; urine sanguinolent and small in quantity; two fluid evacuations from the bowels this morning. *(Thirty leeches to the right lumbar region, and fifteen to the perinæum; sedative liniment to the right thigh, abdomen and right side of the chest; emollient and sedative fomentations to the abdomen and loins;*

gum and rice tisan, slightly acidulated, for drink; abstinence.)—14th. Symptoms increased in severity; hickup; pulse miserable; engorgement of the under part of the penis, extending all the length of the corpora cavernosa, and accompanied with infiltration of the cellular tissue leading towards the scrotum; urine rather more abundant, of a reddish colour, and containing a puriform sediment. A catheter was introduced with difficulty, owing to the swelling; the instrument caused pain on reaching the neck of the bladder: about two spoonfuls only of yellow, fetid urine came away. The delirium continues. *(Same prescription, excepting the leeches.)* Death at three o'clock.

Sectio Cadaevris, twenty-three hours after death.—Chest:—On removing the muscles of the chest, there was found, under the great pectoral, on the right side, an abscess of an inch and a half in diameter, and of a circular form. Old adhesions were found in the right side of the chest; the lung was healthy, but was pressed up a little by the liver; the left lung and the heart were also in a healthy state.—*Abdomen:* Sero-purulent effusion, and pseudo-membranous organization answering to the right lateral half of the abdomen; the false membrane covered a great part of the convex surface of the liver, and extended down so slow as the right side of the pelvis; the great epiploon adhered to the subjacent viscera. The liver, more voluminous than ordinary, presented, on the lower part of its convex surface on the right side, two abscesses of an inch in diameter and of about the same depth. Some of the pus was infiltred into the parenchyma of the organ. The limits of the abscesses were traceable by the purple areola which surrounded them. Their cavities were lined by a thick membrane. On cutting into the substance of the liver, several smaller abscesses were discovered, whose cavities were similarly lined. The stomach was healthy, and so were the intestines, with the exception of the duodenum, whose vessels were slightly injected. The kidneys were large, pale and discoloured. The bladder was small, thickened, and its vessels injected; on its posterior parietes, on a level with its neck, a small portion, of a triangular form, of its mucous lining appeared to have been detached; in the bottom of the pouch formed behind the neck was found a calculus of the size of a pigeon's egg, and seven drachms and a half in weight; its exterior surface showed that it had not been grasped by the instrument. The canal of the urethra was inflamed at several points; the prostate gland was large and thickened; the penis was engorged. The head was not examined.

In another part of the present number we have given an analysis of Mr. Rose's essay on the depositions of pus and lymph caused by injuries of distant seats. The present case, and the two preceding ones, afford very interesting examples of the affections spoken of in that paper. The medical treatment employed, even by the most eminent of our brethren in France, must appear rather surprising to practitioners on this side of the Channel. If any principle can be discovered in their *medical* practice, it is that of reducing the patient as much as possible by starvation and gradual

draining of blood, without any attempt to put a sudden check to the malady, or to modify the state of the system by remedies possessing some specific properties.

9. *Strangulated Hernia.—Death.—Interesting post-mortem Examination.*— ————, ætat. seventy-five, a healthy looking old man, came into Harley's Ward, on the 19th August, at nine *a. m.*, labouring under all the symptoms of strangulated hernia. The tumour was as large as a fist, firmly constricted at the external ring, and very sensible to the touch. The patient stated, that he had laboured under hernia for the last sixty years, when in the erect position, and had always been able to return the gut when in the horizontal position, until the night before his application at the hospital. At about eight o'clock that evening the hernia came down, and he observed the tumour to be unusually large; he had tried, but had not been able from that period, to return it. Mr. Weekes, the house-surgeon, examined the patient when he came to the hospital, and found a large portion of the gut down. He heard a gurgling noise; had no doubt of the nature of the tumour; returned the intestine, and the patient felt quite well, so much so, that he was desirous of leaving the hospital, but Mr. Weekes persuaded him to remain, and go to bed. Ordered a dose of castor oil.

Between eleven and twelve o'clock, Mr. Skey saw the patient; the bowels had not been moved. Ordered an enema. In the course of a few hours afterwards, Mr. Weekes administered a dose of calomel and jalap, which was speedily ejected from the stomach. At five *p. m.* the patient complained of tenderness and pain about the abdomen; to which the dresser applied leeches. The tension, pain, and disposition to vomit continued to increase, and in the course of the evening other injections were administered, which brought away a very small portion of fæcal matter. At twelve *p. m.*, Mr. Skey saw the patient again, whose unfavourable symptoms were still bidding defiance to every sort of treatment. Mr. Skey saw nothing to justify an operation. The symptoms continued; the pulse became more and more feeble till eight o'clock the following morning, when the patient died. During the period he lay in the hospital the gut very frequently descended, and was always returned with the greatest ease.

Post-mortem Examination.—On laying open the abdomen, *at least three feet* of the intestine were observed to be *gangrenous* and agglutinated together by recent deposition of lymph. On cutting further down, the external ring was found to be enormously large; three fingers could be passed easily through it. The omentum lined the sac all the way down, and seemed as if it had for a long time been firmly adherent to it. The strangulation of the omentum went completely round the mesentery in the shape of a cord, making an entire circle or loop. The greater portion of the gangrenous intestine lay in front and to the left of the omentum.

A very small opening was detected in the gangrenous portion of the intestine, through which fluid matter passed; but whether it had been occasioned by ulceration, or the knife, was not known. *Hydatids.*—On continuing the dissection the bladder was found to

be diseased. A large sac was formed between the rectum and posterior part of the bladder, containing hundreds of hydatids, some of them as large as a small pullet's egg. *Hydrocele.*—The patient had been the subject of hydrocele of the left (the opposite side to that on which the hernia was) testicle. He stated before his death, that he had been once tapped for it; but it was not ascertained whether any stimulating injection had been used. The bag, at his death, was again filled with water. No adhesions had taken place from the operation of tapping.—*Lancet.*

10. *Fracture of the Skull.—Operation.—Hernia Cerebri.—Death.*—W. Causton, ætat. nine, was admitted August 15. It appeared that the father and the boy had been drinking tea out of a pewter pot; the father became enraged with his son, and threw the pot, and struck him a severe blow on the side of the head; the poor boy fell down; he was not insensible, but, in a few minutes he became sick, and vomited. He walked to the hospital; on admission, he was perfectly sensible; his pulse was frequent and feeble. Upon examination, there was a lacerated wound of the scalp, and a portion of the temporal muscle extending above the right ear, for about three inches in length; a considerable portion of the parietal and temporal bones was found fractured, and driven in on the brain; the dura mater was torn through about two inches in length, exposing the brain, small portions of which, mixed with blood, came through the fractured opening. The elevator was applied, and the depressed bone removed, leaving an oval aperture three inches in length, and two in breadth. The integuments were brought together by adhesive straps, and covered with a cold damp cloth. In the evening there was heat of skin, with a sharp and very frequent pulse; he was bled to twelve ounces, and some aperient medicine was given.

16th. Has been in a quiet dozing state during the whole night; he is sensible; tongue natural; bowels open; skin more cool; pulse frequent and sharp; complains of slight pain in the head; has been bled to eight ounces this morning. In the afternoon his pulse again rose, and eight ounces of blood were taken; it was cupped and buffed,

17th. Has passed a good night; complains of no pain; the pulse is very frequent and sharp. Venesection ad ℥viij. Blood inflamed.

19th. Is going on favourably; he complains of no pain; is perfectly sensible; he has no heat of skin; tongue natural, and he sleeps well. The pulse, however, still continues frequent, 100, and sharp. The dressings were taken off. The brain was found protruded through the laceration of the dura mater, and somewhat raised above the level of the scalp; it was of a greyish colour, very soft, and there was slight serous discharge from it. Its pulsations were synchronous with those of the heart; the boy manifested no pain nor uneasiness, on its being touched or pressed. Adhesive plaster, and a compress of lint were applied moderately tight.

20th. The countenance is much altered, and anxious; he is very restless, and has not slept so well during the night; the skin is

hot; pulse 120, and sharp. The dressings were removed; a portion of the brain, in a softened, disorganised state, and about the size of a turkey's egg, protruded; there was a discharge of turbid, bloody fluid from its surface; a portion of the brain was sliced off, but considerable bleeding took place from one of the cerebral arteries, which was secured by a fine silk. In the afternoon he became more restless and irritable, and whilst turning in bed, an increased protrusion took place. He immediately became comatose, and quite insensible; his breathing was loud and frequent; pulse 130, full, and sharp. Nine ounces of blood were taken from the arm, it produced no apparent relief; the pulse was reduced in strength and frequency, but it shortly after rose, and became very quick. The protrusion of brain gradually increased; it was externally soft, emitted a peculiar odour, and some bleeding took place from numerous small vessels on its surface.

21st. Has continued in the same torpid, insensible state during the night; his countenance is shrunk, and pale; the respiration loud and laborious; pulse extremely frequent and feeble; there is no paralysis nor contraction of the limbs; pupils contracted, slightly moveable. The protrusion increased, and now hung down over the cheek, much exceeding the size of a large goose's egg; the respiration became more oppressed, and he died in the afternoon.

Examination eighteen hours after death.—The tumour, which was very prominent during life, was now considerably sunk and lessened; in removing the skull-cap, about an ounce of turbid serum escaped through the opening in the cranium. The edges of the lacerated dura mater, through which the brain had been protruded, were in a dark sloughy state. Upon reflecting the dura mater, and exposing the hemispheres of the brain, a quantity of pus was found beneath the arachnoid, covering the right hemisphere. The arachnoid of the left hemisphere presented its natural appearance. Nearly the whole of the right hemisphere of the cerebrum was in a soft, disorganized state, extending into the right lateral, and across the fornix, into the left lateral ventricle. The ventricles contained a small quantity of turbid, straw-coloured fluid. On making a section of the protruded brain and corresponding hemisphere, it was found extremely soft and pulpy, as if broken down and mixed with serum, and it presented a light greyish colour; the part of the brain surrounding the protrusion was very vascular, and, on slicing it, presented numerous bloody points. There was turbid, serous and purulent effusion beneath the arachnoid of the base of the cerebrum. The medullary substance of the left hemisphere was remarkably white. The bladder was distended with urine.—*Lancet.*

11. *Large Aneurism of the Abdominal Aorta, producing complete Paralysis of the left Lower Extremity.*—Mary Bull, ætat. thirty-two, a thin married woman, has always enjoyed good health previous to April, 1826, when she took fright, and suddenly jumped out of bed; it was followed by pain in the loins and back, which gradually increased in severity, and in a few weeks the secretion of urine became much diminished; her symptoms were, at this time,

regarded as indicating some disease of the kidneys, and she was accordingly cupped from the loins, and alkaline and diuretic medicines were given. The pain continued, and was occasionally very severe, and she had great uneasiness in the abdomen, which seemed to her to arise from some swelling, but no tumour was felt externally. In February last, she experienced great beating and throbbing sensation in the left side, and she now lost all power of motion in the left leg, and was unable to walk; she had, for some weeks previously, great numbness and shooting pain, extending down the hip and leg.

She was received into the hospital, under the care of Dr. Hue, in June, and then complained of severe pain in the back, preventing her sleep, and a paralysed state of the left lower extremity. She now first noticed a swelling, externally, on the left side, and just below the ribs; and the beating before complained of was now very distinct. The swelling rapidly increased in size, accompanied with severe shooting pain and sense of bursting. Fearing that some operation would be had recourse to, she had concealed the existence of the swelling for about three weeks, when the case was referred to the surgeon for examination, and the patient was removed into Mr. Lawrence's Ward.

July 8. On the left side there is a large swelling, filling up the space between the lower rib and wing of the ilium, and extending from the lumbar vertebræ to near the navel, where its edge is felt through the abdominal parietes; the lumbar portion of the swelling is prominent, and the skin is red, tense, and shining; the pulsation is sensible to the eye; it communicates a powerful impulse to the hand, and gives the feeling of forcible resistance to pressure. On applying the ear, the *bruit de soufflet* is distinctly perceptible, but this sound, and the pulsation, are less distinct in the abdominal portion of the swelling; the heart beats naturally; the pulse at the wrist is very frequent and feeble; the left leg and thigh are much wasted and contracted, and wholly deprived of motion and sensation. She is unable to lie on the right side; the pain and sense of tension in the tumour, as if it were going to burst, are severe, and prevent her taking rest; tongue clean; bowels costive, and only moved by injections. Her appetite is bad, and she is emaciated. Cold cloths to the swelling, and opium given at night to procure sleep.

20th. All the symptoms are much aggravated; the tumour is considerably increased in size and more prominent; the skin is tense, of a red colour, and extremely tender and painful; the pulsation is very forcible, accompanied with loud *bruit de soufflet*. Her countenance is expressive of great anxiety, and features shrunk; pulse feeble, and very frequent. Laudanum is given at night, and repeated during the day, but it produces but little alleviation. She continued to grow worse, more feeble and exhausted, and died on the 22d of July.

Examination.—On laying open the cavity of the abdomen, an aneurismal tumour of immense size was seen occupying the left lumbar and iliac regions; it was of an oblong shape, and extended

from the diaphragm, which formed its superior boundary, and part of the walls of the sac, to the wing of the left ilium. The descending colon, the left kidney, much flattened, and its ureter, were adherent to the front of the tumour; and when these were removed, its anterior and lower boundaries were formed by the psoæ muscles, expanded and thinned, and its posterior parietes by the muscles of the loins. The upper portion of the abdominal aorta, for about an inch and a half in extent, was pushed on one side, and adherent to the sac, which had extended a short distance above and behind it. When the vessel was laid open, an oval aperture, about two inches in circumference, and nearly an inch in its short diameter, was seen in the posterior part of the aorta, an inch below the cœliac artery. The aorta, generally, was not dilated, and it retained its internal coat. Opposite this aperture, the bodies of the two last dorsal, and two first lumbar, vertebræ were ulcerated and excavated, but the intervertebral cartilages remained entire. The lining membrane of the artery was continued through the oval opening into the aneurism, and a great part of the upper portion of the cyst consisted of the external arterial coats; these had given way, and the remaining part of the aneurismal sac was formed by the diaphragm and other surrounding parts. The aneurism contained about three pounds of coagulated blood, loose in the cavity, with fibrin of variable thickness adhering to the sides; a large mass of firm coagulum, of considerable thickness, was deposited in the upper portion of the cyst.—*Lancet.*

12. *Enormous Spina Bifida, obstructing Labour**.—On the morning of Tuesday, the 15th of July last, Mr. Chalmer was requested to attend a female in labour in Kirkdale, near Liverpool. On arriving at the patient's dwelling, he was informed that she had been attended by a midwife, that the head of the fœtus had been born about two hours, and that, in consequence of the delay in the delivery he had been sent for. Upon examination, he found the head and one arm of the fœtus born, and after bringing the other arm down, it was evident that some cause more than natural existed, which impeded the birth; this, on examination, appeared to be a second head, firmly fixed under the pubes, the neck forming an axis upon which the body of the child turned; and the feet were delivered previous to the supposed head. The child was dead when Mr. Chalmer saw the woman, but she said she felt it stir during the early part of the labour; it was at its full size, and there was a tumour as large as the head of the child, attached by a broad base extending from the third cervical vertebra to the right rib on the left side, which contained near a quart of fluid.

Mr. Chalmer prevailed with the parents to allow an examination, at which Mr. James Dawson, of Liverpool, assisted; who pronounced it at once to be an immense spina bifida. Upon opening the sac, about a quart of fluid was discharged, and an aperture into the cavity of the thorax, which admitted the middle finger, was visible. The chest being opened, and the contents removed, the neck of the sac was seen following the course of the spine upwards,

* Mr. Chalmer, Lancet.

and was finally traced into the first dorsal vertebra on the left side, where there was a foramen, which freely admitted the end of the little finger. The six superior ribs on the left side were wanting, as was the lateral moiety of the vertebra, to which they should have been affixed, and all that portion of the scapula below its own spine. A female catheter was introduced into the opening in the spine, and it passed, according to the direction given it, either into the right or left ventricle of the brain, which were large and empty. Being limited for time, and fearing to disfigure the body more, the base of the brain was not examined. The integuments of the head lay in two folds, and the fontanelles were hollow and flaccid. The withdrawal of the fluid from the spinal sac had, of course, left the ventricles of the brain unsupported; for it cannot be doubted, that the fluid which was discharged from the sac had distended the ventricles of the brain, the spinal cavity, and the dura matral process, which formed the walls of the sac. The quantity which was saved filled a quart bottle, and some of it was lost. The sac was not large enough to have contained the whole of the fluid discharged, a certain portion of it, therefore, must have distended the enlarged ventricles, and the spinal space already mentioned.

13. *Operation of Tying the Right Common Iliac Artery.* By Mr. Crampton*.—The patient, a soldier, had an inguinal aneurism for some time in the right groin: the tumour was rather oval in shape, the long diameter being nearly correspondent with Poupart's ligament, above which it extended about two inches and a half, in a direction towards the navel; the length of it, about five inches and a half; its breadth between four and five inches, evidently extending a considerable way along the line of the external iliac artery. Pulsation could be felt in every part of this large swelling, but towards the upper and anterior edge, the peculiar aneurismal thrill, indicative of the gush of blood into the sac, was particularly apparent. The patient was a young man about thirty years of age, of a strong frame, good constitution, and, excepting only the aneurism, apparently healthy.

The surgeon-general (Mr. Crampton) determined on making an effort to save this poor fellow, by tying the common iliac artery, and the operation was performed by him. He commenced by an incision nearly seven inches long, commencing at the last rib, and carried below and anterior to the anterior-superior spinous process of the ilium, its shape semi-circular, the concavity of the semicircle being towards the navel; this was still carried deeper through the muscles and fascia, until the peritoneum was exposed, when the knife was laid aside, and nearly the entire remainder of the operation finished by detaching the peritoneum from the iliac fascia, slowly and cautiously, with the finger. In this way the ureter was pushed forwards out of the way, and the trunk of the common iliac came distinctly into view, with the great vein lying behind it. The thin fascia that covers these vessels was then detached by the finger only, and a thin silver aneurism needle, carry-

* Mr. Crampton, Lancet.

ing a ligature of catgut, passed from above downwards behind the artery, and the extremity of the ligature being seized and drawn out with a forceps, the vessel was firmly tied; one end of the ligature was cut off close to the knot, and the other left hanging from the wound.

At the instant the vessel was tied, all pulsation in the tumour ceased, and in the course of two minutes its size became sensibly diminished; the wound was closed by straps of adhesive plaster, and cloths, dipped in spirit and water, applied over the surface. The patient seemed to suffer but little during the operation, which he bore with great firmness, and, when finished, he expressed himself as feeling no pain, except from the soreness of the wound.

During the night of the day on which the operation was performed, the patient experienced some restlessness, with pain in the abdomen, and tenderness on pressure; these symptoms were relieved by bleeding from the arm to the extent of about sixteen ounces, after which he remained tranquil and free from pain, but did not sleep.

July 19th. (Second day.) Patient particularly well; pulse full, and slightly throbbing; the veins of the limb operated upon are quite full, and its temperature equal, if not superior to that of the opposite side. Pulsation has ceased in the tumour, in the groin, and in a small aneurism which exists in the ham of the same side.

20th. In the course of this day, (about fifty hours after the operation), pulsation re-appeared in the large tumour, faint and indistinct at first, but gradually growing stronger towards evening. No pulsation in the femoral artery or popliteal aneurism. The size of the inguinal aneurism appears somewhat less than it was previous to the operation.

21st. Pulsation in the tumour nearly as great as before the operation, and the peculiar aneurismal thrill is clearly perceptible. In every other respect, the patient is extremely well. He complains of want of sleep, but that is probably occasioned by the anxiety of his mind.

It became evident now, that, from some cause, the operation had failed, and as the ligature was hanging from the external wound, it gave rise to a great deal of speculation as to the cause of the return of the pulsation. Various remedies were administered, with a view to lessen the force of the circulation, which need not be mentioned here, but without avail; and on Monday, the 28th (the eleventh day after the operation), he suddenly complained of illness, endeavoured to raise himself in the bed, and fell dead, whilst in the act of speaking.

On the following day, about twenty hours after the man's decease, his body was examined in presence of Messrs. Colles, Wilmot, Rynd, and others, when it was found that the vessel had been tied in such a manner as to divide the internal coats completely through; a small portion of lymph occupied the situation of the ligature within the vessel, and outside of it there was a larger quantity, together with about a spoonful of purulent matter. The vessel, however, was pervious into the aneurismal sac, and the ligature

had disappeared altogether. One extremity of it had been seen hanging from the wound on the seventh or eighth day, and, therefore, it is supposed that the catgut (which had been very firmly tied with a double knot) had become macerated, and either gave way and broke before the impulse of the blood or had actually rotted. At all events it had ceased to operate, the blood flowed again into the aneurismal sac, and this burst into the wound on the eleventh day after the operation. The lips of the wound had healed so, that not a drop of blood escaped externally, but a vast quantity was found occupying the deeper parts, and passing upwards along the course of the psoas muscle.

The small aneurism in the ham was filled with a dense firm coagulum, that could scarcely be removed from the sac which contained it; and it was quite evident that the operation, which controlled the flow of blood for forty-eight hours, had cured the popliteal aneurism, although it had failed in the instance of the large one. Had the ligature remained sound for a few hours longer, it seems certain, from the lymph found within the calibre of the vessel, that it could not have remained pervious, and the operation must have succeeded in all its parts.

It is greatly to be regretted that an unforeseen circumstance should thus have influenced the termination of one of the best operations ever performed. Had the ligature been of silk, the patient would probably have recovered, and yet catgut has been used hundreds of times; it is preferred by many who have had great experience, and was used on the present occasion on the special recommendation of a person who had stated his having made use of it frequently, and found it invariably preferable to silk.

14. *Case of Puerperal Convulsions.**—February 4th, 1828, Mr. Stirling was requested to visit Mrs. M'G. aged 30, far advanced in her sixth pregnancy. She complained of violent and spasmodic pain, referred chiefly to the region of the stomach, but more or less diffused over the umbilical region. The pain was so exceedingly severe, that she could give no account of her sufferings. She tossed about in bed, and changed her position so rapidly, that it was impossible to obtain any information from manual examination. The attendants informed Mr. Stirling that she had approached the period of her confinement, but from the continual jactitation, he could not ascertain whether labour had commenced. She had an attack of fever four or five months ago, recovered rapidly, and was in the enjoyment of good health, when seized with this complaint. Bowels regular, and had been freely opened before the attack. He ordered ʒj. of laudanum to be given immediately, and ʒss. in two hours, unless relieved.

Eight *p. m.* Mr. Stirling was urgently called to visit her, and learned that she had had a severe paroxysm of puerperal convulsions, which had recently subsided. Face swollen; lips purple; pupils dilated and insensible to the stimulus of light; breathing stertorous; froth and clotted blood, in large quantities, issuing

* Mr. Stirling, Glasgow Med. Journ.

from the mouth; pulse 116; womb in a state of permanent contraction, harder than he had ever felt it during the existence of the most severe labour pain. Inequalities on the surface of the child's body were distinctly cognizable through the abdominal and uterine parietes. A transverse sulcus was discovered a little above the pubes, from the contraction of the circular fibres probably upon the neck of the child. Os uteri dilated to nearly an inch in diameter. Anterior part of the cervix expanded over the head of the child, and so tensely applied, that the sutures could be traced through its substance. It was impracticable to introduce even the nail of the forefinger between the os uteri and head of the child. Blood was drawn to the extent of sixty ounces. During the bleeding, she was seized with another convulsive paroxysm, which lasted about five minutes. The bleeding produced an approach to syncope. After the operation, the body of the uterus continued equally hard and contracted. Its orifice, however, permitted the introduction of the finger to the extent of about half an inch; but its fibres communicated a sensation similar to that produced by a tense cord. She remained quiescent until ten o'clock, when she was again bled to the extent of twenty-four ounces. Great restlessness, apparently increased at intervals from the accession of labour pains, was observable. A stimulating clyster, which operated freely. Mr. Stirling determined to effect her delivery as soon as the state of the os uteri would permit. This resolution was confirmed by the accession of another convulsion. In a short time, the os uteri became somewhat dilatable, and before 12 o'clock, dilatation was so far accomplished with the fingers, as barely to admit the application of the forceps. The introduction of the forceps having been accomplished, the extraction of the head was easily effected. In a short period thereafter, the body of the child was expelled, and by the same pains, the placenta protruded at the external orifice.

Soon after delivery, a state of collapse supervened. Pulse weak, fluttering, and could not be numbered. She had half a glassful of spirits diluted with water, and ʒj. of laudanum. The same state continuing, one-half of a similar dose was ordered in an hour afterwards. She soon fell into a state of slumber, breathing naturally.

5th February. Continued to sleep until 5 o'clock this morning, when she again became restless, and shortly afterwards was attacked by another convulsion, which was again repeated at 9 o'clock. Face and hands now greatly tumefied; aberration of mind; headach; blindness; tongue black, chopped, and greatly swollen; no abdominal pain; pulse 152, incompressible; bleeding to 20 ounces. While the arm was being tied preparatory to bleeding, she was seized with another fit. Head to be shaved. water to be frequently applied to the scalp. Ten grains of calomel to be immediately given, and an infusion of senna with salts at regular intervals, until the bowels were freely purged.

6th February. No convulsions during the last twenty-four hours; headach abated; vision returned; cannot name her most intimate friends; still unconscious that delivery has been ef-

fected; recollects no past event; expresses surprise at observing stains of blood; countenance idiotical; pulse 126. Medicines and cold applications continued.

7th February. Stated to her husband that she had some slight abdominal pain, with discharge, and that she would require the assistance of the midwife. The communication of her delivery produced no effect upon her mind. Headach, and flashing of fire before the eyes; general muscular pain; bowels freely opened; pulse 88. Cold affusion on the head.

From this period, the daily reports present so little interest, that they are not worthy of record. Violent headach harassed her for several days; but it yielded to gentle laxatives, light diet, and an occasional anodyne.

15. *Fracture with Dislocation of the Metacarpal Bones.—Amputation.—Remarks on the Flap Operation.* By Dr. Ballingall*.—William Gardener, aged nineteen, was admitted on the 8th of May, under the care of Dr. Ballingall, with a severe lacerated wound of the hand, which he had received that morning in consequence of the bursting of a fowling-piece. The entry in the journal of the ward was—'The metacarpal bones of the left hand were fractured near their carpal extremities, their heads, with the exception of that of the thumb, were dislocated at their articulation with the bones of the carpus, the anterior row of which was very much exposed and loosened from its connexions with the other; the soft parts on the back, but particularly on the palm, of the hand were extensively lacerated—hemorrhage trifling.'

This was *prima facie* a case for amputation, and Dr. Ballingall immediately proceeded to remove the injured parts by a double flap operation, a little above the middle of the forearm. This lad was threatened, two days after the operation, with some access of inflammation in the stump, which was speedily subdued by the abstraction of twelve ounces of blood from the arm, the administration of a purgative, and the removal of the adhesive straps from the surface of the wound. His stump afterwards healed kindly, and on the 27th of May, he was dismissed, cured.

This is one of the cases to which Dr. Ballingall considers the flap operation particularly applicable, and he here states an inconvenience which he once witnessed from the performance of the operation by the double circular incision in this part of the arm. In the case alluded to, where the arm was brawny, and the bellies of the muscles very full immediately below the elbow, the skin, when divided by the first turn of the knife, could not be easily drawn upwards over the subjacent muscles, it formed a stricture upon them, as the prepuce does upon the glans in a case of phymosis, and was with difficulty retracted sufficiently to form a covering for the surface of the stump. Although Gardener's recovery was rapid, and his stump in every respect a good one, yet the consideration of this case gave rise to a remark for which Dr. Ballingall says he is entirely indebted to Dr. Lubbock, and which he considers well

* Edinburgh Royal Infirmary.

entitled to attention; in a case like the present, where the tendons have been torn through, or disengaged at their distal extremities, and where the amputation is performed by transfixing the limb with a catline and cutting outwards, the tendons, from the resistance which they give to the edge of the knife, are in some measure drawn upwards, and are thus cut longer and less smoothly than is desirable; this remark will obviously apply more forcibly as we come farther down in the forearm, the tendons being here cut with more difficulty, and less intimately connected by cellular adhesions.

Although decidedly favourable to the double flap operation in a large proportion of cases, yet Dr. Ballingall is not an advocate for its indiscriminate use, and he is desirous that none of its occasional inconveniences should escape notice, in order that we may be prepared to avoid them; in the case specified above, the simple expedient of making an assistant grasp the wrist firmly will, he thinks, enable us to do so.

16. *Case of severe Lacerated Wound running rapidly into Gangrene* *.—Alexander Moffat, aged seventeen, admitted May 20th, under the care of Dr. Ballingall, with a severe lacerated wound of the thigh. The entry in the journal of the ward was—'There was a contused wound extending from the centre of the popliteal space, outwards, across the knee, to the fibular edge of the left patella; from near the middle of this wound there is another, which runs obliquely upwards, towards the inner part of the thigh, for the distance of three inches; the integuments and fascia are separated from each other all around the knee, and in many parts the latter membrane is lacerated. Two wounds of a similar character, but of trifling extent, are situated, the one in front of, and a little below, the inner malleolus, the other behind the tendo Achillis of the right foot. Injury was the consequence of the broad wheel of a cart pressing against his thigh for some minutes, the cart being loaded with five cwt. of marble.'

On the morning of the 21st, the wound was observed to be gangrenous, and before the usual hour of visit this gangrene had spread extensively round the knee and down the fore part of the leg; free incisions were made through the black and insensible skin, which gave vent to large quantities of fœtid air and dark coloured sanies. The propriety of amputating the limb was now considered in a full consultation, and was declined, in consequence of the advanced state of the disease, the lower part of the thigh being decidedly gangrenous, and the remainder of it so far involved as to be discoloured, swollen, tender, and emphysematous; the wounds on the other leg had also assumed a gangrenous disposition, the patient was affected with subsultus tendinum, his pulse at 120 and fluttering; his tongue furred and dry; his skin hot, and thirst urgent. Hot turpentine was poured into the incisions, and the effervescing poultice applied. Opium and wine were administered internally, but without any thing like even a temporary suspension

* Edinburgh Royal Infirmary.

of the symptoms. He soon became delirious, and expired on the evening of the 23d.

Dr. Ballingall says, that although he declined amputating in the present case, he is by no means hostile to the operation in cases of spreading gangrene generally. In declining to operate in this instance he was actuated by a conscientious conviction (right or wrong) of its inutility, by a firm persuation that the performance of an operation in a case so hopeless would have been more likely to bring a promising practice into disrepute, than to have saved the life of his patient.

17. *Fracture of the Leg, followed by Gangrene.—Amputation.—Death.—Post-mortem Examination; with remarks* *.—Robert Brockie, aged about forty, admitted 3d May, 1828; was brought in about 10 *p. m.*, having fallen from a house four stories high, in Dalkeith. There is a fracture of the tibia and fibula about an inch and a half above the ankle-joint; the lower portion of bone appears to be driven under the other. There is likewise a fracture of the second phalanx of his thumb. The limb was placed on the suspending apparatus.

8th. The bandages round the ankle-joint were yesterday removed in consequence of pain and swelling of limb. Had some wandering, accompanied with pain of head and full pulse; was bled to ℥xx., blood cupped and buffed. Passed a quiet night; skin surrounding the fracture of a dusky red colour and some vesications on fore part; pulse eighty four, full; tongue loaded; no stool; free from pain of head.

℞ Tart. Potass. et Sodæ ℥ss.
Supertart. Potass. ℥ss.
Tart. Antimon. gr. ii.
Aquæ. ℥xvi. M.
Capiat ℥i. tertia q. que horâ.

9th. Several large, black vesications over the inner malleolus. The whole of the inside of the leg is of a dusky red colour; it is extending in a streak upwards along the inner side of the thigh; toes very cold, but sensible when they are touched; had a good deal of starting in limb; slept badly; three natural stools; tongue moist; some thirst; skin rather hot; pulse eighty-eight, full.

A bandage applied from the toes up the thigh.

Lotio evaporat. crur.

10th. Passed a restless night; undoing the bandages from his leg; dusky appearance has extended more towards inside of leg, and somewhat higher up the thigh; some vesications appearing on fore part of leg; no pain of head, but had some delirium last night; tongue moist; four loose stools; pulse seventy-two, full; skin cool, takes his food; foot continues cold, but feeling remains in it.

Infus. Catechu Thebai. ℥ss. subinde.
Habt. haust. h. s. c. Tinct. opii, gutt. c.

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* Edinburgh Royal Infirmary.

11th. Has been sleeping soundly since one this morning; complains of no pain. Tongue much loaded; one stool; is perspiring freely; pulse 112; dusky appearance of leg much the same. It does not appear to have spread much on the thigh; the fore part of foot and toes are cold and very livid; has taken no food this morning.

℞. Camphor. ʒss.
Emulsion. Amygdal. ʒvi. M.
Habeat ʒi. secund. q. que horâ. Beef-tea ad lib.

12th. Lies in a drowsy state, but frequently starts up in his bed. The dusky appearance on inside of thigh has entirely disappeared, the fore-part of foot is more livid and cold; he does not appear to have any feeling in his toes; the discharge from ankle has a most offensive smell; no stool since yesterday; tongue loaded; much thirst; his breathing appears rather laborious; delirious at times; no pain of head; pulse 100, of good strength; skin hot. Mr. Liston removed the limb above the knee by the flap operation; there was some hemorrhage after removal to bed, in consequence of which the stump was undone and several vessels secured. The bones were found much comminuted, the fracture extending into the ankle-joint. The cartilages were of a red appearance. There was matter of a very putrid nature running a considerable way up the calf of the leg.

13th. Slept well, some starting of stump, has had troublesome cough this morning, breathing quite natural; pulse eighty-eight, of good strength; tongue loaded; no stool.

Beef-tea. Contin. Mist. Camphor.

14th. Slept well, no pain in stump, complains of pain in breast, accompanied with troublesome cough; no pain of breast on full inspiration; one scanty stool from an injection; tongue moist but white; perspires much; pulse eighty-two; skin rather cold. Omit. Mist. Camphor.

℞. Tinct. Digital. ʒss. Tinct. Gentian. ʒiss. M.
Capiat. coc. parv. q. que horâ

15th. Slept well; had some vomiting of bilious matter this morning; bowels not open; had a turpentine enema, which procured one copious stool; frequent cough; perspires much, skin cold and clammy; his whole body has a peculiar disagreeable odour; pulse fifty-five; tongue moist.

Omit. Tinct. Digital.
Habeat Spirit. Commun. ʒi. secunda q. que horâ.

16th. Slept well, but was restless during fore part of night; had some diarrhœa, on which an anodyne enema was ordered, since which he has had no stool; takes little food; some cough; pulse fifty, skin cold and clammy; tongue clean; hickup at times, but no vomiting; much discharge of fetid matter from stump.

17th. Passed rather a restless night, has much less cough; considerable discharge from stump, which looks more healthy; pulse eighty; tongue moist and clean; less thirst; had some delirium during the night.

Habt. Tr. Opii Camphor. ʒii. quarta q. que horâ.

18th. Passed rather a restless night, has at times a good deal of hickup, but no vomiting; tongue a little loaded but moist; one natural stool last night; delirious during fore part of the night; still a little cough; much discharge from stump, of healthy looking matter; pulse seventy-two; took some breakfast.

19th. Had a sinapism applied to the epigastrium last night, was very restless, hickup continues frequent, two natural stools; has little cough, but breathing is laborious; is perspiring much; pulse seventy-four, full; some subsultus; much discharge from stump.

℞. Spirit. Ammon. Arom. ʒii tertia q. que horâ.
Rum ʒxii.

20th. Lies in a drowsy state, no delirium; two natural stools since yesterday; much sweating during the night; stump continues discharging; pulse ninety; no hickup; took some breakfast.

℞. Emulsion. Amygdal. ʒvi.
Camphor. gr. xxx.
Capt. ʒi. tertia q. que horâ.

21st. Passed a quiet night, hickup returned this morning, ate two eggs for breakfast; no stool; much sweating during night; pulse 100; much discharge from stump; countenance much improved.

22d. Continues the same.
Two eggs for breakfast, beef ʒvi. daily.

23d. Complains of pain in breast, increased on full inspiration, frequent cough with much tenacious expectoration; slept well, one natural stool; tongue loaded; pulse ninety-six; less discharge from stump. In the space of two hours a sudden change took place, his breathing became laborious, and at the visit he appeared rapidly sinking; he, however, rallied in the afternoon, but his breathing became again affected, and he sunk again the next morning.

25th. On examination of body, the fourth rib was fractured about an inch from the cartilage, a small quantity of pus was found exterior to the pleura costalis, old adhesions on both sides to a great extent. The left lung was full of white tubercular bodies; several abscesses in the liver; four ounces of bloody serum in pericardium. A long coagulum was found in the femoral artery.

Dr. Ballingall remarks that this was considered by those who saw it a fit case for the experiment of removing the limb while the gangrene was still spreading. One symptom, however, appeared early in this patient's case, which he did not fail to remark to his colleagues, and which, as far his observation went, is a circumstance almost uniformly foreboding a fatal termination: he alluded to a peculiar yellow hue of the skin, which not unfrequently attends the symptomatic fever supervening upon wounds and operations; this had perhaps struck him more forcibly from being familiar with a similar appearance in the idiopathic fevers of tropical climates; and although he had no wish to alarm the citizens of Edinburgh by talking of a yellow fever in that part of the world, yet he was bound to state that he had occasionally

seen it here as well marked as he had ever seen it at Seringapatam or Batavia, and when supervening upon injuries, much more uniformly fatal.

A case of this kind occurred some years ago, which made a deep impression on his mind, and which must have done so, he thought, upon all those who had occasion to witness it; he alluded to that of a seaman belonging to one of his Majesty's ships, in the roads, whose limb had been amputated below the knee in consequence of an accident. The accommodation on board his ship being defective, and the vessel about to sail, he was brought ashore to that hospital and placed under Dr. Ballingall's care; here his stump sloughed, the symptomatic fever ran high, was attended with that dingy yellowness of the skin to which he alluded, and in a few days the man died. Dr. Ballingall observed to the surgeon of the ship who came ashore to see him dissected, that this case wanted nothing but the "black vomit" to constitute a complete example of yellow fever; and it was found, on laying open the stomach, that this circumstance, necessary to complete the parallel, was hardly wanting; for here was a large collection of that dark grumous fluid resembling coffee grounds, which is so often evacuated from the stomach in tropical fevers.

18. *Hydrocephalus Externus cured by an Operation.**—K. Muller, aged ten months, was received into the hospital of St. Jules, under the care of Professor Textor, presenting the following appearance: on the great fontanelle there was a soft, elastic tumour, which was first observed seven weeks after the birth of the child, and which, from the size of a common pea, had attained that of a goose's egg. The tumour was shining and transparent, large at the base, and did not recede on pressure. Its colour and temperature were the same as those of the surrounding parts. The parents of the child said that the tumour had never been inflamed; nor had there been any pain or throbbing attending it. The child bore it to be pressed without indicating any sign of suffering. For some weeks before he was brought to the hospital, the bowels had been constipated, and he manifested slight signs of convulsions. Drs. Muller, Schonlein and Textor considered the tumour to be a partial external hydrocephalus; and they resolved to treat it by small, repeated punctures. On the 13th of March, the most prominent part of the tumour was punctured by a lancet-pointed cataract needle, which gave issue to a great quantity of perfectly limpid serum. When the cavity was supposed to be about half emptied, the wound was closed by adhesive plaster. During the operation, the little patient indicated no sign of pain, nor did any symptoms ensue.—April 27th. No accident has occurred, the tumour has not sensibly increased since the operation. It was now punctured a second time, and the greatest part of its contents abstracted; the fluid exactly resembled that which was before discharged; the child preserved perfect health.—May 14th, a third puncture was made, and the tumour was apparently quite

* Journal des Progrès.

emptied. Immediately after, the child had a slight fit of convulsion, which lasted about half an hour, but which did not return up to the time of the fourth and last puncture, which was made on the 21st of July. The tumour, although completely emptied of its fluid, appeared still to contain something. After enlarging the small aperture with a lancet, there issued, on slight pressure and friction being applied, about a table spoonful of a soft, pulpy mass resembling boiled rice. A piece of lint was then introduced into, and left in, the wound. The child did not indicate any symptom of suffering during the operation.—27th. The wound is converted into a kind of small fistula.—August 1st. The little patient had, without any known cause, some slight convulsions and vomitings, which, however, ceased after the administration of a mixture of a syrup of mallow and diacodium.—3rd. The fistulous opening leads into the hollow cavity which contained the fluid; this cavity was now filled with lint, which was allowed to remain in until the 6th: on removing it there issued with the pus a great quantity of coagulated blood. By the 17th, the cicatrization of the wound was perfect; and there was no appearance of a fresh collection of fluid taking place. In fine, the child never had any return of the complaint.

19. *Absence of the Uterus* *.—Ag. Melassené, aged twenty-seven years, applied to M. Dupuytren, on the 24th of February, 1823, requesting to be admitted into the Hôtel-Dieu. She had a fistula in ano. The physician who sent the patient to M. Dupuytren, to be operated on, said that her vagina was imperforate, and that she had no uterus. She herself said that she had never menstruated; that at certain periods she felt a heaviness in the head, flushings and heat of the face, pains in the abdomen; all of which symptoms always disappeared on the application of leeches to the anus. The external genital parts appeared well formed; the pelvis was, perhaps, rather narrow, but the breasts were fully developed, and all the appearances announced the most complete feminine conformation. The finger, introduced into the vagina, was arrested, at about an inch deep, by a smooth, round, cul-de-sac; and nothing above this could be felt indicative of the presence of a uterus. There was nothing remarkable found in the vagina, excepting a very great dilatation of the urethra. The finger introduced into the rectum did not feel any thing like a uterus. The patient was asked if she had ever felt any of the pleasures of love, and she answered in the negative, but that she had lived for four years in a state of concubinage, and was on the point of marrying. The patient was operated on for the fistula on the 28th of February. The operation was most simple, but she died on the 15th of March, of acute inflammation of the liver.

Sectio Cadaveris.—Brain and its membranes healthy; old adhesions of the right pleura, and some purulent abscesses in the base of the right lung; slight hypertrophy of the left ventricle of the heart; and contraction of the aorta. The intestinal tube was

* Rep. d'Anatomie, &c.

healthy; the liver contained several abscesses, and its peritoneal covering was thickened. The right kidney presented a fibrous cyst, filled with a white, inodorous fluid. The clitoris and labia pudendi were fully developed; the vagina, about an inch in depth, terminated in a cul-de-sac; M. Dupuytren considered this falling in of the septum to be the effects of the efforts of coition; behind the cul-de-sac lay the rectum; above and behind the bladder were found the broad ligaments of the uterus, which contained, within their substance, fallopian tubes and ovaries well developed. There was no uterus to be found; but at the point of union of the two fallopian trumpets was discovered a small body, which presented neither a cavity nor a cul-de-sac, nor had it the least resemblance to a uterus.

20. *Discharge of a great number of Hydatids from the Palm of the Hand* *.—The formation of hydatiform bodies in different parts of the body is one of the most curious and unaccountable phenomena of organic life. We may trace their process of development from the time when they are no larger than a mere speck, until they attain the magnitude of the fist, or perhaps of a child's head, but whence proceed the germs which determine their formation? and by what process do they obtain nourishment for their support? Are they possessed of an independent life; or do they owe their vitality to properties imparted from the parts which surround them in the body? Another question may be asked, namely, are they capable of propagating their species? or is their number determined by that of the original germs? These are questions more easily asked than answered by satisfactory proof. In our last Number we inserted a case in which several hydatiform bodies were found in the substance of the breast: the following case, related by Dr. Maug, of Esslingen, is equally curious.

J. Wager, vine dresser, aged twenty-eight years, of a scrofulous constitution, carried a tumour, six inches long and an inch and a half broad, for twelve months, on the palm of his right hand. It commenced forming towards the metacarpo-phalangien articulations of the ring and middle fingers; and it soon extended towards the palm of the hand, and from thence up to the middle of the fore-arm. The integuments presented no alteration. The tumour, perfectly free from pain, emitted a cracking sound on pressure. Its contents were easily moveable up and down or to either side, so as to render full half of it empty. An opening was made into the middle of the tumour, at the wrist, which gave exit to fifty hydatids, and about three ounces of inodorous serum. A probe penetrated easily forward to the articulations of the fingers, and upward under the annular ligament of the carpus. Continued pressure was now applied to the tumour, leaving the wound at the same time open, to allow any hydatids, which might still remain, to escape. In the course of eight days, there came away more than a hundred acephalocysts. The discharge of serosity having ceased, and the wound having been searched by a probe,

* N. Chir. t. ii. p. 377.

and no more hydatids being found, an injection of red wine was thrown in, and strong pressure was applied over all the surface of the tumour. Adhesions took place in a short time at both extremities of the cavity; but as a little discharge of mucosity continued still to issue, the injection was repeated, and, in three weeks after, the patient was able to return to his work.

Two months after this, the patient had a catarrhal fever; the wound re-opened, and there issued from it about half an ounce of limpid serum without any hydatids. The injection was repeated, and it had the same success as before. No return of the disease took place, and the patient continued to enjoy perfect health at the end of more than a year after the last injection was used.

The bodies discharged from the tumour were regular, and, for the most part, cylindrical; the largest of them were about the size of kidney-beans; one of their extremities was conical, and the other compressed in such a way that they appeared to have been situated one against the other in the form of a chain; they were soft, elastic, of a milky-white colour; and when crushed by strong pressure, they preserved their mass, and gave exit to a small quantity of limpid serosity which was contained in their cavity.

21 *Strangulated Hernia cured by the external application of belladonna* *.—At two o'clock in the afternoon of the 26th of October, 1827, Dr. Magliari, of Naples, was called to a woman, about fifty years of age, who had been subject to hernia for many years; symptoms of strangulation had now been present for twenty hours. In vain had leeches been applied to the anus, emollient cataplasms to the hernial tumour, demi-lavements, and castor oil administered; the stomach rejected every thing presented to it. The incessant vomiting with which the patient was affected, had fatigued and reduced her very considerably. Nevertheless, M. Magliari, thinking he might defer the operation until the morrow (we know not what reason he had to think so from the above symptoms) omitted all the means previously employed, and ordered the tumour to be anointed with an ointment composed of ten grains of extract of belladonna and half an ounce of lard. He visited the patient again at six o'clock the same evening, and found that the ointment had been applied, but in so small a quantity that it had no effect on the symptoms. He then applied the ointment himself, and used about the half of it. On visiting his patient in the morning he found that the vomiting had ceased ever since the second application of the ointment, and that the tumour was now diminished in size. The hernia was not entirely returned into the abdomen, but the ring was dilated so much as to do away with all the pressure on the intestine. A few hours after, the hernia was all reduced.

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* Obs. Med. di Napoli.

GENERAL MISCELLANY

OF THE ACCESSORY SCIENCES.

1. *Report of the Select Committee appointed to inquire into the manner of obtaining Subjects for Dissection, &c.*—The following interesting and important document, so much in unison with the feelings of the profession, and with the spirit of scientific research characterizing the age in which we live, is worthy of record in the pages of every Medical Journal.

The peculiar nature of the subject which the committee were appointed to investigate, has induced them to inquire principally into the practice of the anatomical schools of London, where, by personal communication with the most eminent surgeons and with the students and principal teachers of anatomy, it could be fully ascertained that no detriment to their interests was to be apprehended from the publicity to arise out of the present inquiry. With regard to the practice of the provincial schools, to avoid the expense of summoning witnesses from a distance, they have been satisfied with written communications from resident professors or practitioners of eminence, which will be found in the Appendix.

The committee have inquired into the nature of the difficulties which the anatomists have here to contend with, whether arising out of the state of the law or an adverse feeling on the part of the people; and into the evil consequences thence ensuing, as well to the sciences of medicine and surgery as to all who study, teach, and practise them, and eventually to the members of the whole community. They have called witnesses to show in what manner the wants of the anatomist are provided for in several foreign schools, and to state their opinion whether similar methods could be applied with advantage in this country, and if applied would be adequate to remove the present difficulties.

The first origin of these difficulties is obviously to be traced to that natural feeling which leads men to treat with reverence the remains of the dead; and the same feeling has prompted them, in almost all times and countries, to regard with repugnance and to persecute anatomy.

As the importance of the science to the well-being of mankind was discovered, the governments of different states became its protectors, and this country particularly. By the statute of Henry VIII, protection to a certain extent was given and intended to be given to it; but that protection, which at first perhaps was fully adequate, owing to the rapid progress of the science, has long since become wholly insufficient.

How limited were the wants of the science in the former part of the last century may be learned from the lectures of Dr. William Hunter, who describes the professors of the most celebrated schools, both at home and abroad, as employing in each course of lectures not more than one, or at most two subjects, and as exhibiting the performance of the operations of surgery, not on human bodies, but on those of animals. He represents the students in medicine and surgery as never exercising themselves in the practice of dissection, because for such practice they had no opportunities.

For such a system of instruction the provisions of the statute of Henry VIII might well be adequate, and these provisions, indeed, may now be considered of importance only as a distinct admission of the principle, that the government of this country ought to protect anatomy. The reformation of this antiquated and imperfect system took place in this country in the year 1746, when Dr. William Hunter, having a singular enthusiasm for the science, established complete courses of anatomical lectures, and opened a regular school for dissection. The reform thus introduced was complete, and its author exulted before his death in having raised and diffused such a spirit for dissection that he should leave behind him many better anatomists than himself.

Under his immediate pupils and their successors this school has gone on in-

creasing. The earliest account that the committee have met with of the number of anatomical students resorting to London, is that given by Mr. Abernethy, who states that shortly after the breaking out of the war with France they amounted to 200. One of the witnesses, Dr. Macartney, computes their number in the year 1798 at 300 : and Mr. Brookes, teacher of anatomy, in a calculation submitted to Sir Astley Cooper in the year 1823, then reckoned their number to be 1000. It appears from the returns now furnished by the teachers of the different schools in London, that their number at present is somewhat above 800 ; the diminution in the number since the year 1823 being the consequence, probably, of the pupils resorting to foreign schools, the advantages of which were less known at the former period than they are at present.

When it is considered what a demand there is for practitioners, as well to meet the wants of an increased population at home as of an extended empire of colonies and dependencies abroad, this rapid increase of students will not appear surprising ; and if it is considered also that not only is that demand an increasing one, but that every practitioner, however humble, from that laudable desire for intellectual improvement which characterizes the present age, endeavours, if he can afford it, to obtain a good education, and must regard himself as ill educated if he has not gone through a course of dissection, the eventual increase of dissecting students can hardly be calculated, should their wants be supplied abundantly and at a cheap rate.

Although the students now attending the schools of anatomy in London exceed 800, not more than 500 of this number actually dissect. The duration of their studies in London is usually sixteen months, and during that time the number of subjects with which every student in surgery ought to be supplied appears from the evidence (although there is some difference on this point) to be no less than three ; two being required for learning the structure of the parts of the body, and one the mode of operating. The total number of subjects actually dissected in the schools of London in one year, is stated to be not greater than from 450 to 500, which is after the rate of less than one subject for each dissecting student ; a proportion wholly insufficient for the purposes of complete education.

Dissection on an extended scale began in this country before there existed any such general feeling in its favour, founded on an opinion of its utility, that the British government, after the example of some foreign governments, would venture openly to patronize it. Accordingly, when in 1763, Dr. Hunter proposed to build an anatomical theatre, and to endow it with his museum and a salary for a professor, provided the government would grant him a site of ground for the institution, and his late Majesty would extend to it his countenance and protection, he met with a silent refusal. It was therefore only by stealth and by means not recognized by the law that the teacher was enabled to procure subjects. These means, it is notorious, from the time of Dr. Hunter down to the present time, have been principally disinterment ; though of late other illegal modes and contrivances, such as stealing before burial, personation of relatives for the purpose of claiming bodies, &c. have occasionally been had recourse to. For some time after the first establishment of dissecting schools, while the number of teachers and students was small and the demand for subjects very limited, the means which were resorted to for obtaining a supply were adequate to the wants of the students, and bodies were obtained in abundance and cheaply. The exhumators at that time were few, and circumspect in their proceedings, detection was rare, the offence was little noticed by the public, and was scarcely regarded as penal ; so that (according to one of the witnesses) long after the decision of the judges in 1788, that dis-interment was a misdemeanour, prosecutions for this offence were not common, and offenders taken in the fact were usually liberated. If this state of things had continued, though the illegality of the practices had recourse to must be conceded, yet they could scarcely be said to occasion evils of such magnitude as to require a legislative remedy. But the number of students and teachers having greatly increased, and with them the demand for subjects and the number of exhumators, detections became frequent, the practice of exhumation notorious, and public odium and vigilance were directed strongly against the offenders. It may be collected from the debates in Parliament which took place in the year 1796, during the progress of a bill for subjecting to dissection the bodies of felons executed for burglary and robbery,

that even at that time the public regarded disinterment with strong feelings of jealousy.

In proportion as the public became vigilant, the laws relating to sepulture were interpreted and executed with increasing rigour; and as the price of subjects rose with the difficulty of obtaining them, the premium for breaking the laws increased with the penalty. The exhumators increased in number, and being now treated as criminals, became of a more desperate and degraded character.

The parties of daring men who now took to raising bodies, did it happen (as was frequently the case) that, while in pursuit of the same spoil, they fell in one with another, actuated by vindictive feeling, and regardless of the caution and secrecy on which the successful continuance of their hazardous occupation must depend, had contests in the places of sepulture, left the graves open to public gaze, or gave information to magistrates, or the relatives of the disinterred, against their rivals. Frequently, with a view to raise the price of subjects, to extort money, or to destroy rivalry, they have proceeded to acts of outrageous violence, tending to excite the populace against the teachers of anatomy. These, and similar acts of violence or imprudence, have been constantly bringing exhumation to light, and have exasperated the public against both the exhumator and the anatomist; and this to such a degree, that of late, in many cases, individuals, out of solicitude to guard the dead, have taken upon themselves to dispense with the laws of their country, and have fired upon parties attempting disinterment. Other circumstances, but of minor importance, have been assigned by some of the witnesses as augmenting the difficulty of obtaining subjects in London, or increasing the demand for them; but as regards them, the committee beg leave to refer to the evidence itself. The general result has been, with some difference, according to differences of place and season (sometimes owing to the caprice and mercenary motives of the agents employed, at other times owing to the real difficulty of obtaining a supply), that of late subjects have been to be procured, either not at all, or in very insufficient quantity, and at prices most oppressive to the teacher and student.

The price of a subject, about thirty years ago, was from one to two guineas; the teacher now pays from eight to ten guineas; and the price has even risen to sixteen guineas. The teachers deliver subjects to their dissecting pupils at a lower price than that at which they purchase them, having been compelled to resort to this expedient, lest dissection in London should be abandoned altogether. The loss which they sustain is made good out of the fees which they receive for attendance on their lectures in the anatomical theatre. The cost of providing subjects is also enhanced to the teacher, by his being required occasionally to defend the exhumator against legal prosecution, and to maintain him against want, if sentenced to imprisonment, and his family, in case he has one, until the period of his punishment expires.

Nor is it only of a precarious, insufficient, and expensive mode of obtaining subjects that the cultivators of anatomy complain—it is by the law, not as regards the exhumators, but as it affects themselves, that they are aggrieved.

The first reported case of a trial for disinterment is that of Rex *v.* Lynn, in the year 1788, when the Court of King's Bench, on a motion for an arrest of judgment, decided it to be a misdemeanour to carry away a dead body from a church-yard, although for the purpose of dissection, as being an offence *contra bonos mores* and common decency. In this state of the law on the subject of disinterment, as interpreted by the Court of King's Bench, appears to have remained until the present year; when Davies and another were tried and convicted at the assizes at Lancaster, and subsequently received the sentence of the Court sitting at Westminster, for having in their possession, with intent to dissect, a dead body, at the time knowing the same to have been unlawfully disinterred. A respectable teacher of anatomy, residing at Liverpool, had been tried and found guilty on a similar indictment at the quarter sessions at Kirkdale, in the month of February in the same year. With these exceptions, magistrates appear hitherto to have taken no cognizance of receiving into possession a dead body, unless there were strict evidence that the receiver was a party to the disinterment; and on this partial view of the state of the law professional men also appear hitherto to have acted. At present, however, a most intelligent magistrate, one of the witnesses, considers that very slight evidence would connect the receiver with the disinterment; and that the purchase from

the exhumator would suffice to send the case to a jury, the knowledge of the fact of disinterment being to be collected from the circumstances, if strong enough to justify the inference. It is stated that there is scarcely a student or teacher of anatomy in England who, under the law, if truly thus interpreted, is not indictable for a misdemeanor.

According to the opinion of the last-cited witness, to be a party to the non-interment as well as to the disinterment of a dead body, would render a person indictable for a misdemeanor. Two cases are cited in support of this opinion. In the one, Rex *v.* Young, a non-reported case, but referred to by the court in the case of Rex *v.* Lynn, the master of a workhouse, a surgeon, and another person, were indicted for and convicted of a conspiracy to prevent the burial of a person who had died in the workhouse. In the other, Rex *v.* Cundick, which occurred at the Surrey spring assizes in the year 1822, the defendant was found guilty on an indictment for a misdemeanor, charging him with not having buried the body of an executed felon intrusted to him by the gaoler of the county for that purpose, but with having sold the body for lucre and gain, and for the purpose of being dissected; and on this trial it was not considered necessary to prove that the body had been sold for lucre or for the purpose of dissection. The witness infers, from the analogy of all these cases, that to treat a dead body as liable to any thing but funeral rites, is an offence *contra bonos mores*, and therefore a misdemeanor.

This state of the law is injurious to students, teachers, and practitioners, in every department of medical and surgical science, and appears to the committee to be highly prejudicial to the public interests also.

It is the duty of the student to obtain, before entering into practice, the most perfect knowledge, he is able, of his profession; and for that purpose to study thoroughly the structure and functions of the human body, in which study he can only succeed by frequent and repeated dissection. But his wants cannot adequately be supplied in this country, except at an expense, amounting nearly to a prohibition, which can be afforded only by the most wealthy, and precludes many students from dissecting altogether. From the precariousness or insufficiency of the supply, the dissections and lectures are often suspended for many weeks, during which the pupils are exposed to the danger of acquiring habits of dissipation and indolence; and, from the same causes, that important part of surgical education is usually omitted, which consists in teaching how to perform on the dead body those operations which the student may afterwards be required to practise on the living. But not only does the student find dissection expensive and difficult of attainment; but he cannot practise it, without either committing an infringement of the law himself, or taking advantage of one committed by others. In the former case, he must expose himself to imminent hazard, and in either he may incur severe penalties, and be exposed to public obloquy. The law, through the medium of the authorities intrusted with conferring diplomas, and of the boards deputed by them to examine candidates for public service, requires satisfactory proof of proficiency in anatomical science, although there are no means of acquiring that proficiency without committing daily offences against the law. The illegality and the difficulties attending the acquisition of the science, dispose the examiners in some cases to relax the strictness of their examination, and induce them, in the case of the Apothecaries' Company, to dispense with dissection altogether; the persons to whom certificates are granted by the examiners of this company being those who, from their numbers* and extensive practice, ought especially, for the safety of the public, to be well instructed. The annual number of certificates so granted exceeds 400.

The teacher of anatomy, besides the evils which befal him in common with the student, has to suffer others, arising also out of the state of the law, which affect him with peculiar hardship. The obstacles which impede the study of anatomy in this country are such, and the facilities presented to the study in foreign countries are so great, that those English students who are desirous of obtaining a thorough knowledge of the science, desert the schools at home, and repair to those abroad. Their principal resort is to Paris, where 200 English students of anatomy are now pursuing their course of instruction. Dissection probably, under these circumstances, would scarcely be followed at home, were

* Computed at 10,000 in England and Wales.

it not for the regulations of the College of Surgeons, which require the candidates for the diploma of the college to have learned the practice of surgery in a recognized school within the united kingdom, so that the student, during the period required for learning this practice, in order that he may the sooner become qualified for his profession, employs a part of his time in learning also to dissect. These disadvantages, affecting the teacher, are such, that except in the most frequented schools, attached to the greater hospitals, few have been able to continue teaching with profit, and some private teachers have been compelled to give up their schools. To the evils enumerated, it may be added, that it is distressing to men of good education and character to be compelled to resort, for their means of teaching, to a constant infraction of the laws of their country, and to be made dependent, for their professional existence, on the mercenary caprices of the most abandoned class in the community.

But it is not only to the student, while learning the rudiments of the science, and to the teacher, while endeavouring to improve it, that dissection is necessary, and the operation of the law injurious. It is essential also to the practitioner, that during the whole course of his professional career he should dissect, in order to keep up his stock of knowledge, and to practise frequently on the dead subject, lest, by venturing to do so unskilfully on the living, he expose his patients to imminent peril. He is required also, in many important cases, civil and criminal, to guide the judgment of judges and of jurors, and would be rebuked were he to confess, upon any such occasion, that, from having neglected the practice of dissection, he was unable to throw light upon a point at issue in that science which he professed. He is liable, in a civil action, to damages for errors in practice, due to professional ignorance; though at the same time he may be visited with penalties as a criminal, for endeavouring to take the only means of obtaining professional knowledge.

Under these circumstances, affecting equally the student, teacher, and practitioner, the committee were not surprised to find that this inquiry excited considerable interest in all parts of the country, and that numerous petitions from all classes of the profession, connected with the science of anatomy, were laid upon the table of the house, uniformly praying for an amendment of the existing law on the subject.

But independently of the bearings of the question on the interests of medical practitioners, and on the health of the community, the system pursued is productive of great evil, by training up a race of men in habits eminently calculated to debase them, and to prepare them for the commission of violent and daring offences. The number of persons who, in London, regularly live by raising bodies, is stated by the two police officers, examined before the committee, not to exceed ten; but the number of persons, occasionally employed in the same occupation, is stated by the same witnesses to be nearly 200. Nearly the whole of these individuals, as is admitted by the exhumators themselves, who were examined before the committee, are occupied also in thieving, and form the most desperate and abandoned class of the community. If, with a view to favour anatomy, exhumation should be allowed to continue, it appears almost a necessary consequence that thieves also should be tolerated. It should seem useless, however, with a view to suppress exhumation, to endeavour to execute the existing laws with increased severity, or to enact new and more rigorous ones. The effect of interpreting and executing the laws with increasing rigour has been, not to suppress exhumation, but to raise the price of bodies, and to increase the number of exhumators. So long as there is no legalized mode of supplying the dissecting schools, so long the practice of disinterment will continue; but if other measures were devised, which would legalize and insure a regular, plentiful, and cheap supply, the practice of disinterring bodies, and of receiving them, would of necessity be entirely abandoned.

Before adverting to those new methods for obtaining an adequate supply of subjects which have been suggested by the witnesses who have been examined before the committee, they will state in what manner, according to the evidence adduced, the schools of anatomy at Paris are provided. They have also inquired into the practice of some other foreign schools, for an account of which they beg to refer to the evidence itself; and they dwell upon the practice of the schools of Paris, because it approaches most nearly to the plan recommended by most of the witnesses for adoption in this country.

The administration of all the hospitals at Paris, since the period of the revolution, has been confided to a public board of management. The rule at the hospitals is, that every patient who dies shall be attended by a priest, and that, after the performance of the usual ceremonies of the catholic church, the body shall be removed from the chapel attached to the hospital to the dead room, and there remain for twenty-four hours, if not sooner claimed by the relatives. Bodies may be examined after death, by the medical officers attached to a hospital, in order to ascertain the cause of death, but may not be dissected by them. A body, if claimed by the friends after examination, is sewed up in a clean cloth, before being delivered to them. If not claimed within twenty-four hours after death, after being enveloped in a cloth in a similar manner, it is sent, in the manner hereafter described, to one of the dissecting schools.

There are no private dissecting schools at Paris, but two public ones; that of the Ecole de la Médecine, and that adjoining the Hôpital de la Pitié. These are supplied exclusively from the different hospitals, and from the institutions for maintaining paupers, the supply from certain of these establishments being appropriated to one school, and that from the remaining establishments to the other.

The distribution of subjects to the two schools is confided to a public officer, the Chêf des travaux Anatomiques. He causes them to be conveyed from the hospitals at an early hour, in a covered carriage, so constructed as not to attract notice, to a building at the schools set apart for that purpose. They are then distributed by the prosecteurs to the students; and after dissection, being again enveloped in cloth, are conveyed to the nearest place of interment.

The students at the Ecole de la Médecine consist of young men who have distinguished themselves at a public examination, though the person at the head of the establishment is also allowed to admit pupils to dissect. The school of La Pitié is open to students of all nations, who, on entering themselves, may be supplied with as many subjects as they require, at a price varying, according to the state in which the body is, from three to twelve francs; priority of choice, however, being given to the élèves internes of the different hospitals, and the subjects being delivered to them at a reduced price. English surgeons were here permitted, until lately, to engage private rooms for the purpose of lecturing on anatomy to students of their own nation, and to superintend their labours in the dissecting-room. From the protection and facilities which have thus been afforded to the study of anatomy at Paris, it has become the resort of the medical students of all nations; the practice of exhumation is wholly unknown, and the feelings of the people appear not to be violated.

It is the opinion of almost all the witnesses, that the adoption in this country of a plan similar in most respects to that which prevails in France, would afford a simple and adequate remedy for the existing evils. They recommend that the bodies of those who during life have been maintained at the public charge, and who die in workhouses, hospitals, and other charitable institutions, should, if not claimed by the next of kin within a certain time after death, be given up, under proper regulations, to the anatomist; and some of the witnesses would extend the same rule to the unclaimed bodies of those who die in prisons, penitentiaries, and other places of confinement. In the hospitals which supply subjects to the anatomical schools of France and Italy, religious rites are paid to the dead before giving up the bodies for dissection: in the plan proposed for this country, most of the witnesses recommend that the performance of religious rites should be deferred until after dissection, and they are anxious that the anatomist should be required, under adequate securities, or a system of effective superintendence, to cause to be administered, at his own expense, to the bodies which he dissects, religious solemnities and the usual rites of burial.

The plan proposed has this essential circumstance to recommend it—that provided it were carried into effect, it would yield a supply of subjects that, in London at least, would be adequate to the wants of the anatomist. The number of anatomical students resorting annually to London, and the number of subjects with which they ought to be supplied, have been already stated. It appears from the returns obtained by the committee from 127 of the parishes situate in London, Westminster, and Southwark, or their immediate vicinity, that out of 3744 persons who died in the workhouses of these parishes in the year 1827, 3103 were buried at the parish expense; and that of these, about 1108 were not attended

to their graves by any relations. There are many parishes in and around London from which at the time of making this Report returns had not been delivered in; but it may be inferred from those returns which have been procured, that the supply to be obtained, from this source alone, would be many times greater than that now obtained by disinterment; that when added to the supply to be derived from those other sources which have been pointed out, it would be more then commensurate to the wants of the student, and consequently, that the plan, if adopted, as meeting the exigencies of the case, would eventually be the means of suppressing the practice of exhumation.

If it be an object deeply interesting to the feelings of the community that the remains of friends and relations should rest undisturbed, that object can only be effected by giving up for dissection a certain portion of the whole, in order to preserve the remainder from disturbance. Exhumation is condemned as seizing its objects indiscriminately—as, in consequence, exciting apprehensions in the minds of the whole community—and as outraging in the highest degree, when discovered, the feelings of relations. If selection then be necessary, what bodies ought to be selected but the bodies of those who have either no known relations whose feelings would be outraged, or such only as, by not claiming the body, would evince indifference on the subject of dissection? It may be argued, perhaps, that the principle of selection, according to the plan proposed, is not just, as it would not affect equally all classes of the public; since the bodies to be chosen would, necessarily, be those of the poor only. To this it may be replied —1st. that even were the force of this objection, to a certain degree, admitted, yet that, to judge fairly of the plan, its inconveniences must be compared with those of the existing system; which system, according to the evidence adduced, is liable in a great measure to the same objection, since the bodies exhumated are principally those of the poor; 2dly, that the evils of this, or of any other plan to be proposed on this subject, must be judged of by the distress which it would occasion to the feelings of surviving relations, and the unfairness to one or another class of the community, by the degree of distress inflicted on one class rather than another; but where there are no relations to suffer distress, there can be no inequality of suffering, and, consequently, no unfairness shown to one class more than another.

One or two of the witnesses, who appear to be either favourable, or not opposed to the principle of the plan, speak with doubt of its success, as though it would be found impracticable to reconcile the public to its introduction; and one, in particular, apprehends that religious feelings may impede its adoption. An objection founded on religious feelings does not apply to the plan in question only, but would be equally valid, generally, against all dissection whatsoever; and should lead those who urge it, consistently with their own principles, to endeavour to put down altogether the study of practical anatomy.

Though it may be true that the public are to a certain degree averse to dissection, yet it is satisfactory to find several of the witnesses adducing facts to prove that those feelings of aversion are on the decline. They state that in those parish infirmaries where the bodies of those who die are examined, as the practice has become common, it has been viewed with less jealousy: that in those hospitals where a similar rule prevails, neither patients themselves are deterred from applying for admission, nor their relatives on their behalf: that the addition of public dissecting-rooms to hospitals has not produced any diminution in the number of applications for relief within the walls of those hospitals; and that, by reasoning with the friends of those who die, and by explaining to them how important it is to the art of healing that examination should take place after death, they may usually be brought to consent to the bodies of their friends being examined. Hence it is argued, that in involving the subject of dissection in mystery, as has hitherto been the case, the public have been treated injudiciously; that with proper precautions, and the light of public discussion to guide them, they may be made to perceive the importance of the study generally, and the reasonableness of the particular measure now contemplated, and that when they come to regard it as the means of suppressing exhumation, they will receive it with favour, and finally acquiesce in it.

The legislative measure which most of the witnesses are desirous of, in order to enable them to carry the plan into effect, is the repeal of any existing law, which would subject to penalties those who might be concerned in carrying the

proposed plan into execution: they wish for an enactment, permissive and not mandatory, declaring that it shall not be deemed illegal for the governors of workhouses, &c. and for anatomists, the former to dispose of, the latter to receive and to dissect, the bodies of those dying in such workhouses, &c. such bodies not having been claimed, within a time to be specified, by any immediate relations, and due provision being made for the invariable performance of funeral rites. Some few of the witnesses, indeed, who state that they wish for the success of the plan, contemplate any legislative interference whatever in this matter with apprehension; but they do not appear to have been aware how nearly the cases decided by the courts of law, and already adverted to, would apply to persons engaged in executing the plan in question. In those cases, the bodies for the nonburying of which the defendants were severally convicted, were those of a pauper who died in a workhouse, and of a person who had suffered death as a felon. If these cases apply, as it appears they do, to persons engaged in giving up or in receiving, for other purposes than for burial, the bodies of the inmates of workhouses or of prisons, such impediments to the success of the plan cannot be removed, as these witnesses think they might be, simply by the favourable interference of the executive government, however disposed to show indulgence to the profession; but an act of the legislature can alone provide a remedy.

Amongst the measures that have been suggested for lessening the dislike of the public to dissection, is that of repealing the clause of the act of Geo. II, which directs that the bodies of murderers shall be given up to be anatomized. It appears from the returns already laid before the house, that, as regards the direct operation of this clause, on the supply of subjects, the number which it yields to the anatomist is so small in comparison of his total wants, that the inconvenience which he would sustain from its repeal would be wholly unimportant. As to its remote operation, almost the whole of the witnesses examined before the committee, and of those whose written communications will be found in the appendix, are of opinion that the clause in question, by attaching to dissection the mark of ignominy, increases the dislike of the public to anatomy, and they therefore are desirous that the clause should be repealed.

The committee would be very unwilling to interfere with any penal enactment which might have, or seem to have, a tendency to prevent the commission of atrocious crimes; but as it may be reasonably doubted whether the dread of dissection can be reckoned amongst the obstacles to the perpetration of such crimes, and as it is manifest that the clause in question must create a strong and mischievous prejudice against the practice of anatomy, the committee think themselves justified in concluding, that more evil than good results from its continuance.

The committee consider that they would imperfectly discharge their duties if they did not state their conviction of the importance to the public interests of the subject of their inquiries. As the members of the profession are well educated, so is their ability increased to remove or alleviate human suffering. As the science of anatomy has improved, many operations formerly thought necessary have been altogether dispensed with; most of those retained have been rendered more simple, and many new ones have been performed, to the saving of the lives of patients which were formerly thought impossible. To neglect the practice of dissection would lead to the greatest aggravation of human misery; since anatomy, if not learned by that practice, must be learned by mangling the living. Though all classes are deeply interested in affording protection to the study of anatomy, yet the poor and middle classes are the most so; they will be the most benefitted by promoting it, and the principal sufferers by discouraging it. The rich, when they require professional assistance, can afford to employ those who have acquired the reputation of practising successfully. It is on the poor that the inexperienced commence their practice, and it is to the poor that the practice of the lower order of practitioners is confined. It is, therefore, for the interest of the poor especially, that professional education should be rendered cheap and of easy attainment; that the lowest order of practitioners (which is the most numerous), and the students on their first entry into practice, may be found well-instructed in the duties of their profession.

Such, on an attentive consideration of the evidence adduced, is the deliberate judgment of the committee on the matters submitted to them; and it now remains for the house to consider whether it will not be expedient to introduce, in the course of the ensuing session, some legislative measure which may give effect to the recommendations contained in the present Report.

July 22, 1828.

(Continued from Page 303.*)*

2. *Formulary of the* HOTEL-DIEU, *at Paris.*—The quantities are expressed Troy weight and English fluid measure.

Astringent Lavement.—Take of Bistort Root ʒj. Poppy Heads ʒss. Water Oij.

Employed in chronic diarrhœa and dysentery when diseases appear to depend upon debility of the mucous membrane rather than upon inflammation.

Antiseptic Lavement.—Take of Cinchona Bark ʒj. Water Oij. Camphor ʒij *.

Used in fevers in which there is a gangrenous disposition.

Laxative Lavement.—Take of Emollient Species ʒij. Sennæ ʒss. Sulphate of Sodæ ʒij.

No fluid is ordered, but it is supposed that water in the quantity employed in the other formulæ is intended here.

Tobacco Lavement.—Take of Tobacco, the dried leaves ʒj. Water Oj. Tartar Emetic gr. ixss.

This is very irritating; it is used in cases in which it is required to make a violent impression upon the intestinal tube.

Emollient Lavement.—Take of Decoction of Linseed Oj.

This is the most frequently employed as a lavement in all the hospitals.

Stimulating Liniment.—Spirit of Cantharides.

A very energetic stimulant; if applied with violent friction it will produce redness and even vesication of the skin; it is useful in chronic rheumatic pains.

Narcotic Liniment.—Take of †Balsam of Fioraventi f. ʒj. Tranquil Balsam f. ʒss. Compound Wine of Opium f. ʒj. Mix.

This liniment is used where there exists great pain, with but little inflammation. The Balsam of Fioraventi communicates to it resolvent properties.

Ammoniacal Liniment.—Take of Oil of Olives f. ʒv. Liquor Ammoniæ P. L. f. ʒx. Mix.

Strongly stimulating and discutient.

Opiate Liniment.—Take of Oil of Olives f. ʒiv. Wine of Opium f. ʒj. to ʒij. Soap ʒss. Mix. S. A.

Used to relieve pain.

Camphorated Liniment.—Take of Oil of Olives f. ʒij. Camphor ʒij. Dissolve.

Discutient and antispasmodic. This is sometimes employed to rub over the abdomen in tympanites; in these cases, the camphor is dissolved in oil of chamomile flowers.

Soap Liniment.—Take of Hard Soap ʒss. Balsam of Fioraventi f. ʒij. Alcohol sp. gr. 868 f. ʒss. Dissolve.

Discutient in chronic and indolent tumours.

Anodyne and Discutient Liniment.—(M. Dupuytren.)—Take of Oil of Lilies f. ʒij. White Soap ʒij. Extract of Henbane ʒss. Dissolve.

Liniment for Chilblains.—(M. Marjolin.)—Take of Balsam of Peru f. ʒss. Alcohol f. ʒiv. Dissolve and add, Muriatic Acid f. ʒj. Simple Tincture of Gum Benjamin f. ʒss. Mix.

To be applied several times a-day to the parts affected.

Ointment for Ophthalmia.—(M. Pelletan.)—Take of Rose Ointment ʒj. Red Oxyde of Mercury ʒj. Mix.

(To be continued.)

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* No instructions are given respecting the manner of preparing this lavement. If the camphor be merely boiled with the decoction, a very small portion of it will enter into the lavement; if it be reduced by alcohol, and blended with mucilage, &c., then mixed with the decoction, it will be a very high dose. The general rule for administering powerful remedies in lavements is, to take three times the quantity that is usually given by the mouth as a full dose.—TR.

† It is intended to give at the close of these Translations the formulæ, from the French National Pharmacopœia, of this, and of the other very complex articles that may be ordered in the formularies of the Hospitals.

3. *Medicinal Properties of the Bark of the Root of Ricinus Communis.*—The bark of the root of the ricinus communis is a powerful purgative, and in conjunction with chillies and tobacco leaves, it forms an excellent remedy for gripes in horses; it is thus used in the West Indies.—*Medical Botany.*

4. *Black Draught.*—This useful, but to some palates nauseous medicine, may be rendered much less disgusting by dissolving in it a few grains of extract of liquorice. This is the mode of exhibition employed by an old and respectable practitioner of extensive connexion in the west end of the town.

5. *Hessian Fly.*—The Hessian fly which has done so much damage to the crops of wheat in North America, and which has created such alarm to the agriculturists of this country, lest it should be imported, was called by Mr. Kirby, in the Linnæan Transactions, tipula tritici, belongs to the genus Cecidomia, though it does not, like other species, produce galls in the plants it infests. In the larva of this insect the ceraphron destructor deposits its eggs, and keeps this destructive little pest within due limits, otherwise M. Say supposes the crops of wheat would be totally annihilated.—*Magazine of Natural History.*

6. *Mr. Bree's method of preserving Botanical Specimens.*—Let the specimens be gathered, if possible, when quite dry, and never, on any account, put in water, with a view to keep them fresh, after they are gathered, and previously to their being pressed between paper; a practice which would tend to increase the quantity of moisture in the plants, and, consequently, add to the difficulty of drying them. Then take some leaves of coarse blotting-paper, the more bibulous the better, and heat them at the fire, till they become as hot as they can be made without scorching them. Place the specimens separately between two of these leaves, so heated; lay them between boards or other flat surfaces, and press them with a heavy weight. This process of heating the paper, and shifting the specimens, should be often repeated, twice, or, at least, once a-day, till the juices of the plant are evaporated. In this manner the specimens, if not very robust or succulent ones, will generally be sufficiently dried in the course of a week, or even in less time. The advantages of this method are, not only that the specimens will be thoroughly dried in a short time, and therefore will be less liable to become mouldy or to decay, but also that they will generally retain the colour, both of the flowers and leaves, much more perfectly than when preserved by means of a slower process, and without the aid of artificial heat.—*Ibid.*

7. *Electro-Attraction of Leaves.*—The influence of electricity on organised nature, both animal and vegetable, appears to be progressively better understood. The state of the atmospheric electricity is well known to exert a very marked influence on man, in respect of health and disease, and it is a considerable step in the explanation of the sources of this, which has been ascertained, if not discovered, by M. Astier. His experiments have led him to conclude that the leaves, the hairs, the thorns, &c., of plants, tend to maintain in them the requisite proportion of electricity; and, by drawing off from the atmosphere what is superabundant, that they also act in some measure as thunder-rods and paragrêles. In one of his experiments, M. Astier insulated the thorns of growing plants; and, upon being exposed to the atmosphere when the electrical equilibrium was disturbed, they distinctly affected the electrometer.—*Bull. des Sciences Naturelles.*

8. *An enormous Whale.*—M. Kessels, naturalist at Ghent, has just enriched the cabinet of natural history there with the skeleton of an enormous whale. This specimen is 95 feet long by 18 feet high. When dissected, 20,000 kilogrammes of blubber and 63,000 kilogrammes of flesh were cut away. M. Kessels has succeeded in preserving the tail, with the skin, blubber, and flesh undisturbed: it is 22 feet round the edge. In the opinion of many naturalists, amongst whom is M. Cuvier, this fish could not have been less than 900 or 1000 years old.—*New Monthly Magazine.*

9. *Port Royal Cassia.*—At a meeting of the Jamaica Society for the encouragement of agriculture and other arts, held in the early part of the present year, a paper by Dr. Bancroft was read, concerning a species of cassia, growing wild on the sands near Port Royal, which has long been used by the inhabitants of that town instead of senna, and which Professor Swartz had described, in 1791, under the name of cassia senna, but expressing a doubt of its being the same with the cassia senna of botanists. The uncertainty, however, that has

existed until lately, concerning the plants that yield the senna of commerce, had prevented the doubt of Swartz from being cleared up. Fresh and dried specimens of the plant were produced, and various omissions and differences were pointed out between these and the description of Swartz, and proofs adduced to show that the Port Royal cassia is a very distinct species from cassia obovata, commonly called senna Italica, to which it had been referred by some botanists. It was also stated to be essentially different from any of the species of cassia described by systematic authors, particularly by Decandolle, in the second volume of his *Prodromus*, whose enumeration, comprehending 211 species, is the most recent, complete, and scientific; whence it seemed probable that it was to be considered as a nondescript. A full description of its botanical characters was accordingly given, and it was proposed to designate it by the name of cassia Porturegalis, (intimating its native place) and its specific characters were recorded. Proofs were given of its being equally active with common senna; its taste is, besides, less disagreeable, and it seems, moreover, to possess the advantage of causing much less griping; as a proof of which, it was mentioned that mothers of families were in the habit of giving it to their children, even to infants, in the form of tea, with milk and sugar, and without any ginger or spice as a corrective. It had been supposed that it would not grow in any place but the sands near Port Royal; a fine specimen, however, was produced, that had grown in Kingston, which rendered it probable that it might be cultivated in the low lands, at least, of this island; and the ready sale which a mild yet active senna, such as this, was likely to meet with in the markets of Europe, afforded encouragement towards attempting to raise it by cultivation here.—*Magazine of Natural History.*

10. *Indian Botanical Specimens.*—Dr. Wallack, late superintendant of the Hon. East India Company's garden at Calcutta, has just brought to England, one of the most extensive collections perhaps ever formed by a single individual. It consists of twenty tons of dried, and twenty-three tons of living specimens of the rarest plants, peculiar to the North of India. A very valuable present of the duplicate specimens is about to be made to the Medico Botanical Society.

11. The head of a Hippopotamus has recently been brought to England, with all the flesh about it, in a high state of preservation. This amphibious animal was harpooned while in combat with a crocodile, in a lake in the interior of Africa. The head measures near four feet long, and eight feet in circumference; the jaws open two feet wide, and the cutting-teeth, of which it has four in each jaw, are above a foot long, and four inches in circumference. Its ears are not bigger than a terrier's, and are much about the same shape. This formidable and terrific creature, when full-grown, measures about seventeen feet long from the extremity of the snout to the insertion of the tail, above sixteen feet in circumference round the body, and stands above seven feet high. It runs with astonishing swiftness for its great bulk, at the bottom of lakes and rivers, but not with as much ease on land. When excited, it puts forth its full strength, which is prodigious. 'I have seen,' says a mariner, as we find it in Dampier, 'one of these animals open its jaws, and seizing a boat between its teeth, at once bite and sink it to the bottom. I have seen it on another occasion place itself under one of our boats, and rising under it, overset it, with six men who were in it, but who, however, happily received no other injury.' At one time it was not uncommon in the Nile, but now it is no where to be found in that river, except above the cataracts. The head is intended as a present to his majesty.—*Magazine of Natural History.*

12. *Botanic Garden at the Havannah.*—This is a new establishment, said to be finely laid out, and, though not yet finished, to contain many curious plants and trees. On passing some low bushes in a wet situation, the attention of Mr. Bullock was attracted by the singular carved or embossed appearance of the leaves; but on endeavouring to reach one, to examine it, he was greatly surprised at the ornaments disappearing in an instant, and discovering that the appearance was occasioned by a numerous family of beautiful little frogs, which had attached themselves to the foliage, and on his approach had leaped into the water.—*Bul. Mex.*

13. *New Method of preserving Anatomical Preparations.*—A cheap durable process, and one which clearly displays minute structure, has been published by Dr.

Davy; it is simply sulphurous acid, which may be prepared in a manner equally economical and easy, by burning sulphur matches over water in any appropriate vessel, agitating the water when the match ceases to burn; when the water is sufficiently impregnated with the acid gas, it should be filtered, to render it clear and transparent. The best kind of match for this purpose is that which is used in Italy, made by dipping cotton-thread in melted sulphur.—*Ed. Med. Chir. Trans.* Vol. III.

14. *Method of preventing the evaporation of Spirit.*—A mode of preventing evaporation very applicable to anatomical preparations is simply to cover the surface with a stratum of oil of almonds.—*Lond. Med. Gazette.*

15. *Fraudulent imitation of Ipecacuanha.*—A spurious article is sometimes sold for Ipecacuanha, which is formed of powdered Elecampane (Inular Helenium) and tartar emetic: this costs about two shillings per pound to the druggist, whilst true ipecacuanha is worth sometimes thirty shillings.—*Medical Botany, by Stephenson and Churchill.*

BOOKS RECEIVED DURING THE MONTH.

1. A Manual of Modern Surgery, founded upon the Principles and Practice lately taught by Sir Astley Cooper, Bart., F.R.S., Surgeon to the King, &c.; and J. H. Green, Esq. F.R.S. &c. Embellished with a Portrait of Sir Astley Cooper. Edited by Thomas Castle, F.L.S., M.R.C.S. &c. Cox and Son, London, 1828.

*** The Surgical Student will find this little volume a most valuable companion; it deserves to be in the possession of every one.

2. Elements of Descriptive and Practical Anatomy: for the Use of Students. By Jones Quain, A.B.M.B., M.R.C.S., and one of the Lecturers on Anatomy in the Medical School, Aldersgate Street. 8vo. p. 700. Simpkin and Marshall, London, 1828.

*** A work of this nature does not, of course, admit of a formal Review; but we think we may venture to say, that it is the cheapest, and the most convenient anatomical work of the kind published in this country.

3. A Letter to the Right Hon. Robert Peel, on some of the Impediments, Defects, and Abuses existing in the present System of Medical Education. By H. W. Dewhurst, Surgeon, and Lecturer on Anatomy, p. 51. Highley, London, 1828.

*** Some useful hints are thrown out in this Letter respecting an improvement in the plan of medical education in this country.

4. A Letter addressed to His Excellency the Right Hon. General, the Earl of Chatham, K.G., Governor of Gibraltar, &c. &c. &c., relative to the Febrile Distempers of that Garrison. By W. W. Fraser, Esq., Inspector of Hospitals, and Medical Superintendant of Quarantine at Gibraltar. Callow and Wilson, London, 1828.

5. The Magazine of Natural History and Journal of Zoology, &c,. No. III, conducted by J. C. Loudon, F.L.S. Longman and Co.

Medical Botany, No. XXI, by John Stephenson M.D., and James Morss Churchill, F.L.S. Churchill, Leicester Square.

NOTICE TO CORRESPONDENTS.

Mr. Cribb's Case shall appear in our next.

A Reply will appear, probably in our next Number, from Mr. Stone, to the "Remarks" on his "Evidences against the System of Phrenology."

Practical Queries, by "Chirurgus," shall appear in our next.

Communications and Works for Review are requested to be addressed to the Editors, to the care of Messrs. Underwood, 32, Fleet Street.

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CRITICAL REVIEW.

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1.—*a. A Compendium of the Diseases of the Human Eye, containing Descriptions and Explanations of the various Diseases, illustrated by Engravings, and accompanied by Practical Observations on their Treatment.* By Alexander Watson, Fellow of the Royal College of Surgeons, Edinburgh, &c., &c., &c., pp. 192. Edinburgh, 1828.

b. A Manual of the Anatomy, Physiology, and Diseases of the Eye and its Appendages. By S. J. Stratford, M.R.C.S. &c., &c., pp. 199. London, 1828.

Among the endless indications of design observable in the works of Nature, no where can we recognise the beauty of adaptation more strongly characterized than in the organ of sight. Those who can discover nothing more than the groping progress of chance in the splendid harmony displayed in the phenomena of the universe, will, perhaps, be as incapable of seeing any thing beyond that in the construction of that organ which takes cognizance of them. Be this as it may, no one can deny that there is here sufficient evidence of adaptation, and that, if chance, in the blindness of her career, can cast forth her products, moulded in so pre-determined a form, she is not quite so short-sighted as we are apt generally to consider her. We must give her the credit of possessing some share of ingenuity, the master-piece of which is, perhaps, the organ of vision. This small organ, whether we consider the beauty of its construction or the prerogative which it confers, by its moral dependencies, on animal existence is, to man, the most interesting piece of nature's work. Although it does not constitute the only link which connects us with the outward world, still it forms the principal tie between us and the rest of the universe, and we owe to it most of those pleasures which render existence of value. It first informs us of the disposition and arrangement of the works of creation, and of the laws which govern them; it then enables

us to contemplate the beauty and splendour displayed in the harmony of their movements, and to admire the endless changes which take place in their various parts for the benefit and well-being of the whole. If we consider the eye as an organ destined for a particular function, our imagination cannot picture to us any thing more perfect or better adapted for the intended purpose. If, further, we consider the eye physiologically—the nature of its function, the mode in which that function is performed, and the nature of the causes which contribute to keep up the relation between the moral and physical world—our admiration is not likely to diminish.

Amid the numerous improvements which have of late taken place in every branch of science and of art, it is not to be wondered that ophthalmic surgery should have been rescued from the thraldom in which it was so long confined, and that it should be placed on a footing with the other branches of the healing art. It is not a little surprising that the diseases of an organ so delicate and so important as the eye should have been consigned to, and allowed to remain so long in the care of, the most ignorant of the community, and that their study should have been almost entirely neglected by the respectable members of the profession until within the last few years. This circumstance, however, is not more surprising than the rapid progress which this branch of surgery has made towards a state of perfection since the well-educated members of the profession have recognized it as a legitimate part of the healing art. We may now boast of several scientific treatises on diseases of the eye, among which the two whose titles stand at the head of this article hold some rank.

Mr. Watson's work treats simply of the diseases of the eye, whereas Mr. Stratford's Manual comprehends also the anatomy and physiology of the organ. With the exception of the anatomical and physiological part of the latter work, upon which we do not consider it requisite here to offer any comments, the arrangements of the two are very similar. We shall therefore follow the order laid down in Mr. Watson's work, and shall endeavour to condense the principal materials drawn from both, and lay them before our readers in the form most likely to be practically useful to them.

If we take a superficial view of the table of ophthalmic diseases, it presents a most formidable number, compared with the size of the organ; and if these diseases were attempted to be studied without a clear arrangement, founded upon the anatomical construction of the various tissues of which the eye is composed, we should find the attempt rather difficult. When, however, the anatomy of the eye is

well understood, when each disease is assigned to its proper tissue, and when we consider that almost every disease of the eye, whichever tissue may form its seat, is characterized by the phenomena of *Inflammation*, we shall find the study of ophthalmic affections much less complicated than it at first appears. The most simple method of studying diseases of the eye consists in commencing with those of the outward parts, and in proceeding according to the natural order of the tissues until we arrive at the innermost. It must be considered, however, that although the organ is composed of a great number of tissues, each of which may form the special seat of disease, still the whole eye, or the greater part of it, may become affected with inflammation. All the tissues may be at once seized with the disease, or, as it the more commonly happens, the inflammation may commence in one or more of the tissues, and extend to the rest.

After some introductory remarks, Mr. Watson commences with *Ophthalmia or Inflammation of the Eye.* This may affect the whole eye-ball, or one or more of the component parts of the organ may be affected. We are well acquainted with the terms *acute* and *chronic* inflammation, *active* and *passive*, *sthenic* and *asthenic*. In a physiological and pathological point of view, some objection might be found to all these terms, but, so long as some terms are necessary to denote the degree of disease in a part, we have only to adopt those that are least objectionable. Acute and chronic are terms in common use, and although they are far from conveying a full and correct idea of the condition of the vessels in a state of inflammation, still they are less likely to mislead the mind from the true nature of the disease than the other terms employed to indicate the condition of the inflamed part. Mr. Watson appears to chose the terms *active* and *passive*. Now, if there be any activity in the vessels while in an inflammatory state, it must be an activity of *dilatation*, not an activity of *contraction*. Nowhere can we find a better proof of this than in the organ whose diseases are now under consideration. The authors of the works before us, both of whom speak of "increased action" in the vessels of an inflamed seat, may notice the progress of dilation of the arteries of the transparent parts of the eye as the inflammation advances. They may notice those in which, ordinarily, the globules of the blood are so minutely divided as to deprive them of the property of imparting the red colour of the fluid to the sight of the spectator, gradually expand and allow a thicker column to enter, until at last, if the inflammation proceed, the naturally transparent tissues exhibit red vessels without number. Can any *action* be discovered in these ves-

sels, even with the aid of the most powerful microscope? Certainly not: they remain, passively, in a state of dilatation, and the motion of the fluid in them is remarkably slow. Let us, then, ask, what meaning do authors attach to the term 'increased action?' It is evident that it cannot apply to any mechanical movement of the vessels in the seat of disease; and of any other action in the part we know little more than that disease, by some process not understood, at any rate not generally recognized, is making an inroad on the vital properties of the seat affected.

Acute Inflammation of the Eye.—The symptoms of this affection are generally understood by the profession, but these symptoms vary according to the part which is affected. The most characteristic symptoms of acute ophthalmia are, pain in the eye or in some part of the head; intolerance of light; redness of the organ; a sense of fulness, throbbing, and increased heat in the eye, and an increased flow of tears. These symptoms are generally accompanied, when the inflammation is severe, with inflammatory fever; the patient is troubled with headach, nausea, lassitude, thirst, quickness of the pulse, and the other symptoms which usually denote a derangement of the system in fever.

Some of the symptoms above described are, however, absent in ophthalmia. When the internal parts of the eye are inflamed the redness often does not show itself externally. The degree of the inflammation may be generally estimated by that of the pain; yet this symptom, in some species of inflammation, is almost absent. When the transparent parts of the organ are involved in the disease they become opaque or turbid, and a dimness of sight consequently takes place. The opaque appearance of the cornea may depend either upon the effusion of lymph or pus into the aqueous humour, or upon a deposition between the layers of the cornea itself.

Inflammation of the eye may terminate in various ways; but these terminations will bear an analogy to those of inflammation in general. It may end in resolution; in suppuration; in ulceration of any tissue, or of many tissues; in the deposition of lymph between the different layers of membranes, or in the cavity of the organ; in adhesions of the iris to the cornea or to the lens; in the closure of the pupil; in sloughing of the organ, or a part of it, &c. When ulceration, suppuration, or sloughing takes place, the eye is generally destroyed, by the evacuation of its contents.

Mr. Watson divides the causes of inflammation of the eye into local and constitutional. The first are, exposure to excessive heat and light; cold and moisture; wounds and other injuries; the introduction of foreign bodies; the ap-

plication of acrid substances; intemperance; contagion by the application of morbid matter to the eye. The constitutional causes are, the suppression of customary evacuations; general plethora; derangement of the alimentary canal. Ophthalmia may also take place symptomatically from small-pox, measles, erysipelas, gonorrhœa, gout, rheumatism, scrofula, cancer and syphilis.

Acute inflammation of the eye requires an active treatment, whatever its cause may have been; but if the disease is kept up by any foreign substance existing in the eye, this must, of course, be removed before any benefit can be derived from the use of antiphlogistics. If any acrid fluid has got into it, the organ should be immediately washed with tepid water, applied by a syringe or a sponge; a drop of oil of almonds may be then put into it. The inflammation must be subdued by blood-letting, general or local, or both, according to circumstances. The practitioner must be guided here by the severity of the disease; by the constitution and age of the patient, and in some degree by the part that is most affected. In an organ of so delicate a nature, and of so great an importance to the happiness of the individual, if the practitioner err at all, it is much better that he should err by carrying the depleting plan somewhat further than necessary, and that promptly, in acute inflammation of the eye, than, by the expectant plan, allow the disease to go on to produce disorganization of the structure. There is one principle in the abstraction of blood in inflammation against which we cannot protest too strongly or too often; namely, that of taking it away in small quantities at a time, and by frequent repetitions. Mr. Watson says that, in the generality of cases of acute ophthalmia, from sixteen to thirty ounces is now found quite sufficient to be taken away, 'especially since it can be repeated according to circumstances, as often as may be found necessary, and *probably* with equal benefit.' We may say rather, 'and probably *not* with equal benefit.' Let us ask, upon what principle, if any, is blood abstracted in inflammation? In the majority of cases we do not, we conceive, bleed because the system at large contains too much blood. It will be said that blood-letting is had recourse to because it subdues inflammation. This it does, however empirically employed, in many instances, but by no means in every instance. The result depends upon the manner in which the practice is employed, more than upon the actual quantity of blood taken away. We know that, in external inflammation, the abstraction of six ounces from the seat of disease will tend more to subdue it than the abstraction of three times that amount from a vein in the arm. Similar

results, it may be inferred, would obtain in inflammation of internal parts, if it were possible to treat them in the same manner. It follows, from this fact, that the impression made on the inflamed part, by the abstraction of blood, does not depend so much upon the actual quantity removed, as upon the vessels of the seat of affection being specially relieved or emptied. In purely phlegmonous inflammation, if these vessels could be relieved without any blood being taken away, it is probable that a similar result would follow, except in cases where the system is in a plethoric state. This might be done by applying pressure to the principal arteries leading to the seat of inflammation. But our object now is, to show that bleeding from the general system produces but a very slight impression on an inflamed part, unless it be carried so far as to decidedly *reduce the force of the heart.* Inflammation is a disease connected with the capillary vessels; these vessels increase in calibre, as every one may observe, and the pressure on their sides, caused by the contraction of the heart, increases in the same ratio as their calibre. As their vital contractility is either destroyed or much reduced by the relation of disease, they lose the power of adapting their calibre to that of the rest of the arterial system; they consequently expand under the pressure of the blood, forced by the heart, to the utmost point at which their elastic coats will allow them to arrive. To reduce this pressure, and give the vessels a chance of resuming their contractile properties, we must reduce the power of the heart, if we attempt to gain our object by means of *general* blood-letting. Experience shows that the best means of doing this is, not by repeatedly small bleedings, but by the abstraction of a quantity of blood sufficient to cause syncope, from a large orifice. We cannot, in fact, predict the number of ounces necessary to be taken away. We know that some patients, although plethoric, will faint from the loss of a few ounces of blood, and when this occurs the impression made on the inflamed seat is just the same as if four times that quantity had been found necessary to be abstracted to cause syncope. Similar, though slower, effects result from the exhibition of nauseating substances.

These remarks apply merely to inflammation purely phlegmonous, where the system is untainted with any morbid or morbific properties.

Local blood-letting may be effected by means of leeches or cupping; the leeches, in inflammation of the eye, may be applied to the inside of the eye-lids, as well as to the forehead and temples. Mr. Watson, however, thinks that scarifications, or the application of leeches upon the inner surface

of the eye-lids, should not, in general, be employed, except in cases where the violence of the inflammation has been overcome by other treatment; for, when employed previously to this, they have generally been found to produce hurtful irritation.

With respect to the local treatment, the application of warm, sedative fomentations is generally preferable to that of cold lotions in violent ophthalmia. A decoction of poppy-heads and chamomile flowers answers as well as any thing for a fomentation. To this, a little spirit of camphor may be advantageously added. 'When warm applications are employed, they should be discontinued whenever a remission of the inflammation takes place, and tepid or cold ones should then be substituted.' In slight cases also of acute ophthalmia, cold lotions will sometimes afford a more prompt relief than warm fomentations. The practitioner must, however, be guided in his choice, in this respect, by the feeling of his patient. A solution of sulphate of zinc is the lotion most commonly used in inflammation of the eye; in purulent inflammation of the conjunctiva, some of it ought to be occasionally injected between the eye and the eye-lids.

In very severe cases of ophthalmia, Mr. Watson recommends the head to be shaved, and a cold lotion to be kept constantly applied to it. This is likely to prove very serviceable.

Emetics, purgatives, and nauseating doses of tartarized antimony are remedies adapted to ophthalmia, as well as to other inflammations. An emetic administered at the commencement of the attack will frequently cut it short. In a word, every means calculated to weaken the force of the heart should be had recourse to in severe cases.

When the violence of the disease has been subdued, the application of blisters will often prove serviceable, and they are generally found more beneficial when applied to the nape of the neck, or behind the ears, than when put to the temples or anywhere in the immediate neighbourhood of the diseased eye.

Mr. Watson next offers some remarks on puncturing the cornea, as first proposed by Mr. Wardrop. 'This operation is indicated when the pain is very intense, accompanied with a sense of fulness of the eye, or a feeling as if the eye was going to burst; and also, when the eye, either from its prominence, or from a whitish turbid appearance of the cornea, appears to be very much distended.' The operation is called for, likewise, when blood or pus is effused into the aqueous humour. The cornea may be punctured with the point of a common lancet, with a cornea knife, or with a needle. The instrument should be introduced through the

cornea into the anterior chamber, at a small distance from its margin; it is then to be turned round a little on its own axis, so as to allow the fluid to escape by its sides.

While the above plan is being pursued all stimulants, both external and internal, must be carefully avoided. The general and local external stimulants, according to Mr. Watson, are, 1, external heat, or the accumulation of the internal heat around the body, and particularly that about the eyes; 2, the motion or exercise of the voluntary muscles; 3, light, which acts as a powerful stimulant to the eye. The general and local internal stimulants to be avoided are, 1, all kinds of mental exertion; 2, the use of nutritious aliments, and spirituous liquors; 3, thirst; 4, the accumulation of matter in the bowels; 5, 'the pain of the local inflammation;' which, he thinks, acts as a stimulus to the system.

When the ophthalmia is reduced to the chronic form, light, and all other sources of irritation, are still to be kept from it, and the organ is to be strengthened by the constant application of cold astringent lotions.

Having pointed out the remedies recommended by Mr. Watson for subduing acute inflammation of the eye, we may be allowed to suggest one additional remedy, which we have found eminently useful in relieving irritation about the head. Every practitioner must have noticed that, in acute inflammation of the eye, when the vessels of the organ are gorged with blood, if the patient be bled until he faints, during the fainting state the inflamed part assumes a pale colour, approaching to the natural. The vessels gradually empty themselves of a great part of their contents, and their calibre becomes smaller, and often remains so even after the heart has resumed its power. This circumstance may be accounted for upon physical principles, but it is unnecessary at present to enter into an explanation of it, as the fact is known to every one. Now, this state of the inflamed part may be imitated without the abstraction of blood, or subduing the energy of the heart, namely, by the compression of the carotid artery of the side affected against the cervical vertebræ. By this method we have in numerous instances had the satisfaction of affording great relief in cases of severe headach, in inflammation of the eyes, and even in some cases of toothach. The patient himself may be taught to apply the pressure with his thumb. It should be continued for a few minutes at a time, and it may be repeated at pleasure. Frequently, it will instantly relieve, or materially reduce, the pain; and when the pressure is discontinued, the pain, often, does not return, as might be expected. Both arteries have been, in many instances, compressed at the same time; but

it is necessary to mention that in one case, where this was done, very alarming syncope instantly came on, which continued for nearly three hours. As this case is rather singular, being the only one in which we have ever witnessed any unpleasant effects following pressure on the carotid arteries, we may be permitted to state that it occurred in a young gentleman, aged about twenty-five, of a delicate constitution, and studious habits, who was very often troubled with severe headach, which sometimes continued for two or three days together. This was generally relieved, in some degree, by ammonia and camphor. During one very severe attack we applied a thumb to each carotid artery, first drawing forward the integuments on both sides to prevent the larynx being compressed, but no sooner was pressure applied to the vessels than he fell down on the floor in a state of syncope, and his face became as pale as that of a corpse. The pulse completely ceased at the wrist, and no action could be felt in the heart. Brandy, ammonia, &c. were administered to him in large doses, and the chest was rubbed with oil of turpentine and other stimulating substances; but some hours elapsed before he recovered strength sufficient to stand upon his feet. The last time we saw him, which was some months after this occurrence, he had never since had a return of the headach. This case teaches us to be cautious in not obstructing both vessels at once, especially when the patient is in the erect posture, as the brain may be so much deprived of blood as to become unable to perform its functions.

We now come to *Chronic Inflammation of the Eye.* This 'is not attended with acute pain, or with any considerable degree of intolerance of light or increased lachrymation. The patient either has no pain, or complains of it only at times, as consisting of a dull soreness or uneasiness in the eye.' When the inflammation affects the internal parts of the organ, the patient, in some instances, is sensible of it only from the sight becoming gradually more and more impaired. No inflammatory fever is present in chronic ophthalmia, but the disease is often attended with symptoms considered generally as indicative of derangement of the digestive organs, such as foul tongue, loss of appetite, irregularity of the bowels, &c.

'The morbid appearances in passive or chronic inflammation of the eye are quite peculiar. When the exterior of the eye is affected, the increased vascularity appears to be greater and of a deeper red colour than in cases of acute inflammation. When it follows acute inflammation, the redness becomes much increased, in consequence of the enlargement and turgescence of the vessels from relaxation. The vessels being in a state of relaxation and turgescence, also makes them become tortuous in their course.

That the vessels are in an atonic or relaxed state is proved, by remedies restoring them to their natural state which always aggravate acute inflammation, as well as by the other symptoms. These remedies are quite of an opposite nature to those which are useful in acute ophthalmia, for they consist of stimulants, nourishing diet, &c.

'When the more internal parts of the organ are affected, pain, impaired vision, along with opacity of the cornea, or humours of the eye—adhesions of the iris to the lens—closure of the pupil or opacity of the retina, mark the progressive and destructive effects of chronic inflammation going on in the eye.'

Chronic ophthalmia often takes place from unknown causes; it generally depends upon some derangement of the general health; it also forms a symptom of gout, rheumatism, scrofula, syphilis, and some other diseases.

In the treatment of this species of ophthalmia, it frequently becomes necessary to abstract blood locally, and the quantity must be regulated according to the constitution of the patient, the degree of the inflammation, and the part of the eye which constitutes the seat of the disease. But as the inflammation generally depends upon some derangement of the health, constitutional remedies should never be neglected. The bowels should be kept regular by some gentle aperients combined with slight tonics; and small doses of blue-pill, or of calomel, should be occasionally administered. The diet should generally be nourishing without being stimulating; but we have frequently seen cases in which a glass of wine or two a-day appeared of service. In constitutions liable to attacks of chronic ophthalmia, any remedies which tend to weaken the system are generally injurious; and, upon the whole, slight tonics, aided by small doses of mercury, strict attention being paid to the state of the bowels, are found most beneficial.

Having spoken of inflammation of the eye in general, Mr. Watson commences to treat of diseases of particular parts of the organ. In the second chapter he speaks of *Diseases of the Tunica Conjunctiva*. This tunic, being a mucous membrane, is subject to the same affections as the mucous membranes in general. Most of these show themselves in the form of inflammation, differing, however, in degree, as well as in kind, in different cases. Mr. Watson divides it into two degrees, viz., the acute and the chronic; but it is rather difficult to draw a line between the termination of the one and the commencement of the other. Of the acute kind we have, according to Mr. Watson, 1, the simple acute inflammation; 2, the purulent inflammation of the conjunctiva; 3, acute inflammation of the conjunctiva of the cornea.

Inflammation of the conjunctiva can hardly be mistaken by any practitioner. It is characterized by redness of the surface of the eye, and of the inner surface of the eye-lids, attended, in its acute form, with increased heat, pain, and a sensation as if particles of sand were situated between the eye and the lids. When the inflammation extends over the cornea, the vessels may be seen ramifying on its surface, and the part loses its transparency in a great measure, and becomes opaque, or of a brownish-red colour. Purulent inflammation of the conjunctiva is generally attended by a considerable swelling or puffiness of the eye-lids, accompanied with a great secretion of thick, puriform matter. It is often symptomatic of other diseases, such as small-pox, erysipelas, &c. When idiopathic, it is generally the effect of infection, as from gonorrhœal matter, fluor albus imparted to the eyes of infants at the time of birth, or as in the Egyptian ophthalmia. The conjunctiva sometimes becomes so much swollen and thickened in this affection as to form a considerable elevation round the cornea, giving rise to the appearance called chemosis. If the disease be allowed to go on, ulceration of the cornea takes place, the aqueous humour escapes, and the iris protrudes.

Acute inflammation of the conjunctiva requires the most active treatment, both general and local, especially the latter. The plan to be pursued has been already pointed out when speaking of the treatment of acute ophthalmia. If warm applications be had recourse to, they must be discontinued as soon as the pain and heat have subsided, and substituted by cold astringent lotions. In the purulent kind, some of the lotions used should be frequently injected between the eye and the eye-lids, and the edges of the latter should be besmeared with the ung. zinci, or with some other mild ointment.

The *Passive or Chronic Inflammation of the Conjunctiva*, Mr. Watson divides into, 1, passive inflammation of the conjunctiva, consisting simply of increased vascularity; 2, consisting of increased vascularity, accompanied with pustules, or opacity of the cornea; 3, consisting of increased vascularity, thickening of the conjunctiva, and other states, from puriform ophthalmia. The first appears to consist merely of relaxation of the vessels of the conjunctiva. Some of these occasionally give way, and blood is effused between the membrane and the sclerotic coat. The chronic form of simple conjunctival inflammation is often the consequence of the acute, the vessels remaining in a relaxed or dilated state after the pain, heat, and the other acute symptoms have been subdued. When it does not owe this as its cause, it gene-

rally depends upon some constitutional affection, and it occurs commonly in subjects of delicate or irritable constitution. It is generally of a pustular character, occurring most commonly in young subjects. This form of the malady is called *strumous ophthalmia.* It appears to be entirely dependent on the state of the constitution; it varies in degree as the health is in a better or a worse state. Its treatment must therefore be conducted upon general principles, by paying attention to the constitutional affection, and by guarding against disorganization of the local seat by the application of astringent or stimulating lotions, &c., to the eye. In the chronic purulent ophthalmia, the conjunctiva becomes, sometimes, so thickened, or fungous, as to protrude between the eyelids; and the disease soon destroys the transparency of the eye if allowed to continue. This species of inflammation requires the application of powerful astringents, or of escharotics. A solution of nitrate of silver, in the proportion of six grains to an ounce of water, is recommended; and when the conjunctiva is so thickened as to present a fungous or fleshy appearance, the sulphate of copper has been found to answer best. 'In those cases where the granulations are soft, spongy, and bloody, the diluted nitric acid has been found the best, from its easy application; and it has not only an escharotic, but also an astringent effect.' Should the application be followed by much pain and irritation in the eye, they must be subdued by leeches and cold evaporating lotions.

In the next place, Mr. Watson speaks of *pterygium, morbid growths,* and *cancer* of the conjunctiva. Pterygium and fleshy tumours growing on this membrane require to be removed with the knife or a pair of scissors. When the conjunctiva becomes the seat of cancerous affection it is generally considered necessary to remove the whole organ. Mr. Watson notices three cases in which this was done, but in which, on examination, the subjacent coats were found quite unaffected, and in their natural state.

Mr. Stratford divides inflammation of the conjunctiva into, 1, simple conjunctival inflammation; 2, purulent inflammation; 3, irritable inflammation; 4, pustular inflammation; 5, erysipelatous inflammation of the conjunctiva. The principles upon which he founds his treatment are precisely the same as those we have already pointed out.

Following Mr. Watson's order, we next come to *Diseases of the Cornea.* The diseases to which the cornea is subject are, 1, inflammation in various degrees; this may affect only one layer, or a part of the cornea, or the whole cornea may become inflamed; 2, simple ulceration of the cornea; or ulceration complicated with prolapsus of the iris; 3, specks, or

chronic opacities of the cornea; 4, conical cornea, hydrophthalmia, and staphyloma.

'The appearances of acute inflammation affecting the cornea propria are quite peculiar. As this disease is deeper seated than inflammation of the corneal conjunctiva, the enlarged red vessels, which are seen upon the white part of the eye-ball, appear to be much smaller, more numerous and minute, than when the conjunctiva is affected; and they may be seen running into the cornea propria beneath the conjunctiva. These vessels form a red zone, which, in some cases, surrounds the whole cornea, in others, only part of it; and the redness appears to be greatest at the place nearest to the affected part; or they run, in clusters, at different parts, according to the situation, extent, and degree of the inflammation. The whole cornea has a clouded appearance; but at the part of it which is most affected, a distinct opacity may be observed, and very small red vessels ramified through it, sometimes making it appear quite red; at, or near to this part, also, there is frequently an effusion of pus, and sometimes of blood, evidently between the conjunctiva and the cornea propria, or between the laminæ of the latter. The quantity of matter effused is in some cases so considerable, that it forms a small projecting abscess upon the cornea. When the abscess bursts externally, an ulcer of the cornea is formed; when it discharges internally into the aqueous humour, the pus falls to the lower part of the anterior chamber, and its situation may be changed with the position of the eye.'

During the acute inflammatory stage of corneal inflammation, the treatment should be most active. When the inflammation has been reduced to the chronic state, the treatment recommended for chronic ophthalmia will answer best. If a collection of pus takes place between the layers of the cornea to any considerable extent, 'the matter should be evacuated by a small puncture made by the point of a lancet or cataract needle, in order to avoid the destruction of the whole thickness of the cornea.'

Inflammation of the cornea may run on to a state of ulceration. Simple ulceration of the cornea may heal spontaneously; at other times it requires the aid of stimulating applications, such as the argentum nitratum, before the healing process can go on. When the ulcer penetrates the whole thickness of the cornea, the case becomes complicated with protrusion of the iris, and the pupil is drawn to one side and is sometimes completely obliterated. When the protrusion is recent, an attempt should be made to replace it, by pushing the protruded part back with a probe, 'or by the application of belladonna, which makes the iris contract.' But when the protrusion has existed for a length of time, and when adhesion has taken place between it and the cornea, it may be necessary to remove the protruded portion by means of a pair

of scissors; the nitrate of silver is then to be applied to promote the healing of the wound.

Specks or opacities of the cornea require the application of stimulating drops and lotions, such as solution of sulphate of zinc, nitrate of silver, &c.

The cornea in some instances becomes more conical than natural, and the large cone is made up of a great many smaller cones, so as to render the surface uneven, without any diminution of the transparency of the cornea. Objects appear multiplied to those who are affected with this complaint. In *hydrophthalmia* the cornea is more prominent than natural, but without any unevenness of surface. In this affection, the focus of vision becomes changed, so as to render sight indistinct. These defects can only be remedied by the use of glasses. When the cornea becomes thickened and opaque, and more prominent than natural, the disease is called *staphyloma*. This affection admits of no cure; but when it projects beyond the eye-lids, it is liable to be injured, and to become inflamed; it is then necessary to remove a portion of it. Mr. Stratford recommends the cornea to be removed altogether, to allow the eye to flatten, and the patient then to be supplied with an artificial eye. This would remedy the unpleasant deformity attending the complaint, especially as 'artificial eyes are now made so well that the most clear-sighted are easily deceived.'

Next in order come *Diseases of the Sclerotic Coat.* These consist of inflammation and its consequences, and of staphyloma. Inflammation of the sclerotic coat seldom takes place as a primary affection; it generally extends to this tunic from the other tissues.

'Staphyloma of the sclerotic coat consists in some part or parts of this coat becoming prominent, and projecting in the form of small tumours upon its surface.' Some of these tumours are of a bluish colour, and have a copious ramification of red vessels upon them. This affection is often complicated with disease of some of the internal parts of the eye, and seldom admits of any remedy.

In the next chapter Mr. Watson treats of *Diseases of the Choroid Coat, Iris, and Membrane of the Aqueous Humour.* The only diseases of these tissues noticed by Mr. Watson, is inflammation in the acute and chronic forms. But Mr. Stratford speaks of another affection of the iris, not very commonly met with, namely, paralysis. The iris remains in a state of permanent dilatation in this affection, and is insensible to the stimulus of light. The paralysis sometimes depends upon disease of the brain; but, occasionally, it appears to owe its cause to some lesion of the ciliary nerves. The

sight is indistinct in cases of paralysis of the iris, owing to the too powerful stimulus of the light on the retina. When the affection cannot be removed by cupping, leeching, blistering, &c., Mr. Stratford recommends a black card, with a hole in the middle, of a size adapted to admit only a sufficient number of rays, to be worn over the eye. This will relieve the retina from the stimulus caused by the too great a column of light admitted by the dilated pupil. From the intimate connexion existing between the choroid coat, iris, and membrane of the aqueous humour, Mr. Watson is of opinion that inflammation seldom affects one of these parts without the others also becoming inflamed. It is of little consequence as regards the plan of treatment which ought to be pursued, which of these tissues forms the seat of the disease. The malady is generally known under the term *iritis.* The disease may take place spontaneously in these parts, or the inflammation may extend to them from the adjoining tissues. In both these cases the symptoms will be nearly the same. In the latter circumstance, however, they will be complicated with those of the former disease. The disease is sometimes symptomatic of syphilis, gout, or rheumatism.

'The first symptom of iritis is marked by a change of colour, which takes place in the membrane; it is dependent upon the greater flow of blood to the part than is usual, so that if the iris happen to be of a blue colour, this additional quantity of the red particles makes it assume a greenish tint; but if it occur in a dark coloured membrane, brown for example, the immediate change is not so distinctly marked. Here, however, it puts on a redder hue, and may generally be detected by an experienced eye. We must, however, be aware that there is sometimes a natural difference of colour between the two irides of the same person, and even between different parts of the same iris. In a grey or light blue iris, you will sometimes see one-third or one-fourth of a light brown colour, which, if not known, may sometimes lead to considerable mistake. The brilliancy of colour fades, the pupil becomes contracted, perhaps at first dependent upon the greater irritability which the iris now appears to possess; afterwards this, however, may become fixed and permanent from another cause, interstitial deposition within its cellular texture. We now also find great intolerance of light, and sometimes a profuse lachrymation. The iris would now appear to swell; its margin becomes puckered, or slightly irregular; it loses its acuteness, while the pupillary extremity appears turned backwards into the posterior chamber of the aqueous humour; and if we now examine it with a microscope, we may observe a number of flocculi of coagulable lymph, forming a fringed or serrated margin around the contracted pupil. The sclerotic coat may now be observed to assume the pink or rose colour, marking a participation in this disease, and clearly evincing that a larger quantity than usual of red blood is sent to these parts.

If we are minute in our examination, we shall frequently find that these pink-coloured vessels do not extend universally, but usually appear to stop short at the margin of the cornea, passing through the sclerotic to go to the iris at the point of the direct, and not the apparent termination or union of the cornea; so that, as a consequence of this circumstance, a white circle is left around the margin of the cornea, particularly marked by this difference of colour.'

These appearances are accompanied by general symptoms of ophthalmia. If the disease be allowed to go on it soon destroys the organ. The lymph thrown out from the inflamed part becomes organized; the pupil closes; the iris forms adhesion to the lens, and the sight soon becomes irrecoverably lost.

The treatment of acute iritis should be of the most prompt description. General and local blood-letting is a remedy resorted to in every variety of acute inflammation; it is therefore not to be neglected in that of the iris. But the remedy which deserves our chief reliance in this malady is mercury.

So far as experience may be depended upon, the patient may be considered safe and the eye beyond the reach of danger from the inflammation as soon as the system becomes under the decided influence of the mercury. This object is therefore to be attained as soon as possible; and it is best done by the administration of frequent doses of calomel, combined with a small proportion of opium. Even when considerable effusion of lymph has taken place, and where the natural form of the pupil has been destroyed by the inflammation, the mercury has often been found, not only to stop the progress of the deformity, but also to promote the absorption of the effused lymph, so as to allow the pupil to resume its original shape. In administering the mercury there are two points to be particularly attended to; first, to bring the system under its influence as soon as possible; second, to guard against its effects extending so far as to considerably affect the gums. The mercurial fetor of the breath is the first indication of the system being affected. This becomes perceptible before the edges of the gums begin to show any degree of inflammatory redness. As soon as the medicine has produced this effect, the dose should be either reduced or administered at longer intervals. It will be found that no sooner the breath begins to exhale a mercurial odour than the inflammation commences to give way. This is not only the case in iritis, but in acute inflammation of almost every tissue in the body. From some share of experience in the use of the remedy, we do not hesitate to say, that, if there be such a thing as a 'specific' in medicine, mercury is a specific in acute inflammation, when judiciously administered.

To prevent contraction of the pupil taking place, and to keep the edge of the iris from forming adhesion to the lens, belladonna should be applied to the eye-lids. This 'may be applied every day, by introducing between the eye-lids a small quantity of the inspissated juice of the plant, either alone or dissolved in water, or by applying it to the external surface of the eye-lids.'

In chronic iritis, the treatment must be modified. The mercury should be administered in smaller doses, with strict attention paid to the state of the bowels and of the general health.

'The *Diseases of the Retina* are, Inflammation, and Amaurosis. Acute inflammation of the retina is attended with the common symptoms of acute ophthalmia, generally to a considerable degree of severity. The symptomatic fever is great. Violent and distracting pain, darting from the bottom of the eye-ball through the head, is, in general, the first and most prominent symptom. The pain comes on suddenly, accompanied with great intolerance of light; the admission of which is compared to a dart passing through the head. The intolerance of light is much increased by moving the eye-ball; and is sometimes followed in the course of a few hours with total blindness. The patient complains of occasional sparks, vivid flashes of light, and other luminous bodies appearing before his eyes, both by night and day. Upon inspection, little or no redness is perceived upon the eye-ball. The pupil appears in some cases contracted, in others dilated and motionless, the humours to be turbid and muddy.'

The treatment of this disease should be of the most active kind. The patient should be bled largely, both generally and locally; and we should say that calomel ought to be given in large and frequent doses, combined with opium, after the patient has been bled to syncope. Unless the disease be checked at its commencement, vision is very soon totally destroyed.

The treatment of chronic inflammation of the retina must be, of course, modified according to the symptoms; but it should be kept in mind that the immediate seat of vision cannot remain long in a state of disease without having its function destroyed, probably, permanently.

Amaurosis is a term applied to loss of vision dependent upon various causes. The seat of the disease may be in the brain, in the optic nerve, or in the retina itself; and the malady may be of an idiopathic kind, or it may be symptomatic of other affections. The amaurosis may also be partial, that is, affecting only a part of the retina, or the whole surface of it may lose its function. The symptoms of the different varieties of amaurosis are too numerous to be described within the limits prescribed for this article. They vary almost

without end in different cases, as well as in the same case at different times. They vary according to the immediate seat of the disease, whether this may be the brain, the optic nerve, or the retina. Mr. Watson reduces them to the following order:—1, impaired vision; 2, pain; 3, muscæ volitantes, or ocular spectra; 4, state of the pupil. Vision may be variously impaired; it may be totally destroyed; or only partially; it may be less imperfect at one time of the day than at another; or it may be more perfect at night than in the day, or *vice versâ*. The ocular spectra also differ greatly in different cases, and even in the same case at different times. With regard to the state of the pupil, it is generally preternaturally dilated, and shows a diminished, or a complete loss of, sensibility on the application of light to the eye. When the disease is situated in the retina, the bottom of the eye, examined through the pupil, sometimes presents a dull, cloudy appearance. When the amaurosis is attended with continued pain in the head or temples, there is reason to infer that the seat of the disease is within the cranium. The causes of amaurosis are as various as its symptoms.

Leeches, cupping, blisters, cold applications to the head, issues and setons, are the local remedies likely to prove of any service in amaurosis. The internal remedies must be modified according to the state of the system, and to the violence of the pain in the head or in the eye. The bowels should be kept regularly open, or even purged if the system be plethoric. Small doses of mercury should be administered, combined with emetic tartar, if the pulse indicate any increased excitement of the heart. These are the remedies usually employed, and recommended in the works before us, in the disease under consideration. In addition to these, or as a substitute for some of them, we may suggest the propriety of making a trial of the use of iodine.

Diseases of the Crystaline Lens and its Capsule are, Inflammation and Cataract: inflammation of the lens seldom takes place except as an effect of injuries. If the injury has been so severe as to detach the lens from its capsule, the former dies and becomes dissolved in the aqueous humour, and the latter often retains its transparency; but the wounded edges of it contract, from elasticity, towards its circumference, when the vessels connecting it with the ciliary processes have not been injured. But the injury may have been of such a nature as to detach the lens, enclosed in its capsule, from its natural situation. When this happens, the lens and its capsule lose their vitality, become opaque, and act as a foreign body in the eye.

Cataract is, probably, in the majority of instances, a consequence of inflammation of the lens, or of its capsule, or of both, according to the nature of the case. It is hardly requisite to observe here, that, in the natural state of the eye, the rays of light pass through the transparent lens and its capsule, in their way to the retina; and that cataract consists in this lens, or its capsule, or both, becoming opaque, thereby obstructing the rays of light in their course to the bottom of the eye. The opacity may be so complete as not to permit any light at all to pass through; or it may be in different degrees from this state to that of perfect transparency. It may also involve the whole lens and its capsule, or it may take place in one of them only, or, lastly, it may occupy only a part of one, or a part of both. This disease may likewise be complicated with other affections; and 'the most common and the most important of these are, adhesion between the iris and the lens; contracted pupil; chronic inflammation of the iris; amaurosis; and opacity and disorganization of the vitreous humour.' Before operating for the removal of the cataract, it is of the greatest importance to discover whether or not the other tissues be in a healthy state, as upon this will the success or non-success of the operation mainly depend. When the cataract is complicated with amaurosis, or with opacity of the vitreous humour, a removal of the lens can be of no avail. When with chronic inflammation of the iris, this must be cured before the operation is attempted. Adhesion of the iris to the lens may be discovered by applying belladonna to the eye, for this will cause a contraction of the parts of the iris that are not adherent, leaving the rest projecting into the pupil, the circumference of which will appear uneven. The circular form of the pupil is also generally destroyed in permanent contraction of it from inflammation of the iris.

Our limits will not permit us to give a minute description of the operations adopted for the removal of the opaque lens from the axis of the eye, and of the arguments advanced by different surgeons for and against these operations. When the capsule retains its transparency, the lens may be extracted through an incision made in the cornea; it may be removed from the axis of the eye by a needle introduced through the sclerotic coat and carried behind the iris; or, lastly, the lens and its capsule may be broken up altogether, by a needle introduced in the same manner, that the portions may become absorbed. Each of these operations has its advocates; but it may be observed that *extracting* the lens would answer no purpose in cases of capsular cataract. The majority of the surgeons of the present day give preference to the operation

of *couching*, that is, of removing the lens and its capsule from the axis of vision; or of breaking them up altogether and allowing them to become absorbed. The case, after the operation, should be treated as one of inflammation of the eye.

The *Diseases of the Vitreous Humour* are, the fluid and opaque states of it. These are the consequence of inflammation.

There are certain affections of the eye which require an *artificial pupil* to be made, in order to render free the passage of the rays of light to the retina. Some of these cases are simple, such as a closure of the pupil, or opacity in the centre of the cornea. These are at other times complicated with adhesions of the iris to the lens, or to the centre of the cornea; with cataract, &c.

When the states of the parts requiring the operation for an artificial pupil are so various, it necessarily follows that the operation itself must also vary in different cases. Mr. Watson includes these operations under three heads: 1, simple division of the iris; 2, excision of a portion of the iris; 3, separation of a portion of the iris from its ciliary attachments, either alone or conjoined with the excision of a portion of the iris, or the strangulation of it in an opening made in the cornea. All these operations require much dexterity on the part of the surgeon.

In the next chapter we have *Injuries of the Eye-ball, and their Treatment*. In the treatment of injuries, not only of the eye, but of every other part, it may be laid down, we think, as a *general* rule, that the practitioner should reduce the displaced parts as nearly as he can to their natural position, and guard against inflammation. There are cases where more ought to be done, as in wounded arteries, &c. but these are exceptions only to the general rule. It is unnecessary to say more respecting injuries of the eye.

Fungus Hæmatodes and Cancer of the Eye are diseases, the one admitting, perhaps, no chance of cure, and the other only by the removal of the organ, or of the part affected, in time.

Now that we have touched upon most of the points of practical importance contained in the works before us, it will be expected, especially by their authors, that we offer some opinion respecting their merit. Of their comparative merit we shall say nothing. Both are full of practical information. Mr. Stratford's work is quite a *multum in parvo*. We do not know what the plates belonging to it may be, for the copy which he has sent us is deficient in that respect. The plates attached to Mr. Watson's work form excellent representations of ophthalmic diseases.

II.—*Commentaries on the Causes, Forms, Symptoms, and Treatment, Moral and Medical, of Insanity.* By G. M. Burrows, M.D.

(Continued from Page 232.)

The next Commentary is on the *anomalies* of the Circulation; and there we meet with the following most absurd passage: 'Sometimes the beat of the radial artery differs in number and strength from that of the carotids; the carotids from each other; and both or either from that of other arteries.' We wish the Doctor would show us a case where the arteries play such a capricious freak. However, physiologists would do well to examine the subject for themselves. The pulse, as connected with the state of the circulation, Dr. Burrows considers as a very good mean to enable the practitioner to discover the state of the insane patient, when the latter wishes to conceal his real condition: a circumstance frequently occurring. One case is mentioned, where the stroke of the radial artery was 90, that of the carotid 115 or 120. An interesting case concludes this division. In the next the author treats of *Hæmorrhagic Discharges*, as influencing the functions of the mind. All that is said is, to a certain extent, excellent: and in the next Commentary the diseases complicated with insanity are noticed. Dr. Burrows herein takes up the cause of the poor epileptic, and states that the system of mingling the epileptic maniacs with the other lunatics is certain of impeding recovery; adding, 'Of all the modifications of mental derangement, there is none so terrible as that complicated with epilepsy?' We hope that what our author has said on the subject of separation of these from other lunatics will be attended to in the proper quarter. The facts enumerated in the subdivisions of this Commentary are worthy of notice by those who make the insane objects of study, and even by others. Some views are then given of apoplexy. We have not room for more than to sum up the amount of what the author has stated, and this shall be done in his own words: '1. That the circulating system, in every case of insanity, is morbidly, though often differently, affected.—2. That the healthy exercise of the intellectual functions is dependent upon a due regularity in the supply and momentum of the blood to the brain, the source of the nervous system.—3. That while the vascular and nervous systems act in concert, the harmony of the intellectual functions is undisturbed.—4. That in all cases of insanity, the vascular and nervous systems are in a state of opposition (!)—5. That in incipient insanity, excitement of the vascular system generally predominates: in chronic insanity, the nervous.—6. That in all the diseases complicated with insanity, there is a well-marked ascendancy of either system.

—7. That as the actions of the two systems approximate, improvement in the intellectual functions takes place; and that when they again act in unison, sanity is re-established,' p. 202. Such are the conclusions of Dr. Burrows; with a few of them we, in one sense, express our accordance; but some of them remind us of the question—how far is Blackfriars Bridge from Christmas-day? Is the opposition of the vascular and nervous systems positive or negative?

Our author then proceeds in the next Commentary to consider *Metastasis*, *Sympathy*, and *Conversion*, as causes of insanity, and introduces some very interesting facts as illustrations: one we shall quote, as the quotation may be of service to our medical brethren.

'A gentleman, aged seventy, of a very delicate constitution and most temperate habits, had for two or three years, notwithstanding the best medical advice and the most careful conduct, been subject to constant colliquative diarrhœa. At length he was so reduced as to be given over, and his death was hourly expected. By way of affording him present comfort, a much larger dose of opium than he had ever taken, mixed with a powerful astringent, was given him. It effectually stopped the purging. He took plenty of nutriment, and gradually recovered his strength. But as he grew stronger, a total change in his moral character was observed. I had known him many years. His disposition, even meek, and remarkably correct and modest, became turbulent, noisy, extravagant, and obscene; and he laboured under the most extraordinary and ludicrous delusions. He lived seven years in this changed condition. At length his bowels became very lax again, and he gradually wasted from the effects of it. But probably the morbid action of the brain had been so long continued as to produce some organic change, for the character of his delirium was unaltered till his last breath. He died in my presence, humming the tune of an old ballad.'

This case speaks for itself. We need add no remarks.

In the eleventh Commentary, the fatal diseases consequent upon insanity are noticed. We shall quote the following, taken from the report of the French Commission appointed for viewing the lunatic hospitals in Paris. The report refers to those insane who died in the years 1822, 1823, and 1824:—

Organic Diseases of the Brain and its Membranes	418
Diseases of the Thoracic Organs	198
Inflammations of the Abdominal Organs	306
Cutaneous Inflammations	3
Cachexies	110
Chirurgical Diseases	47
Diseases Undetermined	9
	1091

One circumstance appears clear from this report; namely, that that theory which makes insanity a *mental* disease has no foundation, and that that which connects it with a peculiar state, either of the whole or of part or parts of the cerebral mass, is conformable to the pathological conditions noticed before.

The other matters treated of in this Commentary are well worthy of attention, but we pass on to the next, in which *Climate*, *Occupation*, *Sex*, and *Age*, are noticed as influencing insanity. With respect to *climate* as a cause, Dr. Burrows seems to think that its influence is not much; but that the high temperature of the atmosphere is most frequently the cause of mental derangement. In proof, many facts are cited. One may be mentioned: 'From registers published in the cities of Westminster, Paris, and Hamburgh, we find that, in June and July, suicide exceeds. In fact, suicide prevails most when Fahrenheit's thermometer ranges at about 84°,' p. 238.

As to *sex*, females are affected less frequently than men. And the number of females to males in England is much less than in France. This fact should lead our British ladies to rejoice that the customs of society here do not tally with those of Paris, since Esquirol pointedly ascribes the greater equality of insanity between the sexes in England, to the women receiving 'a more solid education, leading a more domestic life, and taking a less active share in society than in France.' Let our fair country-women, therefore, no longer wish to attain the false elevation which the French females are imagined to have gained, namely, of entertaining a dozen gentlemen, while their lords and masters are sacrificing at the shrine of some other fair one. Let them rejoice that the simplicity of English manners has not passed away, and that the sweets of domestic comfort are still preferred to the more excited pleasures of a frivolous society.

The French physiologists attribute a very large share of insanity to the influence of the sexual passion, and in this view our own experience bears them out. Dr. Burrows, however, seems to differ, and his ground of difference appears to us to be founded upon a theoretical, or rather hypothetical, view, namely, that insanity cannot occur before puberty, 'because previously the intellectual faculties are not developed, or have not acquired strength to exercise perfect functions,' p. 244. We state this with the view of showing how much an opinion held by an individual influences the view which that individual takes of facts. It makes him behold these through the optical delusion induced by his opinion, supposing that opinion to be wrong. Indeed, few are aware

of the influence that preconceived general opinions have upon the deductions from facts effected by individual minds. Happy is the man who is delivered from their influence.

We have gone through this, the first part of Dr. Burrows's work, more minutely than we shall the remaining parts, because in it we find most of those views which are new or are presented under a new aspect; and discover many of those practical remarks which will ever stamp it as a useful production. Indeed, on the whole, we consider this work as one that deserves well; one that will always hold a place in the medical philosopher's collection; inasmuch as it exhibits many improved and progressive views on the subject of insanity.

The first Commentary in the second part affords a very good illustration of the uncertainty of the meanings attached to words: an uncertainty indicative of the instability of mind, and the uncertainty of view of those first using the same. Dr. Burrows prefers the words *insanity*, *mania*, and *melancholia*. He objects to the word *monomania*. One objection is—'The phrenologists have adopted it; not in its original sense, expressive of insanity with a solitary delusion; but to express that the different hallucinations are dependent on the deranged function of that particular organ or portion of the encephalon which exercises it. Now, as the delusion stamped on a monomaniac's mind differs in every case, it cannot be the emanation of a distinct organ or portion. Besides, the number of organs represented in the phrenological map of the brain must be limited, while the hallucinations we meet with are in no two cases alike, and are infinite,' p. 257. Here again, a little more knowledge of the science of phrenology would have saved these remarks; for phrenologists do apply the word monomania in its original sense, as 'expressive of insanity with a solitary delusion;' but then they add, that in such insanity a particular part of the brain is affected, and not the whole cerebral mass. And they say too, that delusion may differ in every case, and yet a particular part of the brain be affected, although the number of the organs may not be more than thirty-three. But then the phrenologists also know that each faculty has, in its exhibition, numberless modifications; and Dr. Burrows will find, upon an analytic investigation of the 'infinite' hallucinations, that all this great variety can be arranged under a few of the primitive powers. And if Dr. Burrows wonders at this, we would remind him that all the words in a language can be analytically resolved into the few letters of the alphabet. These remarks may be followed up by our author's own advice: 'The best rule, however, for every body to ob-

serve, when attempting to form a judgment on any particular case of insanity, is to take care and preserve his own faculties clear, and as free from the mysticism of speculative philosophy as from the trammels of nosology;' and, let us add, as uninfluenced by the associations of a twenty-years-ago medical and physiological education as the advanced state of medical science at present requires.

The order our author has adopted is the following:—I. Insanity; 1, Delirium—Delirium Tremens; 2, Mania—Puerperal Insanity; 3, Melancholia—Suicide; 4, Hypochondriasis; 5, Demency; 6, Idiocy.

The next Commentary is on the 'Character of Insanity:' in which are to be found many practical and important remarks. Indeed the whole of this might be read by any individual with benefit, as illustrating the privilege of a sound mind, and as pointing out the mighty difference between the conditions of health and those of disease. There are, however, some general propositions stated which are quite opposed to fact, but which we have not time to enter upon. They are connected with metaphysics, and therefore this neglect will be excused.

We perfectly agree with our author in not considering the excessive and muscular power exhibited by maniacs as an authority to justify bleeding, a practice very injudiciously had recourse to in such cases, by many.

A circumstance is noticed by Dr. Burrows, namely, that maniacal patients emit a peculiar odour—so peculiar as to enable any one to distinguish it from every other.

Delirium is next treated of: its diagnosis is given, and some very interesting illustrations are afforded: those relating to the influence of long fasting are much to the point. Delirium *tremens*, a name given to that species of insanity connected with drinking, by Dr. Thomas Sutton, and accompanied by a tremulous movement of the hands, is then considered. As a remedy, opium is much recommended, after previously emptying the bowels. We have found the subcarbonate of ammonia exceedingly efficacious in relieving this malady.

Dr. Burrows gives, at the conclusion of this Commentary, a diagnosis of maniacal and acute delirium, which may be considered as correct as the subject will admit of.

We admire much the remarks made by Dr. Burrows in the next Commentary, with the view of establishing the advantages to be derived from a philosophic arrangement of the different stages of disease, particularly of insanity. In different stages, widely different is the treatment; hence those who have not noticed the order of succession are generally

exceedingly vascillating in their practice. The stages are, 1, the Incipient; 2, the Active or Confirmed; 3, the Decline and Convalescent; 4, the Terminations. The last subdivides into, 1, Recovery; 2, Relapses and Recurrences; 3, Incurability; 4, Mortality. We cannot in this review give a detail of the symptoms of each stage; indeed we could not do justice to the subject without quoting all the words of the author, and our limits will not allow us to do so.

Dr. Burrows then treats of *puerperal* and *senile* insanity. With respect to the former it appears, that out of eleven hundred and nineteen insane women admitted into La Salpetriere, in Paris, in the years 1811, 1812, 1813, and 1814, ninety-two were cases of puerperal insanity. This insanity occurs in Paris most commonly from the age of twenty-five to thirty. It would be well of those mothers who do not nurse their own children to remember the following statement. 'Insanity is most commonly manifested in women who do not nurse their children, and as a proof of it twenty-nine of the ninety-two cases, mentioned above, were unmarried women, who, it is said, rarely nurse their infants.' In this Commentary, pages 391, 392, 393, a very interesting synopsis of cases of insanity supervening on labour or weaning is given. We cannot notice it further, but quote the following testimony: 'I never met with one permanently fatuous from puerperal insanity' (p. 394). With respect to the treatment of this disease, Dr. Burrows thinks that the 'sins of commission are greater than those of omission.'

Regarding *Senile Insanity* few remarks are made. Two interesting cases are given, illustrative of the nature of this insanity; and both terminated fatally.

The next Commentary is on *Suicide*, and this we consider to be a master-piece. Some not-much-to-the-point remarks are made upon the two opinions of the tendency to suicide being an idiopathic or sympathetic affection; but with the exception of the few paragraphs devoted to this, we are highly delighted with the whole. Indeed, there seems to be an honesty of thinking, a considerable and noble firmness in resisting the generally prevalent notion, that all who commit suicide are insane. Some very useful illustrations of the slyness with which those inclined to commit suicide effect their purpose, are enumerated: a comparative view of those causes which lead to the suicidal act, and an account of the ways of its commission, are given: and, finally, some highly sensible and appropriate remarks on one of the many causes which tend to increase this evil amongst us, is pointed out. We shall give the passage to which reference is made:—

'There is another and still more influential cause, though

unnoticed, of the increase of suicide, and that is the rapid and immense increase of periodical journals.' We would add, 'badly conducted,' since this increase by itself could not occasion this evil. 'There are few persons now, comparatively speaking, in this country, who cannot read, and the means of doing so is amply supplied by a teeming and cheap press. As the eagerness for this species of gratification has augmented, the public taste has become more vitiated and debased; and hence nothing is found so attractive as tales of horror and of wonder; and every coroner's inquest on an unhappy being who has destroyed himself is read with extraordinary avidity. Not content with domestic horrors, we see our most respectable diurnal papers industriously select from every foreign source these lamentable proofs of the degradation of humanity, and dressing them in colours to excite commiseration rather than the abhorrence of Christian feeling.'

'Who can doubt that the frequency and general diffusion of these reports familiarize the mind of the lowest ranks with suicide, and thus diminish the detestation which ought to be felt at the mere contemplation of acts so repugnant to God and derogatory to man?'—p. 448.

We hope these valuable considerations will receive the attention they deserve. The only means, however, by which this vitiated taste can be diminished, is, by giving education, and thus inducing the mind to relish none but wholesome food.

In the ninth Commentary, *Hypochondriasis* is examined: and it is stated that Cowper, who laboured very much under this malady, wrote *John Gilpin* in one of his fits of sadness, with a view of relieving himself. Dr. Burrows seems inclined to adopt, to a certain extent, Parry's view of hypochondriasis, namely, that it consists in a disorder of the circulation. Falret, in his work, *De l'Hypochondrie*, 1822, endeavours to prove that 'it most frequently originates in a disordered state of the circulation, and that the seat of it is in the encephalon.'

In the treatment of hypochondriasis, Dr. Burrows gives a case in which he used leeches behind the ears. We notice this, because, connected with it is a fact for which we thank Dr. Burrows for having brought into notice; a fact, of the importance of the knowledge of which we have long been convinced: it is this: 'The result was beneficial, but not immediately; for the day after (he had the leeches applied frequently) he always complained of weakness, and on the second day invariably felt better' (p. 478). This we have often seen to arise from the application of leeches; we have seen, moreover, the young practitioner and the friends terri-

fied by this weakness, and we have often been obliged to be very determined in our conduct to prevent the neglect of these, in such cases, most efficient means.

Demency, or *Fatuity* is next treated of; succeeding that, *Idiocy*, the difference being, that the latter is a *connate imperfection* in the mental powers; the former, an imperfection from disease or injury. The importance of this distinction will be immediately apparent when it is remembered that the one may be curable, the other not.

We have not room to enter at all into detail upon the third part of this work, since, if we did, we feel that we must, to do justice to the author, give almost the whole of the work, as the facts stated are so highly important; facts which every patriot, every political economist, every well-wisher to humanity would do well to examine with diligence. We shall merely notice that Dr. Burrows skilfully and demonstratively shows the inaccuracy of the too common notion, the *incurability* of insanity.

In the fourth part we have the *Prognostic* of insanity given, which is summed under twenty-two different conclusions; one or two we notice, namely, 'mania is cured more quickly and oftener than melancholia.' When melancholia is 'accompanied by a dread of poverty or poison, or perversion of religion, a long and an obstinate attack may be anticipated.' 'The prognosis of hypochondriasis and of puerperal mania is favourable,' p. 568.

The fifth part contains the *Curative Treatment*. In the preliminary observations Dr. Burrows shows himself to be a man who loves truth, despises concealment, and who is a bitter enemy to quackery. He, with great propriety, opposes the notion of *mental* disorder. The curative treatment is divided into the *medical* and *moral*. With respect to the medical treatment, this is very different in the different stages. In the *incipient* class, where there is evidence of great vascular and cerebral irritation, means for diminishing that must be used, such as blood-letting, topically and sometimes generally. Cold affusion or bathing of the head as long as there is preternatural heat of the scalp. In the *active* or *confirmed* stage, though the physical excitation to a certain extent still exists, yet depleting means are not to be had recourse to, but tonics. And in the *convalescent* stage, moral treatment is what is most required.

Doctor Burrows then considers the different remedies individually; he points out the circumstances to be attended to in their use; and offers some hints, which show that he has paid much attention to the subject, and which will render his opinions lasting and of high practical importance.

The moral treatment occupies the remaining part of the work, and what is said upon the subject is excellent; a few remarks being made at the conclusion on medical evidence in cases of insanity.

We have thus come to the conclusion of this work. We have seen in it much to admire: and the faults or errors which we have pointed out can be readily excused by him who knows how much our views are, even contrary to our knowledge, influenced by the associations of early life. We consider this work, taken as a whole, the best book that we have ever perused on the subject of which it treats. The book is written to be read a century hence. It will always stand as an illustration of practical knowledge and of diligent attention to insanity. It will give to mankind a favourable opinion of the moral feelings of the author, and will lead those, who may have friends insane, to wish to commit them to the care of such an individual. There is a kindliness breathing throughout the work, which is compatible only with a highly cultivated and morally tender mind: a kindliness which has completely drawn out our good wishes to the author, and which no doubt will link him as an object of esteem to every reader of his work. The modesty, moreover, with which Dr. Burrows states his views is truly delightful; and, at the same time, we rejoice to say, he is firm. Those cases wherein he appears to us to err and to speak of subjects with which he is not acquainted, are in our sight pardonable: and when the work shall pass through a second edition, which it shall not want our recommendation to enable it, we hope to see these left out.

The printing is of the first order, the paper is excellent, and the *tout ensemble* so much recommends the work, that we have no doubt every one will be inclined to possess it. We do not find many books to recommend to our readers: when we do, we are exceedingly happy to offer our recommendation. Such a book is the one before us: there is an abundance of solid matter in it which will nourish, most healthfully, any one who has a taste for such food. We now take our leave of the author.

ORIGINAL COMMUNICATIONS.

I.—*Remarks on the 'Evidences against the System of Phrenology.* By Thomas Stone, Esq.,' 1828.

(Continued from page 362.)

From the exposure of Mr. Stone's metaphysical sophistry, and of his audacious, though unsuccessful, profligacy in con-

triving and preferring its odious elements * as evidences against a system of doctrine which he may continue to vituperate but cannot disprove, let us now turn to a consideration of the manner and effect wherewith he manages the 'objection' drawn from 'instances of partial insanity.'

According to Mr. Stone, then, the instances of partial insanity brought forward in support of 'the phrenological principle' have been egregiously misapplied: *he* '*apprehends*' those instances 'have a very different tendency;' therefore, and for no other than this most conclusive reason, they demonstrate the obnoxious principles to be absolutely erroneous! Next, and very logically, he makes Dr. Spurzheim 'consider that the proximate cause of all mental de-

* Into the last paper, at p. 355, the following Note should have been inserted. Mr. Stone, wherever he makes an unfair quotation, aspires often to be imperceptibly defective, sometimes ingeniously vague: thus, his contrivances to elude detection are remarkable on the occasion where he asserts broadly, p. 22,—that upon the phrenological hypothesis 'we are *distinctly told*,' that our several thoughts and feelings are considered 'relations of the simple substance, mind, to certain portions of the encephalon;' and the authority for this *distinct* tale is—'*Physiognomical System*, 131,' without reference to the edition of that work. Now, there is no such idea or expression at 131, or any other page of any edition of that System, and its author has no where taught such a doctrine. He, of the 'plain tale,' however, has dexterously secured for himself a '*loop-hole*' (to borrow one of the antiphrenological elegancies) through which to escape, if necessary, from the charge and infamy of deliberate mis-citation. This 'loop-hole' exists in the form of a scrap of paper stitched to the tail of the 'Evidences,' and contains *four* very trivial 'errata,' with this preceding them—'Page 22, note, for 'Physiognomic System,' read '*Vide* Note to the Rev. D. Welsh's Life of Dr. Thomas Brown.' Notwithstanding the *erratum* has apparently been rectified, the reader is again left without indication of note or page; and, on turning to the 'Life,' he finds that, appended to it, are no fewer than *fifteen* copious notes. This is annoying enough, but not important. Let him, therefore, turn farther to the *thirteenth* of these, at p. 521, and he will discover that the position ascribed to Doctors Gall and Spurzheim is *not given there* as one entertained by them, but as a proposition emanating from Mr. Welsh himself, in his Essay to reconcile 'the leading doctrine of phrenology—that different portions of the brain are connected with the primitive feelings of the mind'—with 'the great principle of Dr. Brown, that the powers, thoughts, and feelings of the mind are not different from the mind, but merely the mind itself existing in different states.'—Let the advocates of phrenology contemplate such mean subterfuges, and award the judgment due to their champion's demerits.

As Dr. Brown's reputation is deservedly greater than that of any other metaphysician, it may be interesting here to add his *mature* opinion of the phrenological doctrine, as recorded by his excellent biographer. 'Dr. Brown defends the doctrine against the objection brought against it, from a supposition that it leads to materialism or fatalism. At the same time, he conceived that Doctors Gall and Spurzheim had proceeded farther than they were warranted by facts; and he conceived that a comparison between the developement and manifestation of the lower animals should be especially attended to, because in them the motives were less mixed.' At the time when these observations were made, more than twelve years ago, the knowledge of phrenology was much more imperfect in this country than it now is; but, says Mr. Welsh, 'if he had been acquainted with the views that are now entertained, some of the facts that appeared to him inconsistent with the system, would have presented no difficulty.' *Account of the Life and Writings of Thomas Brown, M.D. by the Rev. David Welsh.* 8*vo. Edinburgh*, 1825, p. 520-1.

rangement is disease of the brain;' and then, after his own disfigurative practice, he represents the Doctor as '*supposing* that the peculiar character of the symptoms depend *(depends)* on the morbid affections of particular organs.'—Dr. Spurzheim does, indeed, 'consider the proximate cause of insanity as corporeal and residing in the brain*;' but the definition of symptoms here ascribed to him is neither precise nor perfect. Taking it, however, as thus exhibited by his adversary, let us mark what Mr. Stone would connect with it as a fair deduction:—'*Hence,*' he says, p. 24, 'we are informed, that *in mania the organ of destructiveness suffers most; in melancholia, that of cautiousness. When the organ of self-esteem is disordered, the symptoms that arise are very different from those that characterize disorders of the organ of benevolence or of veneration: accordingly, there are as many sorts of symptoms as there are primitive faculties of the mind and their combinations.*'—Now, all these words in Italic letters are given by Mr. Stone in the form of an exact quotation from p. 117 of Dr. Spurzheim's Observations on Insanity, and, as such, were designed to mislead the reader by their appearances of ingenuousness and truth. Unfortunately, however, the misquotation is not overcharged with either of those qualities, and must be reprobated as an imposture†, whereby the phrenological expressions are mutilated, inverted, and complicated, with the intention evidently of rendering them obscure, ambiguous, or self-contradictory. Having thus moulded the thing to his own satisfaction, Mr. Stone proceeds with due dignity to 'put it down.'—'Unfortunately for *this theory*,' he says feelingly, 'those faculties which, in mental derangement, appear to be *principally* affected, are those which, not being considered as primitive, constitute *no part* of the phrenological system, and therefore have no distinct material organs—these are volition, attention, memory, and judgment.'—Here, then, are *three* unconditional assumptions, which, though pronounced authoritatively, stand unsupported by any one trace of evidence resulting from

* *Observations on the Deranged Manifestations of the Mind or Insanity*, by J. G. Spurzheim, M.D. 8vo. London, 1817, p. 100, 114, 115, 117, 171.

† The justness of this charge can be ascertained by reference to the 'Evidences,' p. 24, and to the Observations on Insanity, p. 117-18, where Dr. Spurzheim's genuine sentiments are thus detailed:—'The appearances of insanity are merely symptoms of the deranged functions of the *organs* of the mind. The organ of the feeling of self-esteem being deranged, must naturally produce symptoms different from the disorders of the organ of the propensity to destroy or to conceal, or of cautiousness or benevolence, &c. Hence there are as many sorts of symptoms as primitive faculties of the mind and their combinations. In this manner alone we can understand why melancholia and mania are often the same disease, may interchange with each other, and why the same treatment may be successful in both, and why in other cases they are different.'

analogy, reason, or experience. *First*, it is assumed, that volition, attention, memory, and judgment are truly primitive faculties of the mind. Now, since metaphysicians, to whom Mr. Stone dutifully yields a sufficiency of illegitimate obsequiousness, by no means generally, far less unanimously, admit this postulate of his ; and since phrenologists have adduced a very reasonable amount of evidence in confirmation of their doctrine, that volition, attention, memory, and judgment are *not* primitive mental *faculties*, it certainly behoved him, as a means of giving plausibility to his position, to have attempted, with counter-evidence, to neutralize, if he could not 'extinguish,' that whereon the phrenological principle is founded. Standing, therefore, as a bold assertion, this *first* assumption cannot be regarded as other than the conceit of an indiscreet and licentious spirit. *Secondly*, it is assumed with equal confidence, that volition, attention, memory, and judgment 'constitute *no part* of the phrenological system.' To assert this, however, is to practise evasive misrepresentation :—phrenologists regard volition, attention, memory, and judgment as modes of activity of the *intellectual* faculties, and their writings * exhibit many conclusive reasons for declaring those qualities to be such, and not primitive *faculties* of the mind. *Thirdly*, it is assumed, that volition, attention, memory, and judgment 'are those *faculties* which, in mental derangement, appear to be *principally* affected.' Now allowing, concessively, Mr. Stone to have proved, as he cannot and has not even tried to prove, that volition, attention, memory, and judgment are primitive faculties of the mind, his statement would nevertheless be inaccurate; for, in *most* cases of insanity the sound faculties continue to exercise † their attributes of volition, attention,

* See Dr. Gall's work, *Sur les Fonctions du Cerveau et sur celles de chacune de ses parties*. Paris, 1825, tome vi. p. 398, 407 : Dr. Spurzheim's *Physiognomical System*, 1815, chapter ix. p. 465, 481 : his *View of the Philosophical Principles of Phrenology*, 1825, p. 14, 19, 23, 32 : and Mr. Combe's *System of Phrenology*, 1825. p. 393, 395, 405.

† Pinel, in discussing the question—*Can mania exist without lesion of the understanding?*—expresses himself thus : 'when conducting my investigation of this disease, at the Bicêtre, I was much surprised in observing many insane persons who, at no time, exhibited any loss of understanding, and who were actuated by a sort of instinct of fury, as if their *affective* faculties alone had been lesioned.' In confirmation of this sentiment he details three cases ; and, in another part of his work, relates three more ; all of which go to establish the doctrine—that one or more of the faculties of the mind may be diseased without affecting the integrity of the rest. *Traité Médico-Philosophique sur l'Aliénation Mentale, par Ph. Pinel. D.M.* 8vo. *Paris*, 1809, p. 93, 94, 102, 156, 157 159. A translation of the three latter cases is given in the *Transactions of the Phrenological Society*, 1825, p. 29, 420 ; and two of them in the *Phrenological Journal*, vol. iv. p. 23. Dr. Mason Good, who was no phrenologist, has the following remarkable sentiment :—'As the body is subject to diseases of various kinds, so also is the mind : the body may be enfeebled in all its powers, in only a few of them, or in only a single one ; so also may be the mind : the powers

memory, and judgment with imperceptibly altered vigour. Last of all comes the tail-piece to these three characteristic premises: thus, p. 24, '*metaphysically* considered, therefore, we find that, in insanity, *faculties* are deranged, of which phrenologists *take no cognizance;* and we must, consequently, perceive that *the limited view* they take of the human mind has led them to exclude from their psychology the very *faculties* which, in this disease, appear to be most disordered.' *Rationally* considered, this *finding* and this *consequence* are necessarily mere illusions, because they have been deduced from unsubstantial preconceptions. Without regarding them as faculties, as has been shown, phrenologists *do* take cognizance—particular cognizance—of volition, attention, memory, and judgment: they *do not* exclude from their psychology the very faculties which appear to be most disordered in insanity: and this unjustifiable charge is not to be fixed upon them imperiously by a slippery writer, who, at p. 23 of his 'Evidences', presumes to censure them for 'subdividing the unity of the mind;' and, at p. 25, imputes defect to their system from the 'limited view they take of the human mind.'

Prefacing a paragraph of trite fallacies with an acknowledgment of the obscurity wherein the pathology of insanity is involved, Mr. Stone forthwith sustains an accession of his inveterate propensity to dogmatize. Thus, p. 25, 'we have not sufficient data to proceed upon, to enable us to establish ANY *relation between the conditions of the brain and the different states of mental aberration.*' Since no one hitherto has attempted the task, it was incumbent on this person, before claiming our assent to a conclusion so absolute, to have specified *how many* '*data*' are required to complete this *sufficiency*, and to have shown the authority whereby the precise extent of such sufficiency must be determined. This, however, from conscious incapacity, he has 'altogether evaded,' and, consequently, his assertion is to be rejected as rash, gratuitous and untrue. Whosoever, on the contrary, shall choose to investigate the cerebral dissections made by Littre,* Geoffroy, Morgagni, Greding, Söemmering, Chia-

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of perception and imagination, observes M. Pinel, are frequently disturbed without any excitement of the passions: the functions of the understanding, on the other hand, are often perfectly sound, while the man is driven by his passions to acts of turbulence and outrage: 'the mind and body bear also, in many cases, a reciprocal influence on each other, which is sometimes general, and sometimes limited to particular faculties or functions: diseases affecting the intellect' are characterized by 'error, perversion, or debility of one or more of the mental faculties.' *Study of Medicine*, 1822, vol. IV. p. 53, 54, 55.

* LITTRE: Memoires de l'Academie des Sciences, Anno 1705, p. 32.
GEOFFROY: Id. Id. Id. Anno 1706, p. 509.

rugi, Neumann, Meckel, Marshall, Parry, Haslam, Serres, Hoffbauer, Georget, Fabret, Parent-Duchatelet, Bayle, Calmeil and others; and, at the same time, have the reasonableness to admit that upwards of *six hundred* authentic necrotomical observations should constitute 'sufficient data' for establishing a physiological or pathological principle, will be qualified to judge whether that principle which teaches the existence of an *essential* 'relation between the conditions of the brain and the different states of mental aberration,' can be brought into danger of being 'put down' by the resources of imposture and declamation, unsupported by any one thing save the shadowy 'evidence' of words.

Mr. Stone's next display appears in three assumptive exaggerations, whereby he has deprived certain antiquated futilities of all verisimilitude. *First*, he says, p. 25, '*numerous* are the instances where, after the *most complete* state of mental derangement has existed, the ablest pathologist has been unable to detect *the slightest* alteration in the cerebral structure.'* Now, although this position be stated in a very au-

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MORGAGNI: De Sedibus et Causis Morborum, Lovanii, 1766. Tome I. Epist. 8, p. 97.

GREDING: Adversaria Medico-Practica, edente C.G. Ludwig; Melancholicomaniacorum et Epilepticorum quorundam in ptochotropheo. Waldheimensi demortuorum sectiones. Vol. II, par. I, p. 90, par. II, p. 269, par. III, p. 449, par. IV, p. 622. Lipsiae, 1771-2.

SOEMMERING: De Corporis Humani Fabricâ, 1798. Tom. IV, p. 91, 92.

CHIARUGI: Della Pazzia, in genere e in specie, con una centuria d'osservazioni, 3 Vol. 8vo, in Firenze, 1794.

NEUMANN: Archives Générales de Médecine; Tome VI, p. 424.

MECKEL: Anatomical and Physiological Researches upon the Causes of Madness, inserted in the Memoirs of the Academy of Berlin, 1764.

MARSHALL: The Morbid Anatomy of the Brain, in Mania and Hydrophobia; with the Pathology of these diseases, 1815, p. 149, 184.

PARRY: Elements of Pathology and Therapeutics, 1815, p. 331, 332, 340: also Collections from his Unpublished Medical Writings, 1825. Vol. I, p. 373.

HASLAM: Observations on Madness and Melancholy, 1809, p. 87, 184.

SERRES: Recherches sur les Maladies Organiques du Cervelet; insérées dans le Journal de Physiologie Experimentale et Pathologique, par. F. Magendie, D. M. 1822. Tome II, p. 172, 249.

HOFFBAUER: Médecine Légale relative aux Aliénés et aux Sourds-Muets, ou les Lois appliquées aux desordres de l'Intelligence, traduit de l'Allemand, par A. M. Chambeyron, D. M. avec des notes par les Docteurs Esquirol et Itard, 1827, p. IX, XV, 22, 43.

GEORGET: Considerations sur la Folie, 1820, p. 74, 425,432.

FABRET: De L'Hypochondrie et du Suicide, 1822, p. 186.

PARENT-DUCHATELET ET MARTINET: Recherches sur L'Inflammation de L'Arachnoide cérébrale et spinale, 1821, p. 307-8.

BAYLE: Traité de Maladies du Cerveau et de ses Membranes, 1826, *passim*.

Phrenological Journal. Vol. II, p. 29, 75, 78, 210.

CALMEIL: De la Paralysie considérée chez les Aliénés; recherches faites dans le service et sous les yeux de MM. Royer-Collard et Esquirol, 8vo., Paris, 1826.

* This remark is apparently taken from Dr. Cullen's *First Lines of the Practice of Physic*, No. 1554; but the professor's inference has, with some foresight, been suppressed: it is this,—'this, no doubt, may *serve* to show, that organic lesi-

thoritative manner, it is not rendered specious by reference even to one of those 'numerous instances:' the converse of it, however, is demonstrable by abundance of evidence consigned to the records of medical experience; and, to those who have practical and historical knowledge of the dissection of insane persons, its extravagance must be apparent*: the *most complete* state of mental derangement is *very generally* connected with *great* alteration of the cerebral structure, or the skull .*Secondly*, he adds 'on the other hand, although *no* previous symptoms of mental alienation have been manifested, the brains of those who have died of apoplexy, epilepsy or convulsions, have been found *very much* disorganized.' This assertion, like the former, is altogether unfounded. Apoplexy proves suddenly mortal, and then the manifestations of the mental faculties are extinguished simultaneously with their corporeal organs; or it is cured; or it occurs in reiterated seizures having universally *some* previous symptoms† of mental alienation. Farther, epilepsy,

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ons had not been the cause of the disease; but it does not assure us that *no* morbid change had taken place in the brain: for it is probable that the dissectors were not always aware of its being the general condition of hardness, and density, as different in different parts of the brain, that was to be attended to, in order to discover the cause of the preceding disease; and therefore many of them had not with this view examined the state of the brain.' Vol. II, p. 322-3; Edinburgh, 1808. Many are the instances of persons having died from the effects of opium, intoxication, and concussion of the brain, in consequence of cerebral lesions so subtle as to elude the nicest scrutiny: but, although no organic alterations could be detected in such cases, we are not authorized to conclude that such alterations did not exist: for, it is a universal rule that effects always result from adequate causes, and in these instances the reality of causes acting on or in the brain was manifest. On this subject the reader may consult with advantage, Dr. Parry's *Observations on the Physical Causes of Insanity and Delirium.* —*Elements of Pathology and Therapeutics*, 1815, p. 340, 348.

* Madness is always connected with disease of the brain or its membranes; *See Haslam and the authorities in the Notes to preceding page.*

† This statement is supported by the best evidence. 'Apoplexy is strictly a disease of the nervous system, dependent upon a suspension of the sensorial power in almost all its modifications, *sentient*, *percipient*, and motory, with the exception of a certain portion which still continues to be supplied to the involuntary organs, the faculties of the mind participating in the torpitude of the body.' 'Where it does not prove fatal it predisposes to a relapse, and often terminates in a lesion of some of the mental faculties, or in a paralysis more or less general;' 'it is commonly preceded by a few warning symptoms: these are often, however, nothing more than the ordinary precursors of other nervous affections, as vertigo, cephalœa, imaginary sounds, a faltering in the speech, a failure in the *memory or some other mental faculty.' The Study of Medicine*, by J. M. Good, M.D. 1822, Vol. III, p. 591, 604, 607-8. Pinel and Portal are equally explicit, *Nosologie Philosophique, ou la Méthode de l'Analyze appliquée a la Médecine*, 1813, TomeIII, *p.* 65, 66. *Observations sur la Nature et le Traitement de l'Apoplexie*, 1811, p. 318, 319.

'Convulsions' is an indefinite term, and more properly denotes a symptom than a disease. Taking Hysteria, Catalepsy and Chorea, however, as examples of 'convulsions,' we shall discover that, when these affections do prove fatal, and are accompanied with very much disorganization of the brain, they will also be found to have been characterized, during life, by *some* previous symptoms of mental alienation. Dr. Thomas, in his useful work, thus expresses the results of

which is a convulsive disease, and 'convulsions,' also suddenly destroy life and alienate mind; or they are cured; or, after a train of paroxysms, they ultimately occasion death.

In this last case, there are almost always *some* previous symptoms of mental alienation: when, therefore, Mr. Stone chose to assert the contrary, it became his duty to substantiate the sentiment by pure and extensive evidence. Let him then produce, if he can, one authentic case—*one only*—wherein the organ of a mental faculty in *both* hemispheres of the brain was 'very much disorganized,' while the manifestations of that *same faculty* exhibited *no trace* of alienation previously to the patient's death; and, on his doing this, the phrenologists will renounce their own doctrine as erroneous, and consent to admit, that the mind is a simple *substance*, and the brain a single organ. *Finally*, 'we have also,' he subjoins, '*many* instances on record of individuals who have lived *for years*, enjoying *perfect* health, and the exercise of *all* their faculties, notwithstanding the existence of abscesses and *cavities* within the substance of the hemispheres.' Where such instances are recorded Mr. Stone has not chosen to inform his readers: nor has he attempted to explain, or, by some sort of authority, render probable the apparent impossibility of individuals living *for years* in the enjoyment of *perfect* health and the exercise of *all* their faculties notwithstanding the existence of such abscesses and cavities in their brain. Until, therefore, he can evince the truth of his *words* by the evidence of *one distinct* case of the kind, he must be reminded that such wild hallucinations are utterly incredible, and consequently tend to verify the converse of the object they were fabricated to sustain.

Let us now receive instruction from Mr. Stone's 'instances of partial insanity' and their antiphrenological applications. The first is that of Dr. Wells, who never exhibited any symptom of 'partial insanity,' except perhaps a tolerable excess of self-complacency. Nevertheless, Mr. Stone, at p. 25, declares that this ingenious physician 'made *most of his discoveries* after a fit' *(a slight fit, are the Doctor's own*

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general medical experience. Epilepsy 'has been known to produce mental derangement, or a loss of the powers of the mind, and so to end in idiotism;' Hysteria 'never terminates fatally, unless it changes into Epilepsy or *mania*;' Catalepsy 'sometimes changes into Epilepsy, Apoplexy or *Melancholia*, and has been known occasionally to terminate fatally in a few days;' 'in many instances' of Chorea 'the *mind* is afflicted with some degree of fatuity, and often shows causeless emotions.' *Practice of Physic*, 1821, p. 378, 383, 390, 392. Moreover, the *fifteen cases*, detailed by Bayle, show conclusively, that the connexion between convulsive motions of the voluntary muscles and the deranged manifestations of mind, is certain and general. *Traité des Maladies du Cerveau*, 144, 243.

words)* 'of apoplexy, subsequent to which, he never regained complete possession of his memory, and became unfit for any difficult train of thought which was the production of another person; *yet he did not,* so far as I could ascertain, is his own expression, *become less equal than he had been to his own trains of thought,* so that he made more literary efforts in the fourteen years following than he had done during the whole period of his life.' 'Here then,' concludes our author, p. 26, 'was diminished *activity of perception,* no faculty of the new hypothesis, and increased activity of *ideality,* which should have been diminished or *destroyed* on the same hypothesis.' It is scarcely necessary to expose the 'positive ignorance' exemplified in this deduction. Dr. Wells says simply that, after his seizure, he never regained *complete* possession of his *memory*†; this, *therefore,* according to Mr. Stone, was 'diminished activity of *perception*‡.' Again, *because* the Doctor became unfit for any difficult train of thought which was the production of another person, and not less equal, *as far as he could ascertain,* than he had been to his *own* trains of thought, so as to increase his literary efforts, *therefore* he had increased activity of *ideality* §. Once more, when we are positively assured that activity of ideality, or ideality itself, should, in this instance, have been 'diminished or *destroyed,*' on the phrenological hypothesis, we are naturally induced to require the evidences which enable its author to regard this deduction as correct; such evidences, however, we require in vain; and, in their stead, must be satisfied with an unqualified assertion. Increase of literary effort and the power of con-

* See the Works of Dr. Wells, with a Memoir of his Life, 1818, p. XXXII.

† MEMORY is an essential action, operation or function, whereby the mind recalls ideas or perceptions of which it had previously been conscious:—it is an attribute exclusively of the knowing and reflecting faculties. See Spurzheim's *Philosophical Principles of Phrenology,* 1825, p. 19, 20; and Combe's *System of Phrenology,* 1825, p. 393.

‡ PERCEPTION, like the former, is a mental action peculiar to all the *intellectual* faculties; and, by it, the mind attains knowledge of external and internal impressions. *Spurzheim,* p. 16, 17, 18;—*Combe,* p. 379.

§ IDEALITY is that sentiment which produces the feeling of exquisiteness or perfectibility: it gives *inspiration* to the poet: the Knowing and Reflecting faculties perceive qualities as they exist in nature, but this faculty desires, for its gratification, something more exquisitely perfect than the scenes of reality: it desires to elevate and to endow with a splendid excellence every object presented to the mind: it stimulates the faculties which form ideas to create scenes, in which every object is invested with the qualities which it delights to contemplate, rather than with the degree of excellence which nature usually bestows; it is this faculty which inspires with exaggeration and enthusiasm, which prompts to embellishment and splendid conceptions; it gives a manner of feeling and of thinking, befitting the regions of fancy, rather than the abodes of men. Combe's *System,* p. 211. With this account of the functions of *Ideality* before him, let any one judge whether Dr. Wells' 'literary efforts' were characterized in any degree by increased activity of this exalting sentiment.

tinuing equal to a person's *own* trains of thought constitute no evidence of increased activity of ideality; they are manifestations of the combined * activity of very different faculties. *Lastly*, since the exact position of the brain affected by his apoplexy was never ascertained, it is manifest that this case of Dr. Wells' cannot be made evidence either for the 'putting down' or holding up of phrenology. When, however, our author, by way of commentary in this case, makes the acknowledgement, p. 26, 'we have, indeed, sufficient pathological evidence to convince us the brain, whether in mania or melancholia, suffers as a single organ,' he inadvertently admits the phrenological proposition—that the deranged manifestations of mind result from organic or functional disease of the brain; but, when he adds—'nor are morbid appearances presented to us only in those distinct parts of it which are represented as being the organs of those faculties that may, nevertheless, have been principally deranged'—he speaks what is scarcely intelligible. If his words have any meaning, they imply that, according to 'the phrenological hypothesis,' *morbid appearances* should present themselves in those distinct parts *only*, and in *no other* part of the brain, which are the organs of deranged faculties; a notion utterly erroneous, disclaimed by phrenologists, and contradicted by all analogy: there never was a chronic organic lesion, producing evident disorder of function, without the contiguous textures being also more or less implicated in the disease.

Next in order is a case exhibited by Mr. Stone as a valid 'indication of the unity of the brain's action'; but which, on the contrary, proves to be another clear demonstration of his own unmanliness in having recourse to forgery and misrepresentation. Haslam,'* says he, p. 26, ' relates the case

* For a perspicuous and eloquent account of the combinations, in size and activity, the reader is referred to Mr. Combe's *System*, 1825, p. 441, 453.

+ That the reader may fully appreciate this 'evidence against phrenology,' the original of Dr. Haslam's case is literally subjoined. 'A. M. a woman aged twenty-seven, was admitted into the hospital, August 15th, 1795; she had then been eleven weeks disordered. Religious enthusiasm, and a too frequent attendance on conventicles, were stated to have occasioned her complaint. She was in a very miserable and unhappy condition, and terrified by the most alarming apprehensions for the salvation of her soul. Towards the latter end of September, she appeared in a convalescent state, and continued tolerably well until the middle of November, when she began to relapse.

'The return of her disorder commenced with loss of sleep. She alternately sung and cried the greatest part of the night. She conceived her inside full of the most loathsome vermin, and often felt the sensation as if they were crawling into her throat. She was suddenly seized with a strong and unconquerable determination to destroy herself; became very sensible of her malady, and said that God had inflicted this punishment on her, from having (at some former part of her life) said the Lord's Prayer backwards. She continued some time in a rest-

of a young woman, aged twenty, whose insanity was occasioned by religious enthusiasm, and a too frequent attendance on conventicles. She was in a very wretched and unhappy condition, and terrified with the most alarming apprehensions for the salvation of her soul. She sang, wept, and *prayed* alternately; and, after continuing some time in this forlorn and pitiable state, she died. Here we may presume, the phrenologists would have inferred disease of the organ of veneration. On examination, the pia mater was found inflamed, and an extravasated blotch, about the size of a shilling, was seen upon the membrane in the middle *of the lateral side* of the right lobe of the cerebrum. There was no effusion between the membranes, or into the ventricles, but a general determination of blood to the contents of the cranium.'

Originally, this dissection was made after the venerable method of slicing the brain transversely, for the purpose of exposing its cavities and artificial aspects: consequently, its results cannot be adduced as fair evidence either for or against the doctrines to which, in the present instance, it has been most injudiciously opposed. As it stands in Mr. Stone's version, however, the case is shamefully disfigured: *first*, by the exclusion of some important symptoms; *secondly*, by the interpolation of a palpable forgery, '*the lateral side*,' with the design of making the dissection disagree with the *presumed* phrenological theory of the symptoms; and, *thirdly*, by the suppression of these pathological circumstances, 'the medullary substance, when cut into, was full of bloody points; the consistence of the brain natural,' thereby making an *imperfect* dissection still less perfect and much less adapted to support a phrenological explanation of the accordance of the necrotomical with the symptomatical appearances. Passing all this, however, let us remark that Mr. Stone was *partially* right when he *presumed* that, in this case, along with a *general* affection of the brain, and a *particular* lesion in some other organs, 'the phrenologists would have inferred disease of the organ of veneration,' an inference deriving verisimili-

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less and forlorn state; at one moment expecting the devil to seize upon her and tear her to pieces; in the next, wondering that she was not instigated to commit violence on the persons about her. On January 12, 1796, she suddenly died. She was opened twelve hours after death. The thoracic and abdominal viscera were perfectly healthy.

'Upon examining the contents of the cranium, the pia mater was considerably inflamed, and an extravasated blotch, about the size of a shilling, was seen upon that membrane, near the middle of the right lobe of the cerebrum. There was no water between the membranes, nor in the ventricles, but a general determination of blood to the contents of the cranium. The medullary substance, when cut into, was full of bloody points. The consistence of the brain was naural.'—*Observations on Madness and Melancholy*, 1809, p. 97-8-9.

tude at least from the pathological fact, 'that an extravasated blotch, about the size of a shilling, was seen upon the pia mater, near the *middle* of the right lobe of the cerebrum;' or, in different words, over the right organ of veneration.

Another of Dr. Haslam's cases is given at p. 27, in the same mutilated form.* This, however, as might be anticipated, proves two things only and nothing more, *that* the patient was insane in *several* of his faculties, and *that* there was *general* disease of the brain, but what was the exact state of 'those distinct parts of it,' in the style of Mr. Stone, 'which are represented as being the organs of those distinct faculties,' we find not so much as a surmise. 'Numerous cases of *this kind*,' he observes most truly, 'might be brought forward;' but, he resumes his degenerate practice of retailing sophistry when he adds, 'whereas there is not one pure instance on record of *any particular* and *isolated* part of the brain being *alone* found affected, notwithstanding the individual may, as in the above examples, have manifested more especially aberration of those *faculties* which are supposed to have exclusive and distinct organs.' Now, phrenologists have never published any thing so absolutely 'preposterous' as the idea of its being possible that a *particular* and *isolated* part of the brain 'can be *alone* affected,' in insanity or any other disease; and if Mr. Stone wishes it to be understood that such visionary nonsense is phrenological, his imputation is as unjustifiable as his drivelling is loathsome and impure. Nevertheless, by contrasting it with numerous cases of *another kind*, he manifestly exhibits it as an acknowledged proposition: so long, therefore, as this conceit remains without reference to some precise original source, it must be despised as an unmeaning and delusive fabrication of his own. Moreover, it is equally 'preposterous' to surmise the possibility of finding examples of derangement in *more than one* faculty being concomitant with lesion of *one particular isolated* portion of the brain. Whoever, therefore, chooses to hazard the opinion that, *not more* than one particular isolated part of the brain should *alone* be found affected in cases where *more than one* faculty of the mind exhibited previous indications of derangement, may be required to prove the accuracy of such opinion: but, since phrenologists have not advanced any thing of the sort, it would be as unjust to urge on them the necessity of establishing it by evidence, as it is unfair and contemptible to insinuate that they do hold

* This may be ascertained by comparing Mr. Stone's version of it, with the original case, in Haslam's *Observations on Madness and Melancholy*, 1809, p. 144-5-6.

such an opinion and are unable to demonstrate its truth. Furthermore, 'the pathological appearances,' says Mr. Stone, p. 27, 'in every case of *partial* insanity afford, on the contrary, very clear indications of the *unity* of the brain's action.' This sentiment, which constitutes a diverting novelty, affords very clear indication of its author's prejudices, and of their influence in paralyzing his judgment. While the brain's action consists in exhibiting the conditions of *partial* insanity, it also simultaneously exhibits those of *partial* sanity; and, consequently, at one and the same time performs *two* perfectly different kinds of action, a circumstance which affords very clear indication of the *duplicity* at least of its action. Besides, while nobody ever saw the brain entirely diseased, the 'Evidences' themselves distinctly show that the pathological appearances in *partial* insanity are uniformly *partial;* we, therefore, require to be instructed how an alteration, whether partial in degree or place, of the brain's structure can possibly become a clear indication of the unity of the entire organ's action; how, in a few words, *unity* of cause can be inferred from the co-existent *plurality* of essentially contrary effects? Still further, and by way of consummation, we are enjoined to admit as a thing unquestionable, that '*this view* also more satisfactorily accounts for any violent emotion, whether of hope or fear, joy or sorrow, suspending occasionally all the functions of the mind.' This is an instance of exquisite antiphrenological logic, and, by the same sort of reasoning, we are authorized to assert that the *unity* of the body's action is proved most satisfactorily by any violent emotion, whether of hope or fear, joy or sorrow, suspending occasionally, sometimes irrecoverably, the whole vital and mental functions of that most intricate complexity—the animal frame. Of the correctness of 'this view'—the fancy that, when *one* cause affects *many* subjects, therefore the *action* of all these subjects must be *one*—we find *two* cases from Pinel * and *one* from Reid †, proposed as evidences altogether decisive. One of these cases shows, that an inventive engineer, on being *flattered,* was 'transfixed motionless,' and remained in 'a state of idiotism:' *another* shows, that a young soldier, being 'petrified with horror, was struck motionless' and became permanently insane: the *third* shows, that an undutiful 'young lady,' on seeing 'the awful spectacle of her mother's corpse, had her reason shook from its seat, and continued ever afterwards in a state of mental derangement:' and all *three* together, it seems,

* *Traité Médico-Philosophique sur l'Aliènation Mentale,* 1809, p. 184-185.
† *On Hypochondriacal and Nervous Affections,* p. 51.

are to be regarded as evincing, to a demonstration, the *unity* of the brain's action. Now, thrice three hundred instances* might be adduced to show, that violent emotions, whether of hope or fear, joy or sorrow, have occasioned instantaneous death; but the person would be considered as partially insane, who should assert that such instances afford clear indication of the *unity* of the body's action, notwithstanding this body consists of numerous organs and systems of organs, characterized alike by diversity of structure and function. Nevertheless, we find the anti-phrenologist preferring this mode of reasoning as conclusive, in maintaining the unity of cerebral action.

With reference to his *three* cases, Mr. Stone proceeds to observe unintelligibly, p. 29, 'the influence of the mind on these occasions may, in many respects, be inexplicable†; but such instances afford us strong reasons for believing, that the several faculties which may thus be at once entirely abolished, cannot be *regarded* as so many independent *relations* co-existing at the same time with differently constituted organs.' So *says* Mr. Stone; but *sayings* are sorry evidences

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* Out of many others, and as a book of ready access, Richerand's *Elements of Physiology* is referred to for confirmation of this statement. 'The instances,' says the professor, p. 370, 'which establish the powerful influence of the passions on the animal economy are too frequent to need reciting: writers, in every department, furnish such as show that excess of pleasure, like excess of pain, joy too lively or too sudden, as grief too sudden and too unexpected, may bring on the most fatal accidents, and even death. A hundred volumes would be insufficient to detail all the effects of the passions on *physical* man.

Richerand acknowledges Gall's discoveries in the anatomy of the brain and nervous system to be of the highest importance and well-founded, but 'cannot help thinking' 'that his physiological doctrine of the functions of the brain is frivolous;' while this acknowledgment and this thought had just been preceded by sentiments which are here quoted: 'The existence of a centre, to which all the sensations are carried, and from which all motions spring, is necessary to the unity of a thinking being, and to the harmony of the intellectual functions. But is this seat of the principle of motion and of sensation circumscribed within the narrow limits of a mathematical point, or rather should it not be considered as diffused over *nearly* the whole brain? The latter appears to me the *more probable* opinion; were it otherwise, what could be the use of those divisions of the organ into several internal cavities; what could be the use of those prominences, all varying in their form; and of the arrangement of the two substances which enter into their structure? We may conjecture, with considerable probability, that *each perception, each class of ideas, each faculty*, is assigned to *some peculiar part* of the brain. It is, indeed, impossible to determine the peculiar functions of each part of the organ; to say what purpose is served by the ventricles, what is the use of the commissures, what takes place in the peduncles; but it is impossible to study an arrangement of such combination, and to believe that it is without design, and that this division of the cerebral mass into *so many parts, so distinct*, and of such *various forms, is not relative to the different function* which each has to fill in the process of thought.' —*Elements of Physiology*, 1824, p. 354, 355. If Gall's doctrine be *perfect*, M. Richerand's must be *somewhat* frivolous!

† This truism of Mr. Stone's, when contrasted with his affected cackling over an observation of Dr. Spurzheim's, affords a ludicrous exhibition of his impudence and perverted honesty.

in philosophy, and *his* would be worthless even though what they assert were probable. Phrenologists do *not* regard the several *faculties* as independent *relations;* and they *do* condemn the doctrine—that our several propensities and feelings* *result* from *physical* causes—as a piece of unsound and impious materialism; but, whether the mental faculties be powers or relations, in being co-existent with the body, they necessarily co-exist with differently constituted organs. Again, he says on the same page, 'other cases might also be adduced to show that our several propensities and feelings do not necessarily result from *any such physical* causes ('hope or fear, joy or sorrow,' are made *physical* causes); but frequently *arise from adventitious circumstances,* that operate on, and sometimes exert an imperceptible and extraordinary power over, the mind.' Now, it requires but a small share of discernment to discover that this one sentence discloses an opinion as remarkable for its errors as it is execrable for its occult atheism. None but the most audacious materialists avow the doctrine, that our several propensities and feelings *result* from *physical* causes; and Mr. Stone himself here expresses a subtle sort of materialism when he says that other cases might be adduced to show that our several propensities and feelings frequently *arise from adventitious circumstances.* If it be true, then, that our propensities and feelings arise from adventitious circumstances, we shall be able, on ascertaining the nature and operation of such circumstances, to make, originate, or cause to result, whatever propensities and feelings may be deemed requisite to the consummation of man's perfectibility, and thereby to improve vastly the Creator's imperfect works. This comfortable doctrine is confirmed by two *instances.* INSTANCE I is 'the singular and well-known history of Simon Brown, a dissenting clergyman, who fancied he had been deprived by the Almighty of his immortal soul, in consequence of having unintentionally killed a highway-man, although in self-defence;' and this is one clear proof that our propensities and feelings *arise* from adventitious circumstances. INSTANCE II is an 'amusing' case, descriptive of the 'very *whimsical origin* of the *passion* of pride.' The case is prolix and dull, and seems to depict a farcical representation exhibited characteristically by a fool and a simpleton: thus, 'it chanced' that the fool fancied the simpleton to be 'no less than his majesty,' made an 'address which was well spoken,' to 'this *personage;*' which personage 'gradually drew himself up,' 'replied with an air of dignity, rather bombastic,' and then 'walked off with

* *Evidences*, p. 23-4.

all the air and dignity imaginable! *Pride took possession of his breast;* and, to the day of his death, he called himself a king.' Now, gentle reader, this view of the *whimsical* origin of the *passion* of pride is no evidence of the partial insanity of a 'quite inoffensive, meek, and rather melancholy lunatic.' No; it is a *philosophical* proof, purely inductive, that our propensities and feelings *arise* from adventitious circumstances, and that 'a poor humble maniac' may be 'transformed into a king for life, *by an accidental conversation.*'*

(To be continued.)

II.—*On the Use of Ipecacuanha in Combination with the Preparations of Mercury.* By John Epps, M.D.

No one can too strenuously object to the introduction of a great variety of medicinal substances into a prescription. One medicine so often influences the effect of another, that the more numerous the articles used, the less likelihood of a beneficial effect being obtained. The day of hieroglyphics in medicine has passed. The vain show of writing a long prescription is, in some measure, gone likewise. And strange to say, the other extreme is run into by the young practitioner; namely, that of giving medicines singly. We should always remember the old saying 'In medio tutissimus ibis.' So it is here: the most beneficial results often, indeed, continually arise from the use of medicines conjointly.

Several years' practice have convinced me of the importance of a wise admixture of medicines, and the few observations that follow are committed to paper, with the view of leading the attention of medical practitioners to the efficacy of the combination of Ipecacuanha with Mercury.

Having been called some time since to attend a very delicate lady, whose bowels were generally costive, and who, from this constipated state, had continual headach, nausea, indigestion, and was obliged to take strong purgatives to open the bowels, and having found that she had been taking Ext. Colocynthidis Comp. with Pil. Hydrargyri, without much effect, and with little relief of the unpleasant symptoms, I

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* Note. The following typographical errors, in the three first of these papers, require correction. Page 159, line 2, for *appeared* read appear: p. 160, l. 9, f. *cerebi commonstra* r. commonstrat: p. 161, foot-note, f. *La Peyron* r. La Peyroine: p. 250, l. 16, f. *combinations* r. combination: p. 252, l. 14, f. *denominated* r. denominate: p. 252, l. 32, f. *Irrey* r. Virey: p. 253, l. 30, f. *or* r. on: p. 254, l. 19, f. *obscuris* r. obscurius: p. 255, l. 21, after *number of*, insert different though: p. 258, l. 21, f. *after* r. about: p. 259, l. 40, f. *divided* r. divined: p. 260, l. 19, f. *peripherical* r. peripheral: p. 261, l. 16, f. *their* r. fair: p. 262, l. 46, f. *observations* r. observation: p. 263, l. 33, f. *active* r. entire: p. 350, l. 19, f. *one-third* r. one-half: p. 359, l. 12, f. *misconstructed* r. misinstructed.

determined to try the following prescription :—℞. Pil. Hydrargyri, gr. xx. Pulv. Ipecacuanhæ, gr. iij. Pulv. Cinnamomi, gr. ij. M. bene, et ft. pilulæ quatuor : duæ hor. somni sumendæ, omni nocte.

On calling the day after, she stated that the medicine had not acted much, but on the following day, I found, on inquiry, that very copious evacuations had been produced, and *without the slightest pain.* Upon this the lady laid particular stress; and stated that she never had taken medicine that acted so pleasantly and so completely before; and by the continued use of these pills, with an occasional dose of castor oil, she was relieved of her unpleasant symptoms.

This circumstance induced me frequently to use this combination, and I have found it invariably efficacious in those of weak habits who have a constipated state of the bowels therewith connected. Such a compound medicine is very useful in those cases too where the patient has that peculiar yellowness and fulness of the opaque cornea, so characteristic of a deranged state of the digestive functions.

I have since tried, in cases of children, the combination of Ipecacuanha with Calomel with the same benefit; and so great have been the advantages from these medicines thus combined, that I sincerely recommend them to the attention of every practitioner.

46, South Audley Street, October 14, 1828.

III.—*Case of Premature Birth, attended with some uncommon Circumstances.* By J. J. Cribb, Esq., Surgeon.

Mrs. R. aged about 40, was taken with labour, November 2nd, 1827. She had been married fifteen or sixteen years, and has several living children, born in the course of a few years immediately succeeding her marriage. Her three or four pregnancies preceding the present had terminated in abortion, about the middle of the period of gestation. In the present instance she told me that she menstruated last on Easter Sunday, which was on the 15th of April, consequently, even if she had become pregnant immediately after that period, she could not be advanced more than twenty-eight or twenty-nine weeks. The labour proceeded, and in a short time the ovum was expelled entire, the membranes, not having been ruptured, still enclosing the fœtus floating in the liquor amnii. On breaking them, the child was found alive, and it appeared perfectly formed, but from its diminutive size and premature birth, its life, it was expected, would soon terminate, as is usual in similar cases. To the surprise of

every one, however, it continued to live, was able to swallow some gruel which was given it, and, a day or two after, to suck the breast of the mother, although its cry, or rather whine, was so feeble as scarcely to be heard the length of the room. As there was some probability of its life being preserved, I proposed to the parents, as a matter of curiosity, to ascertain its weight, but to this they at that time objected. The child is still living, and at the beginning of the present month, the parents informed me that, when it was six weeks old, they ascertained its weight to be (deducting the weight of the clothes) *two pounds, two ounces;* that since that time they have regularly weighed it once a-week, and found it increase in various degrees; at present, being ten months old, its weight is twelve pounds. Although 'very weakly' its health has not been bad, and it is now able to stand for a short time when set against the seat of a chair, without any other support.

Although I did not witness the weighing of this child, I fully believe the account of the parents; they are shopkeepers, and therefore not likely to be mistaken; they are also persons of great probity and without any motive to wilful deception; besides, from the diminutive size of the child, I should not have judged it to be heavier.

Cambridge, September 10th, 1828.

IV.—*Practical Queries.* By CHIRURGUS.

A FEMALE, aged thirty, generally healthy, and the mother of four children, after easy and natural labours became pregnant early in the present year. Towards the end of August, she was seized with shivering, sickness and abdominal pains, resembling those of parturition. Her medical assistant was called in during the night, and remained several hours in attendance; when, finding that her pains were spurious, he recommended the recumbent posture, and exhibited an anodyne and aperient medicine; after which the pains soon subsided. Eight days subsequently, true parturient pains commenced; and, after an easy, short, and natural labour, she was put to bed of a daughter. This child was understood to have been born in the eighth month, but in all respects well formed, and apparently healthy. The right arm, however, was from the first in a state of mortification, from the points of the fingers to a little above the elbow. On the second day after its birth, it was agreed, in consultation, to wait till a complete separation, by sloughing, *down to the bone,* should take place, before removing the gangrenous

arm. At the end of eighteen days from its birth, the child had not lost strength or flesh in any remarkable degree, but a perfect separation between the sound and sphacelated parts having taken place, removal of the arm was agreed on. Now, on this subject two questions arise: *first*, at the time of the spurious pains, did the circumstance of disease of the arm begin, and what could have been the cause of this unusual phenomenon? *second*, on a line of separation between the mortified and living parts having been established, by the second or third day after birth, and the child being healthy, whether ought the arm to have been *then* amputated or left to the efforts of nature? Observations in reply to these questions, as having a reference to practice, are respectfully solicited by CHIRURGUS.*

September 18th, 1828.

V.—*Of the Medicinal Properties of Cherrattah.*

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

GENTLEMEN,—It has long been a matter of surprise to me, that the *Cherrattah*, which has been held, from time immemorial, in great estimation by the natives of Bengal and the European residents, especially the medical officers, as a very efficacious deobstruent and stomachic medicine, should not have been introduced into the practice of this country, especially as the variety of Dyspepsia, for which it is considered a specific, (accompanied with, and, probably, dependent on, sluggishness, or an overloaded state of the liver) is as prevalent in this country as in the East Indies. It is said the effects of this Cherrattah are not, like those of the stomachics in general use, confined to the stomach, but are extended to the abdominal viscera, particularly the liver, which it deterges, or, as Dr. Currie observes, 'emulges'; and this I believe to be the case, for I have observed the fæces, during its use, to be well charged with bile, and the complexion to become clear. Although not aperient, it evidently prevents an accumulation of fæces in the lower portion of the intestinal canal, which, as a late writer observes, is a common cause of disorders of the stomach and head, and at the same time promotes digestion. The medicinal virtues of this herb are imparted to boiling water; and the infusion, when pro-

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* These are questions of great practical importance, and we solicit the attention of our readers to them. We should be glad to be informed by our Correspondent of the result of the case.—ED.

perly made, is a very grateful bitter: but the natives prefer the decoction, made by gently boiling half an ounce of the cut, dried herb, in a pint of water, for about fifteen or twenty minutes. Of this decoction they take a small wine glassful two or three times a-day. The extract, which also contains the virtues of this herb in great perfection, is taken in the form of pills. It is likewise given by the Indian practitioners in cases of pulmonary consumption and scrofula; but of its effects in the former malady, I cannot speak from experience. In the latter malady I have frequently witnessed its salutary operation. Dr. Fleming, late of Bengal, speaks highly of the Cherrattah as a tonic medicine. Dr. James Johnson, in his work on tropical diseases, also gives it a high character; and Mr. Addison, the author of a treatise on the Malvern Water, says, that from the very beneficial effects it had on himself it is a valuable addition to the class of stomachic medicines.

I am, Gentlemen, your obedient servant,

Stamford Street, Blackfriars,
October 13th, 1828.

THOMAS BAKER.

VI.—*Improvement of Anatomical Nomenclature.*

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

GENTLEMEN,—It is, I believe, universally acknowledged by all professors of human and comparative anatomy (particularly the latter), that the present system of Anatomical Nomenclature is very defective; for the terms employed, in many instances, are vague, and I may say useless, as they do not convey to the student's mind the relative situation, connexion, uses, &c. of the parts they are employed to designate. I need hardly inform your readers that many of them were named from some of the household utensils of the ancients, as the Pelvis and Acetabulum; the Sacrum from its being offered up in sacrifices, and the Caudal Vertebræ (or, Os Coccygis of the ancients and moderns) from its resemblance to a cuckoo's beak; while some were named from their discoverers, as the Ossa Wormiana, Fallopian Tubes, &c. These terms are ridiculous in the present days of enlightened science, and I am sorry to be compelled to charge anatomists of the present period with the indifference with which they view these defects, and do not attempt their improvement. I consider it the duty of every teacher to endeavour to simplify the art or science he professes to teach. This, I am proud to say, has been done to some extent by my illustrious preceptor, Mr. Brookes, in his beautiful and classified

arrangement of the arteries* and nerves† in particular. But this is a period when students generally enter on their anatomical career, and I subjoin a table of my arrangement of the terms I have adopted, instead of those now in use, for the sutures of the cranium. Their utility is evident, for if an anatomical *tyro* is only acquainted with the names of the cranial bones, and hears of the *Fronto-Parietal Suture*, he knows directly that it connects the *Frontal* and *Parietal* bones together. I will ask any liberal-minded anatomist, whether the words *coronal suture* convey any such idea? They do not, and I am happy to say that not only my pupils, but many of my professional friends, adopt my terms.

FORMER NAMES.	NEW NAMES.	REMARKS.
1. The continuation of the Sagittal Suture, anteriorly.	Frontal Suture.	Uniting the Frontal bones in the Fœtus; found occasionally in the adult, and in most of the domestic quadrupeds.
2. The Coronal Suture.	The Fronto-Parietal Suture.	Uniting the Frontal to the Parietal bones.
3. The Sagittal Suture.	The Parietal Suture.‡	Uniting the Parietal bones.
4. The Lambdoidal Suture.	The Occipito-Parietal Suture.‖	Uniting the Occipital to the Parietal bones.
5. The continuation of the Sagittal Suture, posteriorly.	The Occipital Suture.	This Suture is seldom found in the adult, but is in the fœtus. I have never seen a case in the adult, but there are two on record, related pretty accurately by Vesalius and Eustachius.—When it occurs, it is continued down to the *Foramen magnum Occipitale.*
6. The Sqamous Suture.	The Temporo-Parietal Suture.	Connecting the Temporal to the Parietal bones. Baron Cuvier calls it the Temporal Suture, and Professor Pattison follows him in the use of this term, in his lectures at the London University.
7. The Transverse Suture.	The Facio-Cranial Suture.	Uniting the bones of the Face with those of the Cranium.

I have revived the term *Os Linguale*, in lieu of that of *Os Hyoides*, for the same purpose as I have altered the names of

* I have published his arrangement in Part I. of my *Dictionary of Anatomy and Physiology.*

† This will be found in my *Essay on the Structure and Physiology of the Brain and Nerves*, now preparing for the press.

‡ I believe Baron Cuvier has adopted this term: vide *Lectures on Comparative Anatomy:* translated by Dr. Macartney, 1802.

‖ The Occipital Suture of Cuvier.—*Ibid.*

the Sutures; for we find the artery of the tongue is called the Ramus Lingualis, the vein, muscle, and nerve, by a similar appellation, and yet the bone connected to the tongue is called Os Hyoides (which, as far as its shape is concerned, is appropriate), and does not inform the student of its connexion, use, &c. I hope the terms I have adopted will be used by professors of anatomy generally, and the advantages will soon be perceived, more particularly when applied to Comparative Anatomy.

Gentlemen, should you deem these observations worth a place in an early number, I shall feel gratified by their insertion, and remain your obedient servant,

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Surgeon, Lecturer on Human and Comparative Anatomy.

38, Queen Street, Waterloo Road,
October 16, 1828.

*** We have long thought that the language of Anatomy is not by any means so scientific as it should be. The attempt to reform Anatomical language has been made, be it remembered, by the late Dr. Barclay, and the appropriate names introduced by him have been received into use, not only by the Northern anatomists and anatomical writers, as Mr. Lizars, but also by Continental authors. We could wish that they were more used. We shall, perhaps, some day introduce them to the notice of our readers.—EDITORS.

MONTHLY SYNOPSIS OF PRACTICAL MEDICINE.

1. *Tubercles of the Brain, with Atrophy of the left Lung.**

Jean Philippon, aged seven years, had been ill eight days. At the commencement of his illness he had vomiting; cephalalgia; tenderness of the epigastric region. Some leeches were applied at the time, which relieved the vomiting, but the pain in the head continued. Stupor soon came on, interrupted at intervals by starts and screams, which were followed by loss of sensibility. The child entered the hospital on the 20th of May, in the following state: abolition of the intellectual faculties for the last twenty-four hours; pupils dilated and insensible; left eye habitually shut; jaws firmly closed, now and then grinding of the teeth; pulse a little accelerated. (A blister to each leg.) In the evening, moaning, especially when the abdomen was pressed.—21st. The same insensibility of the pupils; pulse frequent; skin hot; respiration natural; constipation; scarcity of urine. *(Nitre tisan; two leeches behind each ear; sinapism to the feet; two grains of calomel in two doses; lavements.)*—22d. The left pupil more dilated than the right, but equally insensible; moaning, accompanied with some incoherent utterance of words on the slightest movement; incomplete paralysis of the right side of the body; tongue humid; jaws less

* Hôpital des Enfans.

firmly closed; deglutition easy; pulse very frequent; respiration tranquil; cheeks flushed. *(Three grains of calomel; lavement, with an ounce and a half of honey of mercurialis annua; blister to the head.)* 23d. Evacuation of a small quantity of urine; alvine evacuations scarce; rigidity of the limbs; respiration oppressed and stertorous; left pupil much dilated; pulse excessively frequent; skin hot. *(Friction of the temples and nucha with two drachms of mercurial ointment.)* Death in the evening.

Sectio Cadaveris.—Head: Considerable injection of the vessels on the surface of the brain; the ventricles contained a small quantity of turbid serum; there was also fluid in the base of the cranium and in the spinal canal; slight infiltration of fluid under the arachnoid membrane surrounding the optic nerves. The right lobe of the cerebellum adhered, to a small extent, to the occipital fossa; the cerebellic tissue at that point was firm, and of a dull white colour. A tubercle, of the size of a hazel-nut, was discovered in the substance of the convolutions in this part. This tubercle, of a lardaceous consistence, was enclosed in a membraneous layer, which served as cyst to it. In the left hemisphere of the cerebrum was found another tubercle, of a larger size than the former, but of a similar kind.—*Thorax:* The left lung was sunken, and considerably diminished in volume. The pleura presented some old adhesions; it appeared as if, during life, the pleural cavity had contained a gaseous fluid, and as if the lung, otherwise healthy and crepitous, did not completely fill that side of the chest. The right lung was large and healthy, and it perfectly filled the cavity in which it was contained. The right side of the heart was distended with coagula of black blood.—*Abdomen:* The mucous membrane of the stomach round the cardia was injected, and of a rosy tint. The rest of the viscera presented nothing remarkable.

The probability is, that the child, who formed the subject of this case, died of arachnitis; for it can be scarcely supposed that the development of the cerebral tumours took place during the space of twelve days. The tumours, which in all probability had previously been gradually forming, might have rendered the brain more susceptible of inflammation than it otherwise would have been.

2. *Tubercles of the Cerebellum, complicated with Chronic Hydrocephalus—Paraplegia* *.

Louis Tabary, aged three and a half years, entered the hospital on the 10th of January. This child, respecting the previous history of whose case no satisfactory account could be obtained, was affected with complete paraplegia, without any malformation of the vertebral column. The forehead was narrow and projecting; the cranium much developed behind, and the child indicated but a small degree of intelligence, nevertheless he was at times cheerful and merry, and appeared sensible to the caresses of those who had the care of him. The digestive functions were in a good state. Moxa was applied to the lumbar region, without success.

*Hôpital des Enfans.

During the month of March the child fell away in a remarkable manner; his appetite left him, and each time he drank, he immediately called for a vessel in order to vomit. From this period the debility progressively increased; the face became sunken; the child uttered cries and moans whenever he was touched. He expired on the 18th of May, after having been for several days in a moribund state.

Sectio Cadaveris.—The brain, exposed to view, was fluctuating, and the hemispheres appeared elevated by fluid. In effect, the lateral ventricles contained about six ounces of serosity, perfectly clear and limpid, like water. The transparent septum was not ruptured; it extended very far behind; it was very thin anteriorly. All the eminences, and the surface of the ventricles appeared stretched. The cerebellum adhered on the left to the occipital fossa; the left hemisphere of this organ, very firm, contained two masses of tuberculous matter, of the size of a small walnut; these tubercles were in a half softened state, without any appearance of organization, and surrounded by hardened cerebral substance, which served as a sort of cyst to them; but no membrane, properly so called, could be discovered. The lungs and the mesentery were studded with tubercles. The rest of the organs appeared natural.

The most remarkable circumstance connected with the present case was the paraplegia, when the spine was unaffected. It has been often noticed that affections of the brain are capable of producing paralysis of distant seats, supplied with nerves from a part of the medulla spinalis, whilst those emanating from other parts of it perform their proper functions.

3. *Hernia of the Foramen Ovale—Death, and post-mortem Examination**.

Madame H. G., ætat. forty-seven years, of a nervous temperament and of a delicate constitution, felt suddenly, in the night of the 9th of November last, a very acute pain, which extended from the left lumbar region towards the hypogastrium and the axilla of the same side. The left hand was in a state of numbness, interrupted from time to time by violent pains, which felt to the patient as if this part were being lacerated. The lumbar region was tender, but the thigh and the inguinal region bore pressure without any increase of sensibility. The urine was scarce, red, and expelled with difficulty; the pulse small and deep; the face was discomposed every instant; the patient was in extreme agitation and anxiety. The assemblance of these symptoms, and the absence of any tumour in the inguinal region, appeared to indicate acute nephritis. *(Twenty leeches to the painful parts; linseed cataplasms; emollient fomentations; hip-bath, emulsions, &c.)* On the morrow hickup and nausea supervened; these symptoms were considered as sympathetic of nephritis; so thought Dr. Frissot, who had some years previously attended the patient for this disease. *(Twenty leeches to the lumbar region; continuation of the pre-*

* Journ. des Progrès.

ceding means.) Retention of urine during forty-eight hours; the patient objected to the introduction of the catheter.

During two days the symptoms appeared to decrease; the pains ceased; vomiting disappeared, but returned on the seventh day. No tumour could be discovered externally; it was suspected that there was an internal strangulation of the intestine; but of what nature was that strangulation, and where was it situated? A consultation, to which MM. Marchand, Molgin, Frissot and Wilaume were called, took place on the 16th. This day there was a well-marked remission of the whole of the symptoms. A laxative lavement, administered the evening before, had procured, during the night, several evacuations, and, since then, the vomiting had ceased. The diagnosis became more difficult. Had there existed a temporary strangulation, or had the patient been labouring under nephritis, complicated with ileus? All doubt was removed that same evening; hickup returned, accompanied with fetid eructations, and on the morrow there were numerous and abundant vomitings of fecal matter, which sufficiently proved the existence of an internal strangulation. Castor oil and laxative drinks had no effect; purgative lavements were no longer followed by any alvine evacuation. The face had been for some days sunk, and the pulse miserable. The patient expired on the evening of the 23d, the fourteenth day from the commencement of the symptoms.

Sectio Cadaveris.—Intense peritonitis; considerable effusion of serum; the epiploon, drawn towards the left inguinal region, impressed a groove on the intestines; its extremity was engaged in the foramen ovale; so was also a ring of the ileum, which was completely strangulated. The portion of intestine above the strangulated part was greatly distended by the accumulated matter, whilst that below it was empty. Having divided transversely the muscles of the inner side of the thigh, the hernia was brought into view; the sac was not larger than a hazel-nut; it produced no external tumour; it was situated directly behind the pubis, and surrounded in great measure by the obturator ligament; it was situated in a space circumscribed by the pectineus, the middle adductor, and posteriorly by the obturator artery and nerve. Strong adhesions existed between the sac and the parts in contact with it. The intestine was in a softened state and its tisue gave way to the slightest traction. The ower half of the left kidney was in a remarkable state of ramollissement.

4. *Cases illustrating the Use of the Ergot of Rye* *.

The ergot of rye is likely to uphold its character as a valuable assistant to the accoucheur. A remedy possessing the medicinal properties with which this is endued has been long considered as a desideratum. We had occasion, lately, to lay before our readers an analysis of a very interesting little work on this subject; the two following cases, in which labour was retarded merely owing to the absence of parturient pains, prove the efficacy of the remedy in question, in a decided manner.

* Ephemerides Med.

Case 1st. One day in the beginning of June, professor Delmas was called to a woman in labour, and found that the head of the child was engaged in the os uteri, but that the pain had become too feeble to enable the uterus to expel the fœtus. Things had remained in this state for some time, when a sanguineous tumour began to make its appearance in one of the labia; this tumour increased so rapidly in size as to threaten to obstruct the exit of the child, unless delivery could be brought about very promptly. Under these circumstances M. Delmas resolved to have recourse to the ergot. He therefore ordered his patient to take fifteen grains of the powder, in some convenient liquid; scarcely ten minutes had elapsed from the exhibition of the medicine, when the pains returned with force, and the uterine contractions were so powerful and constant that delivery took place in less than half an hour.

Case 2d.—On the 17th of June, at nine o'clock in the evening, professor Delmas was called to a woman who had been in labour two days, but who had felt no pain since two o'clock in the afternoon. The patient was a small woman, twenty-eight years of age, pregnant for the first time, eminently lymphatic, with anasarca of the lower extremities and of the genital parts. The pulse strong and regular, did not indicate any derangement of the circulation. The os uteri soft and turgescent, was dilated about two inches. The membranes had given way, and the head presented in the first position. As this woman, being very weak, had had her strength exhausted by the first pains, she was ordered rest and a bath, in the hope that on the morrow morning the pains would return, and that delivery would take place by the effort of nature alone. On the morrow, however, the patient was just in the same state; and it was agreed between professor Delmas and his son (Dr. Delmas) that the ergot of rye should be tried, as it had produced such good effects in the preceding case; twenty grains of the substance was therefore given, in a potion. The medicine was administered at half past eight, and in about five minutes the uterus began to contract without occasioning the least pain to the woman. The os uteri became rapidly dilated; the child was expelled, and the placenta soon followed; so that at a quarter past nine delivery had been accomplished.

5. *Aneurism of the Arteria Meningea Media* *.

The subject of this case was a peasant, of a strong constitution, who, about two years previously, had received a blow on the left temple, after which accident there became developed, by degrees, on this part, an indolent, hard, round and moveable tumour, of the size of a walnut, accompanied with pain in the head. The surgeon who saw the case considered it to be an encysted tumour. He consulted Dr. Krimer respecting it, who advised it to be removed, and care to be taken not to injure the temporal artery. The following day Dr. Krimer was called in great haste, and was told that, on the tumour being removed, profuse hemorrhage came

* Journ. von Græfe.

on. The distance being great, Dr. Krimer did not arrive at the patient's house before two hours had elapsed ; then it was too late, for the man was dead. Death was preceded by some convulsive movements. The surgeon who had operated informed Dr. Krimer that, having divided the skin covering the tumour, the latter was found to lie under the temporal muscle and its tendon. This muscle was cut through in the direction of its fibres, in order to enable the operator to separate the whole of the tumour from the surrounding cellular tissue; but when the muscle was divided, the tumour appeared more deeply seated still, and to form attachments to the periosteum, by a peduncle, of the thickness of the pipe of a quill. The operator, thinking that this peduncle was nothing else than the root of the tumour adhering to the periosteum, divided it as near to the bone as he possibly could ; but it was no sooner cut than profuse hemorrhage came on, and the patient lost about a pound and a half of arterial blood before the surgeon could recover from the surprise caused by so sudden and unexpected an accident. Thinking that the hemorrhage proceeded from a branch of the temporal artery, he plugged the wound with lint and applied pressure ; but, on an attentive examination, no branch of that vessel could be discovered cut. The temporal, perfectly in health, was situated before the incision. Plugging and pressure were again had recourse to, and the head was covered by cold cataplasms, &c., but all to no purpose ; the patient died two hours after.

Dr. Krimer, on examining the sac that formed the tumour, perceived immediately that it was an aneurismal sac, which, by its opening, had a direct communication with the middle meningeal artery. This sac was formed at the union of the temporal and parietal bones. Death was attributed to extravasation of blood within the cranium, and the pressure which it produced on the brain. Not being able to obtain permission to examine the body, Dr. Krimer broke off the inferior and posterior angle of the frontal bone, and a piece of the temporal, with a pair of nippers, in default of a better instrument, that he might be able to examine, as well as he could, the state of the internal parts. He found the bone surrounding the aperture pliant, and only a third of a line in thickness. About three-fourths of an inch beyond this point, the meningeal artery was found to have acquired the thickness of the finger; the pia mater, covered by an exudation, was strongly adherent to the dura mater ; the brain appeared healthy ; blood, to the amount of about an ounce and a half in quantity, was found extravasated into the cranial cavity.

6. *Gangrene of the Skin of the Lower Extremities* *.

A musketeer had two attacks of intermittent fever, in the course of last summer, of which he perfectly recovered. In the month of November, he suddenly felt a sensation of heat, accompanied with pains in the loins and in the lower extremities, and these parts began to swell at the same time. A short time after, the inferior

* Journ. von Græfe, &c.

members became covered with spots of a blackish blue colour; a nervous fever came on, the spots extended, and united, so as to cover a great part of the extremities with gangrene of the integuments, without going deeper than these. In addition to this malady, hydrothorax and ascites took place, and the patient died on the seventeenth day from the commencement of the disease. On examination of the body after death, the liver and spleen were found diseased; the latter was disorganized throughout, its size was considerable, and it weighed two pounds and a half. We are told that it is evident, from these appearances, that the gangrene depended on the internal disease. This is possible; but in what way the disease of the liver and spleen could bring on mortification of the integuments so suddenly, we are not informed. We often find these internal parts disorganized, but no gangrene takes place in consequence. If it were attempted to *prove* that the external disease *depended* upon the internal in this case, and in many others of a similar nature, some difficulty would be met with. Nothing more could be proved than that the two diseases were co-existent. Had the heart, or the brain, or spinal marrow, or some of the venous trunks situated between the lower extremities and the heart, been found in a diseased state, there would have been then reason to refer the cutaneous gangrene to the internal malady, whereas, in a philosophical sense, we have no more reason to attribute the external disease to the internal, than the reverse. The probability is, that the cause, whatever it was, which brought on the attack of fever and pains in the extremities and loins, gave rise also to the internal disease at the same time. We have witnessed a case of gangrene, of one of the inferior extremities, taking place all of a sudden without any known cause; the patient died; and on examining the body after death, all the viscera appeared perfectly healthy; but the veins of the diseased limb were found inflamed, with their contents coagulated, completely blocking up their canals all the way up to the union of the two common iliacs. It would appear probable, from the suddenness of the attacks, that such affections take place through the medium of the nervous system; but we have no *proof* that this is the case; it may be through the medium of the blood, for any thing that we know to the contrary; or it may be through the medium of some other principle whose properties are not generally acknowledged according to the mechanical doctrine of pathology, to which the majority of the practitioners of the present day pin their faith.

7. *Cancer of the Uterus cured by Injections with Hydrocyanic Acid.*

The following case was related by Dr. Bruni, to the Medico-Physical Society of Florence, at one of its late sittings. Our readers may attach any degree of credit they please to it; we confess ourselves rather sceptical: A woman, who was affected with cancer of the uterus, had arrived at the last stage of the malady, presenting symptoms which announced the near approach of death. Dr. Bruni had recourse to the employment of the prussic acid, prepared according to Scheel's direction, of which he used four denari, mixed with four pounds of decoction of barley; with this

lotion the vagina was injected four times a-day, while aloes and conium were administered internally. During the first day, the injections produced very severe pain, but the patient having discharged, a few days after, from the vagina, fragments of a fleshy and membraneous substance, her pains began to diminish from that moment; her strength and health improved in such a way, that five months after there did not remain a trace of the uterine disease, and the catamenia returned to their regular course. Dr. Bruni's operation is a much less formidable one than that of cutting off the neck of the uterus; but we fear that Dr. Bruni's plan is likely, too soon, to lose its character.

8. *Nocturnal Hemicrania, cured by Sulphate of Quinine* *.

A wine merchant, ætat. fifty, of a nervoso-sanguine temperament, exposed himself, on the evening of the 19th of December, to cold and wet, and was taken, the same night, with pain in the right side of the head. This hemicrania returned with increased severity the succeeding nights; on that of the 25th, the pains were lancinating and insupportable. Dr. Giovanni Strambio having been called to the patient, ordered, for the evening of the 29th, half a grain of acetate of morphine. But whether the medicine was badly prepared, or the dose was too small, the pains were still very violent in the night. On the morning of the 30th, M. Strambio prescribed twelve grains of sulphate of quinine; the following night the patient was more calm, and the dose was repeated on the 31st. The pain returned with increased violence; the patient complained of great heaviness in the head; the eyes were dull and full of tears, and the pulse was hard and vibrating. Twelve ounces of blood were taken from the arm on the 1st of January, and the patient passed a better night. Nothing was done on the 2nd; on the 3d, the pain returned again with great violence; but it subsided on the quinine being repeated. The quinine was again repeated on the 5th, and the pain returned; it was then increased to *thirty grains*, which was soon followed by a diminution of the pain. In fine, fifteen grains taken on the 8th completely removed every trace of the affection.

The only thing worthy of remark in this case, is the largeness of the dose of the sulphate of quinine. It is probable that this medicine might be administered in larger doses than it is commonly given, with increased benefit, in diseases of an intermittent character.

9. *New Method of Treating Erysipelas* †.

Regarding the blood-vessels of an inflamed part as in a state of diminished contractility, Dr. Meigs supposes the best manner of curing inflammations, will be found to consist in restoring their contractility, so far as to bring it on an exact par with that of the contiguous or neighbouring healthy vessels. Sometimes we can effect this desirable object by very simple mechanical contrivances: a roller,

* Giorn. di Med. Milano.
† N. A. Med. and Surg. Journ.

a compress, position, &c., are in many instances the only things requisite to bring about this equilibrium. M. Brettoneau, of Tours, in France, cures even a bad scald in the course of a very few hours by a roller, which, acting as a substitute for the natural power of the capillary vessels, prevents not only their being dilated by the forcible injection *a tergo*, but also all the consequent phenomena of that sort of inflammation called a scald or burn. Mr. Baynton cures the most inveterate sore legs by strips of adhesive plaster and rollers, and every body knows how rapidly an œdematous limb may be brought back to a proper size and shape by a common roller judiciously applied. All these effects are dependent on the improved power of resistance which they occasion in the weakened vessels of such parts. It is quite clear that we can by mechanical means make an excellent substitute for the natural contractility of the small blood-vessels in superficial inflammation. Some persons say that this external pressure is the *true antiphlogistic*. These plans are useful in procuring the resolution of inflammation. So, also, when we apply various washes, cold poultices, pledgets of vinegar and water, &c., we have it in view to promote the contraction and emptying of the vessels; for all those means occasion the parts to become whiter and paler, and the more so, as they are more efficacious, (*i. e.*) as they occasion the blood to be more completely excluded. But cold, lead water, &c. are not the only things that possess the power of increasing capillary contractility. Mr. Kentish has shown, that in burns nothing possesses so much power in this way as his famous ointment, which for its excellent qualities in the cure of burns and scalds is known over the civilized world. Dr. Meigs has, for some years past, employed the same ointment to dress the erysipelatous inflammations that have fallen under his care; and he affirms that he has found equal success from no other mode of treatment, though he has tried a great many. There is a sort of erysipelas which affects children, and which has in not a few instances proved fatal. It is a most painful and unmanageable disease by the ordinary methods; yet Dr. Meigs has seen it yield with the greatest rapidity, manifestly from the favourable action of Kentish's ointment. He had a case not long since, in which a child had violent convulsions, in consequence of the constitutional irritation, produced by an erysipelas occupying the whole of its right foot, leg and thigh: the free application of the ointment removed the disease with the greatest readiness. He has treated a great many cases in this manner, and has always found the application not only useful, but soothing and delightful to the patients. Instead of making extensive incisions, as some of the moderns have recommended, he would respectfully urge his professional brethren to make trial of this ointment, which is both easy to administer, and exceedingly pleasant to the patient. Dr. Meigs' method of employing it, is to render basilicon ointment soft (not fluid) with spirit of turpentine, and then to rub it on the part with the fingers. Let the anointing be repeated often enough to keep the part always very thinly covered. This application does not interfere with any constitutional

treatment which may be demanded by circumstances. All such treatment is, however, unnecessary, in a majority of cases. One of Dr. Meigs' patients has just recovered from a severe œdematous form of the disease in the leg, which has for years been affected with an ulcer, by the sole employment of the above-mentioned ointment.

10. *Apoplexy of the Spinal Marrow**.

A man of about 70 years of age died suddenly at the Bicêtre, and the following particulars were collected respecting his previous condition. He was of a strong and robust constitution, a middle stature, and a sanguine temperament; his body was slightly curved forwards, and his legs were weak and stiff; so that he habitually employed a staff for the mere purpose of preventing himself from falling forwards. He could walk from his residence at the hospital to the city; but this required a considerable time; and frequently, notwithstanding the support of his cane, he found himself drawn forward in such a manner as to fall, unless he arrested himself against a tree or some similar obstacle. His superior extremities had also lost much of their strength and agility. To an understanding naturally confined, were added, in this man, an extraordinary difficulty and slowness in pronunciation, which existed to such an extent as to deprive him of social intercourse, and induce him to live alone. He never complained, and had an excellent appetite. The day preceding his death he spent in walking about the hospital; he retired to rest at six o'clock, as was customary with him; and at four in the morning was found dead in his bed. It appears, from statements made to Dr. Huttin, that this man had suffered several attacks of apoplexy, and that this weakness of his limbs was the consequence of them.

Dissection, twenty-eight hours after death.—Flesh firm; forearm and fingers bent and strongly contracted; legs extended and stiff. On the incision of the teguments of the cranium, a large quantity of black blood escaped; another portion of a similar fluid ran out of the cavity of the cranium when opened. Dura mater thin and transparent; sinuses engorged with blood; pia mater injected; brain possessing considerable firmness, except at the posterior and external part of the left hemisphere, where there was a slight superficial softening. In each of the corpora striata there was a cavity, large enough to contain an almond, lined by a cellulo-vascular coating, infiltrated with a citron-coloured serum. The upper parietes of these spaces appeared to be formed by the arachnoid lining of the ventricle, thickened. The cerebellum presented nothing remarkable; but the pons varolii was slightly softened. At the opening of the *spinal canal*, there escaped a large quantity of black blood; the meningeal veins were distended with that fluid; the arachnoid cavity contained much serosity, in which were floating a few drops of a fatty liquid, and some bubbles of air. In the arachnoid of the lumbar region were a number of cartilaginous plates, of a bluish white, some of which exhibited, in their

* Nouv. Bibl. Med.

centre, a small bony point, projecting into the cavity, opaque, and composed of radiating fibres. The veins of the medulla spinalis were distended, and, particularly at the lower part, were very much dilated and flexious; the imperfect partition which penetrates into the anterior and posterior fissures was strongly injected. The medullary substance possessed its natural consistency; it was grooved, in every direction, by numerous little vessels. Between the origin of the fifth and sixth pair of cervical nerves, was found a small bloody effusion, of the size of a pea, which had, in this place, destroyed the cineritious commissure. And at the elevation of the fourth dorsal pair, existed another much more considerable effusion, which had destroyed the continuity of nearly all the nervous matter of the medulla, whether white or cineritious. The clot of blood was as large as a good-sized hazel-nut, and a little elongated in the direction of the length of the canal. Adjacent to these two effusions, the cerebral matter was slightly softened, and infiltrated with blood. The lungs were gorged with blood, and the cavities of the heart distended by large clots. The intestinal canal was sound.

11. *Cases of Traumatic Epilepsy cured by Trephining the Skull**.

In December 1817, Mr. K. suffered pain in the upper part of his head. This continued; and in September, 1818, he consulted Dr. Dudley. About Christmas epileptic convulsions came on, and on the 16th of April, 1819, he was trephined where the bone appeared to be depressed, and where several tumours had formed. The pericranium was thickened, and very sensible; the bone porous, and very firmly adherent to the dura mater over the longitudinal sinus. The dura mater was found separated from the brain by a fluid deposition, so that the pulsation of the brain was not evident. On the fifth day, suppuration was free; the fluid under the dura mater was absorbed, so that the brain had regained its proper level, and pulsated with unusual vigour. A mercurial course was prescribed. Two slight attacks of epilepsy supervened, but in three months he was dismissed well. Subsequent observation induced Dr. Dudley to regard the cure as radical.

W. T. when five years old, had a blow on the parietal bone, followed by concussion, apoplexy, and paralysis. In two months he recovered his mental and corporeal powers. He became subject, however, to severe cephalalgia and was weak and delicate. At fourteen years of age he was seized with convulsions. His general health improved, but his mind failed, and he was removed from school. In the spring of 1825, Dr. Dudley was consulted, the patient being then 21 years of age, with impaired memory, judgment, &c. On the 10th of May, the parietal bone was trephined where a depression existed. A spiculum of bone, about one inch in length, was found projecting from the inner surface of the cranium. It penetrated the dura mater, and communicated with a large preternatural sinus, 'from which issued a stream of blood as thick as a man's little finger, which continued to flow until it was judged proper to check it by means of pressure.' The dura mater was

* Transylvania Journ. of Med.

diseased and of a dark colour. A convulsion supervened, during which 'a stream of blood issued through the opening in the dura mater that projected three or four feet.' Two more fits followed with like discharges of blood. For three days and nights large quantities of serous fluid were evacuated from the wound. 4th day. Dressings were dry, suppuration followed. In 30 days, the wound was healed. No convulsion came on after the operation. His mental and bodily faculties recovered their activity, and in July, six weeks after the operation, he returned home in perfect health. With the exception of one fit, excited by dancing and by excess in eating and drinking, he has remained well.

Gofourth, when 5 years old, had an injury of the parietal bone: suffered few bad symptoms until 15 years of age, when epilepsy supervened. The paroxyms returned every three or four weeks, and at the age of 23 he was embecile in body and mind. In February, 1826, Dr. Dudley trephined him on the parietal bone. Much serum escaped during the operation. The dura mater was found deficient to the extent of a twelve and a half cent piece of silver, which exposed a sinus extending to the petrous portion of the temporal bone. A spinous process projected about half an inch from the internal surface of the bone. The sinus in which the serum was collected was large enough to receive a hen's egg. On the second and third days two slight attacks of epilepsy. On the 4th, suppuration took place. Improvement of mind and body was daily manifested, and at the end of the fourth week, the wound was cicatrized and the patient returned home quite well. During the summer he was employed as a fireman on board of a steam-boat on the Mississippi, and in August reported himself quite well.

In two other cases, the operation was performed with much advantage; but the recovery was not quite complete, perhaps owing to subsequent neglect. One O'Brien received, in 1822, a blow on his head, by which he was deprived of motion and intellect for several weeks. He afterwards suffered from severe convulsions and almost constant pain. He spoke with difficulty—senses of taste and smell very nearly destroyed—all his muscles seemed preternaturally contracted. The operation was performed: dura mater very vascular; no other apparent alteration about the wound: but towards evening patient said his limbs were 'unlocked,' and there was a perfect relief to the organs of speech. On the third day suppuration ensued, and the pain and other symptoms disappeared; but on the sixth day, a convulsion supervened. His appetite became ravenous, which he often indulged. His general health improved. He was able to walk out; his mind was not perfectly correct; he had some slight convulsions; withdrew from his medical attendant, and has not since been heard of.

Froman consulted Dr. Dudley in April, 1827, having fifteen years previously had a fracture of the superior and posterior portion of the parietal bone. His memory was immediately impaired; in two years convulsions supervened, and finally fatuity. The operation was performed: bone and dura mater healthy; no pulsation in the brain, owing, evidently, to effusion under the dura mater. On the fifth day

suppuration was established; and the brain was now found at its proper level, the fluid having been absorbed. For two weeks, all was flattering. The convulsions, however, returned and continued; but were reported to be less frequent and more mild than previous to the operation.

These cases, with others on record, are certainly very encouraging, and show, as Dr. Dudley observes, that the operation of perforating the bone is not in itself very dangerous, especially when the patient has the advantage of a good constitution and a pure atmosphere.

12. *Remarkable Case of Purpura Hemorrhagia* *.

Henry Ansell, brewer, æt. 33, admitted under the care of Dr. Macmichael, Sept. 2. On the 25th of August, after violent exertion, and when in a state of profuse perspiration, and suffering from extreme thirst, he drank a large quantity of beer—he cannot precisely say how much, but guesses about three pints or two quarts. He immediately felt a stiffness in his limbs, and in a few minutes his whole body, with the exception of his face, throat, and chest, was covered with small hard elevations, at the apex of each of which there appeared, in a quarter of an hour, a speck of extravasated blood. His bowels became immediately relaxed, and he passed blood in his stools, and vomited a quantity of green matter. The ecchymosis quickly extended over the surface of his body, the tumors subsiding to the level of the surrounding cuticle. He was bled to ℥xij. and took some calomel and rhubarb. The following day he was again bled to the same extent, and the antiphlogistic plan was strictly pursued to the day of his admission. When he presented himself at the hospital, the eruption, according to his own account, was somewhat diminished, but was still of various shades of red, generally, however, of a dark hue. The large irregular patches assumed more or less of a circular form, and were of a size, in some places, of a crown piece, with a pretty distinct margin of half an inch. In other parts, more especially on the shoulders, there were appearances of figures of different polygonal shapes, enclosed one within another. The eruption covered his back, abdomen, and extremities. Upon the whole it had so singular and formidable an aspect, that the patient himself was struck with the interest and curiosity it excited among the pupils, and observed, 'it was a pity he had not exhibited himself to the public as a show, for he should have made his fortune.' His countenance was yellow; he complained of great debility and nausea; his tongue was white, with red stripes; pulse frequent; bowels open, and he still passes a small quantity of blood. He was ordered to take

Infusi Rosæ ℥jss.
Acidi Sulph. Diluti gutt. x. ter die.

And at night a pill containing

Aloes,
Pil. Hydrargyri āā gr. ijss.

3d.—His bowels have been frequently opened, but he has passed

* Middlesex Hospital.

no blood since his admission. The nausea has left him, and the eruption is not so vivid.

Rep. Haustus.

℞, Hydrarg. Submur. gr. ss.
Opii gr. ¼ hora somni.

He continued to get better, and on the 6th (*i. e.* four days after his admission) the eruption had disappeared, leaving only a slight brownish scurf. Pulse 84; tongue much cleaner.

Perstet in usu Medicamentorum.

8th.—Has no other complaint than debility: he was ordered half diet, and to take

Decoct. Cinchonæ ℥jss.
Acidi Sulph. Diluti gutt. xv. ter die.

On the 9th he left the hospital.

13. *Fracture of the Cranium—Trephining, &c.**

James Parker, a robust young man, was admitted into the hospital on the 2d of September, and fell to the charge of Mr. Keate. From the persons who brought him the following particulars were learnt:—Whilst drunk in a pot-house, on the 31st of August, he got into a 'row' with some Irishmen, who thrashed him with a stick about the body and the head. He was taken home insensible, and bled to 16 ounces in the course of the day, which produced no relief. From the time of his accident to that of his admission, he never regained the least sensibility. When we saw him in bed, he lay in an insensible, or rather in a semi-comatose condition, with a pulse slow and full; the pupils dilated; the surface neither blanched nor very cold; the breathing not stertorous, but deep-drawn and heavy. Though not very restless when left to himself, he resisted all attempts to examine his condition with dogged and pertinacious violence; he answered no questions, and seemed to comprehend none. Two inches or more above and behind the right ear was a pretty clean wound, running horizontally, confined to the scalp, and not having denuded the bone or pericranium. No fracture or depression were detected; the eye of that side was black with ecchymosis. (V. S. ad ℥viij.) He continued very restless through the night of the 2d, so much so indeed as to require a strait-waistcoat. The bandage likewise slipped from the arm in the night, and occasioned the loss of eight ounces more blood. On the morning of the 3d there was little alteration from what had been observed on the preceding day. The treatment consisted in salines, with the sulphate of magnesia. He passed a bad night, endeavouring to get out of bed, &c.; and between nine and ten A.M. of the 4th, was seized with a distinct attack of convulsions. At one P.M. he had a fit, somewhat different from the former, which we witnessed. It began with the quivering of the lips, a heaving of the chest, and convulsive affection of the muscles of the throat, and those which are engaged in the act of respiration; after a very short time (say a minute) the breathing recommenced

* St. George's Hospital.

by snuffling through the nose, and gradually extended to the whole of the respiratory apparatus. The pupils were contracted before the attack, but afterwards dilated. The head was in the first instance drawn to the right, but subsequently fixed by the action of *both* the sterno-cleido-mastoidei. The portio dura of the right side was paralysed during the attack, the mouth being drawn to the left. The extremities, and especially the lower ones, were little affected. It was really very curious to observe the access and the decline of the convulsion. The condition of the patient was otherwise extremely unpromising, the pulse being rapid, the aspect cadaveric, the breathing stertorous, insensibility complete. He had been bled to the extent of ℥xij. this morning. It being evident, from the character of the symptoms as well as their duration, that there existed something more than simple concussion, Mr. Keate, at two P.M. enlarged the wound, separated the pericranium, which was firmly attached to the bone, and discovered a fracture immediately anterior to the sutura lambdoidalis, unattended with perceptible depression. The trephine was 'set on,' and the removal of the circular portion of bone disclosed a solid cushion of coagulum beneath. Two more pieces of bone were taken away by the trephine, and the margin of the clot, which was small, was apparently arrived at, though the fracture appeared to stretch downwards, perhaps to the basis. The first and the second pieces of bone that were removed showed no bleeding whatever from the diploe; whilst the third, which was partly anterior to the coagulum, bled freely, and scarlet-coloured blood seemed to issue from the surface of the dura mater. The symptoms were not a whit relieved; but no further indications remaining for trephining, the edges of the scalp, which had been crucially divided, were united by a suture in the form of a cross. That night was as bad as the former had been, and the two succeeding days brought little amendment. The breathing, however, was certainly quieter, and the convulsions had not reappeared. On the 7th he had some return of sensibility, putting out his tongue when desired and motioned to do so, though perfectly unconscious of what was around him, and failing to recognize his relations or wife. He was not at all delirious, the breathing was easy, the pupils dilated, the surface of a natural warmth. Salines to be continued. On the morning of the 8th the sensibility was still more decided, and the symptoms altogether had a favourable cast. In the afternoon he was suddenly seized with a rigor, during which he was bled; and early on the 9th had another, which lasted very nearly an hour, At two P. M., when we saw him, he was quiet, and seemingly free from much pain. The pulse was more rapid than it had been for days, and though not decidedly strong, was thrilling and jerky; tongue moist and white; surface hot; stools, as they had been all along, passed in bed. The sensibility was still on the increase, but the expression of the face was bewildered and anxious. The blood drawn last night is much cupped and buffed—some which was taken this morning not so much so. (Bleeding to be repeated in small quantities, its frequency being determined by the state of

the blood and the pulse.)—11th. On this day and the next the sensibility arrived at its acmé; the remainder of the report being merely the history of his gradual 'decline and fall.' The pulse is quick and full, surface hot, pupils dilated, and he complains of pain in the head, incessant and intense. (V. S. ad ℥v, vel vi.) *Vesp.*—Felt relieved by the bleeding, but the pulse is still frequent and hard. Blood much inflamed. Rep. V. S. ad ℥xij. Rep. Mist. On the 12th the pain of the head was a little relieved, but the conjunctivæ and surface were assuming a yellow tinge. This bilious tint of skin was more marked on the 13th, and the symptoms were assuming the character of prostration and collapse. On the 14th the surface was uniformly yellow, the mouth and teeth encrusted, the emaciation extreme. The sensibility was decidedly decreased, and though evidently dying, he said he was 'better.' A blister was placed upon the nucha—the shivering returned,—on the morning of the 15th the hand of death was upon him, and he sank in the course of the day.

Sectio Cadaveris.—The corpse was exceedingly emaciated, although on his admission the frame was robust and athletic. Much extravasation was found beneath the scalp, particularly in the occipital region. On raising the skull-cap the dura mater was found to be perfectly sound at the part where the trephine had been applied. In the direction of the spine and transverse ridge of the occipital bone, where the fracture, as will be presently shown, had extended, a thin layer of blood was effused on the membrane, which was greatly inflamed—indeed actually sloughy. Opposite this inflamed portion of the dura mater the tunica arachnoides was also inflamed, and covered with coagulable lymph. There was some, but not very much fluid in the ventricles; no extravasation in, or rupture of, the brain: little or no effusion of blood at the basis. The fracture extended from the spot where it first was discovered round the occipital bone, across the left branch of the lambdoid suture, obliquely over the petrous part of the left temporal bone, between the sella turcica and cuneiform process of the occipital bone; then over the right petrous portion, to the place from which we started, completing the circle, and literally breaking off the back of the head. Numerous and large depositions of lymph and pus existed in the liver, the texture of the viscus around being perceptibly engorged and inflamed. Similar appearances were discovered in the right lung—none in the left. The spleen and other viscera were healthy; the urine was bilious.

14. *Cancer of the Eye—Removal of the Organ* *.

Martin Smith, aged forty-two, was admitted, on the 6th of May, under the care of Dr. Ballingall. The report stated—'the left side of the nose, the inner halves of both palpebræ, and the soft parts for the depth of half an inch on the inside of the left eyeball, affected with an ulcer of a carcinomatous character. The periosteum of the ossa nasi and os planum apparently partakes in the disease,

* Edinburgh Infirmary.

but the bone is not felt distinctly bare at any point; vision is perfect; general health good; ulcer commenced two years ago by a small pimple, and has constantly been getting worse; complains of no lancinating pain.'

This ulcer presented, if we except the absence of lancinating pain, all the features of a genuine cancer of the eye, beginning, as that disease usually does, not in the globe of the eye, but in the soft parts surrounding it. In this instance it had involved both the eyelids to a great extent, and had begun to encroach on the sclerotic coat towards the inner or nasal side of the eyeball. Under these circumstances, it became expedient to remove the whole contents of the orbit along with the diseased palpebræ, which Dr. Ballingall did a few days after the patient's admission; the diseased periosteum covering the bones on the nasal side of the orbit was scraped off with a scalpel, and the cavity filled with charpée. Healthy granulations very soon appeared over the whole of the cut surface; these advanced progressively so as to fill up a considerable portion of the cavity, while cicatrization gradually and steadily advanced from the circumference towards the centre of the sore; and before the man's dismissal, on the 19th of June, it was reduced to the size of a sixpence.

This patient soon recovered; the eyelids closed, and the wound entirely healed.

15. *Removal of a Tumour from the Cheek* *.

John Adam, aged forty-seven, was admitted with a tumour presenting the following characters:—' Upon the right cheek, about an inch in front of the ear, and nearly on a level with the nose, there is a very hard tumour of about the size of an egg, the base of which inferiorly adheres, but not very firmly, to the mucous membrane of the mouth; superiorly it is very closely connected with the malar bone and zygomatic arch, above which it ascends a little and lies upon the internal angular process of the frontal bone. The skin covering the most prominent part of the swelling is ulcerated, the surface of the ulcer is very smooth, the edges being irregular, and the discharge thin and watery; the integuments around the sore are of a purple colour and strongly adherent; general health good; pulse natural; tongue a little furred; bowels regular; appetite good; states that he has not been addicted to the use of spirits; disease is of six months standing, and commenced by a small pimple which was never completely healed; swelling has increased very rapidly since the 1st of May, and is affected at times with slight surrounding pain.'—July 5th. Yesterday the tumour was removed by two elliptical incisions; the masseter was bared and the os malæ scraped, two vessels were secured by ligature; the tumour, when cut into presented the characters of carcinoma; about an hour after the operation, copious hemorrhage took place, apparently from the transverse artery of the face; the vessel was tied; passed a good night after taking gtt. xl. of liq. opii sedat.; pulse seventy-two; tongue slightly

* Edinburgh Infirmary.

furred; bowels not relieved to-day; slight thirst; skin cool. In a few days after the removal of this tumour, when the surface left by its excision had assumed a clean, healthy, and granulating appearance, Dr. Ballingall pointed out to the students the orifice of the parotid duct, which had necessarily been divided in the operation; this was immediately rendered conspicuous by the flow of saliva on making the patient chew a crust of bread. Dr. Ballingall thrust a small trocar obliquely through the patient's cheek, and after withdrawing the stilette, a small cat-gut bougie, previously well oiled, was introduced through the canula, to be left in the trajet of the instrument, for the purpose of rendering the canal fistulous.

16. *Popliteal Aneurism—Operation* *.

On the 18th of May, James Laing, aged twenty-nine, was admitted under Mr. Liston's care with a popliteal aneurism, of which the history and appearances are detailed in the following report.—'Situated in the left ham is a firm pulsating tumour, the size of an orange. Pressure on the femoral artery commands the pulsation in swelling; the pulsations correspond with those at the wrist, but are much stronger. Pulse seventy-two in a minute. Swelling commenced four months ago. When he walks any distance he has a good deal of pain in the leg. Seventeen months ago, was operated on for an aneurism in the other ham. Health good. Is by business a plumber, and has at times very heavy lifts, but was not sensible of his disease till it had gained some size.—19th. The femoral artery was yesterday tied with a single ligature by Mr. Liston, and the pulsation in the tumour was immediately arrested. Foot has continued of the same temperament as before the operation; slept pretty well; no pain in wound; pulse seventy-two, full; no stool; tongue moist; pulsation in tumour has returned this morning.'

This pulsation in the tumour again gradually subsided, and on the 27th, the following report was entered:—'Tumour much diminished; no pulsation; wound is healing well; ligature has not separated.'

The ligature came away on the 3d of June, when the 'wound was entirely healed except at the point where the ligature came out, and the tumour was very much diminished.' It became reduced to the size of a walnut, firm, and totally destitute of pulsation; but the patient was for some time confined to the hospital in consequence of an inflammatory attack in the site of the original aneurism in the right ham. The small remains of the swelling in that situation seemed at one time disposed to suppurate, and was poulticed; latterly it assumed a more indolent character; a blister was applied with a view of promoting its dispersion, and the patient was ultimately dismissed cured.

17. *Case of Rheumatism with Metastasis, producing Inflammation of the Thoracic Viscera, and Death.* By Dr. Dewees †.

A. B., aged eight years, of a delicate habit, began, on the 16th

* Edinburgh Infirmary.

† American Journ. of Med. Sciences, Aug. 1828.

November, 1827, to complain of a cold; that is, she had a slight sore throat, cough, and a general soreness over the body. She was dieted, and took a dose of castor oil, by the direction of her mother.—17th. She remained pretty much the same.—18th. Her feet and hands were observed to swell, and were very slightly inflamed; though not painful they were sore to the touch.—19th. The first day of Dr. Dewees visiting her. She complained of a severe pain in her right groin; a small tumour was observed here; the soreness of this part excessive. Purged with calomel and magnesia, and the part bathed with warm sweet oil.—20th. The pain and soreness of the groin much mitigated; but the chest was suffering from severe pain, accompanied by great oppression. Was blooded; the blood very sizy.—21st. All her symptoms much relieved.—22d. Pain in the groin nearly gone; could bear the part touched, and move her limb without much suffering. In the evening Dr. Dewees was sent for, but being engaged he requested his friend Dr. Hays to visit her for him, who found her sitting on her mother's lap, being unable to lie down. She complained of pain in the region of the heart, with difficulty of breathing. Her pulse was frequent, but not corded; the respiration was short, pain being experienced when an attempt was made to draw the diaphragm. A metastasis of the disease having evidently taken place to the heart and diaphragm, revulsives were ordered with the hope of relieving these parts. A large sinapism was applied over the chest, which afforded prompt relief, and on Dr. Dewees' visit the next morning he found her free from pain. During that and the two succeeding days, she improved so much as to be able to be about; and nothing but a little debility seemed to remain. But on the 25th, she exposed herself several times, by walking, without additional covering, through a long, cold entry, by the ill-directed advice of the servant in whose charge she was left for a few hours; the consequence was, that on Monday, the 26th, she was attacked with a severe pain at the extremity of the xiphoid cartilage, accompanied by great distress in respiration, and total inability to lie down. Dr. Dewees ordered a sinapism applied over the pained part, which very promptly relieved her.—27th. Her stomach much harassed by sickness and vomiting; the groin free from pain, as was the part upon which the sinapism was applied yesterday. After the stomach had continued for an hour or two in the situation just stated, it would suddenly be reconciled, and the top of the left shoulder would now be the seat of excruciating pain, which in turn would become easy by a return of the disease to the stomach, which would now be sick as before; or the pain would fix itself in the left side near the margin of the false ribs; and thus the affection would alternate a number of times in the twenty-four hours.—28th. Stomach very sick, with some difficulty of breathing. In the after part of the day, these symptoms became very much more severe; so much so indeed, that there was now violent and frequent vomiting. A white tenacious mucus in considerable quantity was eventually thrown up, which at the moment afforded great relief. Dr. Dewees was pre-

sent at this time; and from the great abatement of her distress, he indulged a hope it would be permanent; but in about an hour after he had left her, apparently much improved, he was suddenly called to her, and before he could reach the house, she was a corpse.

During the whole progress of this disease, the arterial system was but little affected; the pulse, with the exception of the last day, was neither frequent nor tense; yet it bore evacuations remarkably well, as far as they were pursued. Bleeding, leeching, and purging were in turn ordered: as were, with some vigour, blistering and the repeated application of rubefacients.

Sectio Cadaveris, thirty-eight hours after death.—Exterior aspect: Colour as usual after death; no great marasmus; pupils dilated; expression of countenance tranquil.—*Head:* Membranes of brain natural; cerebrum natural; cerebellum somewhat softer than usual; not a drop of water in ventricles of brain.—*Medulla Spinalis:* Membranes natural; it seemed harder than usual, and its elasticity was so considerable that it would suffer an extension of two inches, followed immediately by an equivalent contraction. The rugæ on its surface very perceptible. Its elasticity was independent of the dura mater, for it continued the same when the latter was slit up both before and behind. The dura mater contained about two drachms of fluid, one half of which was blood, and the other the serum peculiar to this cavity. The upper and the lower enlargements of the medulla spinalis (renflements), where the nerves of the upper and the lower extremities come off, were unusually developed.—*Thorax:* Heart twice as large as usual, and adhering by a thick coat of lymph to the pericardium, excepting a small extent of the right ventricle, and the whole of the right auricle. Two ounces of straw-coloured serum in pericardium. The texture of the heart was sensibly altered; its parietes being almost universally thickened; of a light colour, about that of veal flesh; so rigid as not to collapse after the manner of healthy hearts, upon the evacuation of its contents; and cutting in the crispy semi-cartilaginous manner peculiar to inflamed muscles. Dr. Dewees did not detect any inflammation of its lining membrane; the right cavities contained coagula of red blood. The left pectoralis major muscle had been the seat of pain; it was found not altered in colour, but the texture had undergone the same pathological change with that of the heart. The pleura of the region behind it had some filaments of coagulating lymph passing between it and the corresponding surface of the lung. The whole circumference of the pleura on both sides of the body had lost the smooth shining condition of the normal state, presented here and there specks and pellicles of lymph, and was slightly turbid. Each cavity contained about two ounces of a straw-coloured, transparent serum. The thymus gland was natural, being about the size of early infancy. The right lung was heavy, fleshy, and had lost one-half of its spongy character; the blood being infiltrated into the cellular substance, and identified with the organ. The left lung was also partially solidified with blood, but by no

means to so high a degree as the right, for its spongy character still predominated; it was pushed to the back of the thorax by the augmented heart.—*Abdomen:* Peritoneal surface universally healthy.—*Stomach:* Of a pink colour on its mucous membrane, especially along the ridges and sides of the rugæ. It seemed entirely healthy, and had abundant rugæ.—*Small Intestines:* Duodenum healthy; the jejunum and ilium in the greater part of their extent were reddened by a turgid state of the capillary veins, but there was neither ulceration, ecchymosis, or thickening; they were smeared with mucus, and had some appearance of irritation, but possibly the latter might have arisen solely from retrograde congestion, by the arrest of the circulation at the heart. The congested state of the lungs would favour the opinion; but in that case one would infer that the stomach also should have been congested with venous blood, which was not the fact.—*Large Intestines:* Spasmodically contracted, and contained only mucus.—*Liver:* Peritoneal coat somewhat turbid, a little thicker than natural, and abounding in large distinct absorbents; granular substance (acini) not so distinct as usual, hard, cohering strongly, and somewhat intermixed with that resisting yellowish matter constituting what has been called the fat liver. Had this state of the liver a connexion with the chorea, or with the long course of purging instituted for the cure of the latter?—*Gall Bladder:* Contained a yellowish, thin mucus; cellular coat increased to three lines in thickness by the infiltration of a gelatiniform fluid. Spleen healthy. Kidneys not examined.

18. *Puerperal Peritonitis successfully treated with Mercurial Frictions.* By Dr. Dewees *.

M. Velpeau has recently recommended frictions with mercurial ointment, as a remedy in puerperal peritonitis, and he relates several very interesting cases in which he employed them, apparently with advantage. The mode of employing them is:—

First, To have the whole abdomen smeared with from two to four drachms of the unguent every two, three, or four hours. Second, If the pain or swelling of the abdomen, and especially if the mouth betray any mark of the influence of the mercury upon it, to diminish the quantity to one or two drachms, and to make the intervals of application longer. Third, To wash off, with warm water and soap, or with sweet oil, the crust which the ointment forms upon the skin, that in its future application it may be more certainly placed in contact with the skin. Fourth, To continue the ointment, if circumstances warrant it, (that is, if the patient live long enough, or if her system be obedient to its influence,) until either signs of salivation show themselves, or until such amendment takes place as shall render further perseverance unnecessary.

The following very interesting case has lately presented itself, in which the mercurial ointment was very liberally used: but Dr. Dewees states, that he would be very unwilling to decide upon the extent of the agency it had in the recovery of the patient, as an-

* American Journ. of Med. Sciences, Aug. 1828.

other celebrated remedy was employed simultaneously with it; namely, the spirit of turpentine.

Dr. Dewees was requested by Dr. Mitchell to visit Mrs. ———, who was very ill with puerperal fever. This patient had been delivered safely of her first child, and nothing alarming presented itself until the second day. Milk had been freely secreted, and there was every promise of a good 'getting up,' until the beginning of the third. At this time she was attacked with a pretty severe chill, which was followed by great heat, thirst, tenderness of the abdomen, and a very frequent pulse. She was bled, purged, leeched, and blistered on the abdomen, and kept upon a strict antiphlogistic regimen, &c. before Dr. Dewees saw her. There was such an appearance of amendment for two or three days after this time, that scarcely a fear was felt, but that she would surmount her disease; but the expectations so fondly indulged in, in the morning, were entirely destroyed in the evening, by finding the patient with a cold clammy skin; a pulse scarcely to be numbered, very small, nay, almost extinct; breathing short, very frequent, and rather laborious; the alæ nasi expanding and contracting with great frequency; the stomach rejecting every thing offered to it; the lips dark and dry; the milk entirely gone; slight mental alienation, though not amounting to delirium; the abdomen excessively distended and tympanitic; the feet and legs cold; extreme fœtor of the lochia, which were small in quantity, and very dark; in a word, so certainly did the two doctors look upon her being in articulo mortis, that no appointment was made for a visit next morning. Notwithstanding, however, these unfavourable appearances, they thought it a duty to do every thing that lay in their power—accordingly, thirty drops of the spirit of turpentine were ordered to be given every hour; an ounce of strong mercurial ointment was directed to be rubbed on the abdomen during the night, sinapisms were ordered to the feet and legs, and an enema of sixty drops of laudanum and a gill of warm water was to be thrown up the rectum.

In the morning Drs. Dewees and Mitchell were surprised to find the patient, not only alive, but better. The skin and extremities were warm; the pulse more expanded and considerably less frequent; the breathing more natural; the countenance more composed; the mind more upon the alert; the vomiting and nausea greatly subdued; the abdomen rather less tender. The ointment was to be continued, as well as the turpentine; of the latter she complained, as creating a disagreeable heat in the stomach. To remedy this, a tea spoonful of sweet oil was directed to follow, in fifteen minutes, each dose of the turpentine, which effectually removed this inconvenience. Barley water and very thin sago were directed as drink and nourishment; also the juice of sweet oranges, which proved very refreshing. The remedies were ordered to be continued in the evening. On the morning following, there was so much amendment, that the turpentine was discontinued; the pulse was still too frequent, but the abdomen was less swelled, much softened, and very much less tender. The oint-

ment, however, was again applied. From this time she improved hourly, and had eventually a rapid convalescence.

During the whole treatment, it may be proper to observe, that a solution of gum arabic was her chief food and drink; and that at no time were internal stimulants, if we except the turpentine, for an instant employed.

19. *Croup Cured by the External Use of Scotch Snuff* *.

Dr. Godman gives the following account of the use of Scotch snuff in the treatment of croup. 'During my residence in New York, where my children were very frequently attacked with severe and dangerous fits of croup, to which they had always been particularly liable, I was informed by my friend, Dr. F. Vanderburgh, of a very simple and efficacious method of arresting, at once, all the symptoms of this distressing and frequently fatal disease. Whenever children are threatened with an attack of cynanche trachealis, he directs a plaster covered with dry Scotch snuff, varying in size according to the age of the patient, to be applied directly across the the top of the thorax, and retained there until all the symptoms disappear. He stated that he found the remedy to be always effectual when applied in the first or second stages of the malady.

'This mode of treatment was from prejudice or scepticism neglected by me, and in one instance, in which, with very considerable difficulty, one of my children was rescued by the ordinary treatment. But on being again urged to make trial of the snuff plaster, I determined to make the experiment whenever opportunity presented. This was not long wanting, and when called to a child labouring under all the symptoms of the early stage of croup, such a plaster (made by greasing a piece of linen, and covering it well with Scotch snuff) was directed to be applied to the chest. The event was most happy; the symptoms of tracheal irritation and harsh crooping cough ceased shortly after, the child fell into a profound sleep with gentle perspiration, and by next morning was free from all distressing symptoms. The plaster was reapplied for a night or two following, and then discontinued, as the disease had entirely disappeared. Since that time my family have been saved from a great deal of anxiety and alarm, to which previously they were subject, as we were obliged to keep Coxe's hive syrup, tartar emetic, and all the other articles usually resorted to, constantly ready to meet the attacks of croup, which were very sudden and frequent in cold and wet seasons. Since then, we have found nothing necessary but the snuff plaster. If a child is heard to breathe hoarsely, or cough, with any thing of the dreadful ringing sound of croup, it is only necessary to apply the snuff plaster, and we feel under no farther anxiety. Instead of being obliged to watch with the child all the rest of the night, when once the snuff is applied, we go to rest again, with a feeling of entire security, which we have never had the least cause to regret.'

The intelligent physician above-named, is in the practice of de-

* American Journ. of Med. Sciences, Aug. 1828.

riving great advantage from the external use of tobacco in various cases, in which it is by no means generally employed, if its use be even thought of. To allay the irritative cough arising from different diseased states of the lungs; in diseases accompanied with chronic spasm, and in the reduction of hernia, by direct application of tobacco to the hernial tumour, &c., Dr. Vanderburgh has used tobacco externally with very decided success.

'In cases of croup the Scotch snuff (which I believe is prepared from tobacco stems) is to be preferred. My friend, Dr. Pendleton, of New York, informs me, he has tried other snuff without attaining his end, while with the Scotch the effect was certain. I publish this note with the hope that other physicians will give the treatment a fair trial, and report their experience. It has the advantage over the tobacco smoke, mentioned in the interesting notice of Professor Chapman, recently published, that it may be kept always ready, and be applied in the dark, without loss of time. It has never caused vomiting, vertigo, or any other distressing symptom, in my experience, and this accords with the experience of both the physicians first mentioned in this note.'

In so suddenly fatal a disease as croup it is rather dangerous to resort to experiments, otherwise this remedy might be easily put to the test. As an adjunct, however, to other remedies, it is worthy of trial, and we hope it will not be forgotten by practitioners.

20. *Case of Imperforate Hymen.* By Dr. Burwell *.

On the 11th of June, Dr. Burwell visited Miss S——, aged nearly fifteen years. She had slight fever, furred tongue, some thirst, loss of appetite, pain in the head, and pain in the back, resembling precisely that of labour, and frequent desire to void the urine. The labia were swollen, and, together with the perineum, were somewhat protruded and tender to the touch; the hymen was resting within the labia, *imperforated*, semi-pellucid in the centre, but more vascular around its edges; a fluctuation of the contained fluid could be felt. It was almost a year since every symptom of menstruation had been regularly established in the system, but no discharge had ever taken place. Excepting at the menstrual periods the general health had been tolerably good. A small tumour, probably the distended uterus, could be felt above the os pubis. Dr. Burwell punctured the hymen with a lancet, and drew fourteen ounces of dark, thick, uncoagulable blood from the vagina, and in the twenty-four hours after the operation, she discharged about the same quantity, of still darker appearance and of greater consistence or tenacity. After this, the discharge gradually became natural. Complaining of considerable debility, a few mild tonics, in wine, were taken—the patient soon recovered her health, and has ever since menstruated without the least difficulty. The blood flowed in a considerable stream, and was received into an oval dish, carefully weighed, and then put at rest, so as to afford every opportunity for coagulation. It was preserved for twenty-

* American Journ. of Med. Sciences, Aug. 1828.

four hours, and, although the weather was very warm, not the least appearance of coagulation or of putrefaction was perceptible.

21. *Exsection of the Clavicle* *.

Professor Mott, of New York, has recently performed this daring operation, with success, in a case of osteo-sarcoma. The disease first began to show itself in February last, and by the month of June had increased so much that the tumour of the clavicle was as large as an ordinary fist, and from its superior surface, which was ulcerated, hæmorrhage frequently occurred. Although the patient was otherwise healthy, the excessive irritation caused by the disease, together with the frequent loss of blood, must soon have destroyed his life.

The disease was so extensive, and involved such important parts, that apprehensions were justly entertained that the operation could not be advantageously attempted. The probability of finding the great subclavian vein involved in the spongy bony mass, the necessity of a very extensive dissection, and also of proceeding with extreme caution, in order to avoid injuring the thoracic duct, together with the possibility of much loss of blood, and the certain infliction of very considerable pain, were all made known to the patient and his friends. The patient, however, had resolved to submit to an operation, and was desirous of having it performed without delay.

Dr. Mott began by an incision opposite to the sternal extremity of the fourth rib, and extending semicircularly upwards, to within two inches of the thyroid cartilage. He next cut from above the acromion process towards the sterno-cleido-mastoideus, to meet the extremity of the anterior incision. The external jugular vein was tied and divided. The sternal articulation of the clavicle was next cut loose, and the dissection continued outwards until the rhomboid ligament was separated. The clavicular head of the sterno-cleido-mastoideus was carefully detached, and now the whole of the dreadful tumour was brought into view. The irritation produced by this spongy bleeding mass had caused all the vessels of the surrounding parts to be greatly enlarged, and rendered it necessary to tie a great number. Every cut affecting the tumour immediately obscured the succeeding part of the operation by free oozing of blood, and every movement approximating the subclavian vessels demanded the utmost caution. The patient, with great fortitude, sustained the operation, which, from the circumstances above-mentioned, was protracted for nearly four hours. In separating the tumour from the subclavian vein throughout its course, and from the thoracic duct, the operator necessarily experienced the greatest difficulty, having to wait for each diminution of the vein caused by inspiration, in order to make use of the knife. The vein was partially imbedded in the spongy mass, and was entirely denuded for some inches when the operation was accomplished, by dividing the scapular portion of the clavicle opposite to the origin of the conoid ligament. About thirty vessels were tied during the

* American Journ. of Med. Sciences, Aug. 1828.

operation. As the integuments were ulcerated and destroyed for some extent over the tumour, it was impossible to save a sufficiency to cover the wound, which was filled up with lint, and the patient put to bed.

On the sixth day evidences of granulation were seen; the patient continued rapidly to improve, and we have reason to believe is at this time quite recovered.

In conversation with Dr. Mott, thirteen days after the operation, he informed us, that every thing promised a most happy conclusion to this severe dissection. Dr. Mott stated, that of all the operations he ever performed, this was the most difficult and appalling in appearance; and so arduous was the task of separating the diseased clavicle from the important vessels beneath, that he was once almost inclined to doubt the possibility of accomplishing his purpose. By persevering with extreme caution and patience, he enjoyed at last the satisfaction of complete success, in which every philanthropic mind must sincerely sympathise.

22. *Operation for a formidable Tumour in the Neck* *.

The subject of this case was a man of sixty, rather weak in constitution. Tumour had been growing between one and two years. Externally, it extended from the lower jaw to the inferior part of the neck, on the left side; and from the trachea across the neck, under the mastoid muscle to the transverse processes of the cervical vertebræ. It was of an almost stony hardness at the upper part. In form somewhat flattened, as if compressed. On the inside of the mouth a tumour was seen on the left side of the fauces, extending half across this passage, and rendering deglutition very difficult. A consultation being held of the physicians of the hospital, aided by other gentlemen, it was concluded that, as the patient must expire without an operation, if, considering he might die in its performance, or soon after, he thought it best to have the operation done, it would be proper to do it. The patient having duly considered the dangers of his case, and having consulted his friends, was anxious to have an operation done as speedily as possible. It was accordingly performed by Dr. Warren, as follows: The neck being shaved, the patient, having taken sixty drops of laudanum half an hour before the operation, was placed in a common chair, the head inclined to the right side, and an assistant directed to support it sufficiently to prevent any contraction of the muscles of the neck. An incision was made from the ear to the clavicle, inclining forwards from the ear towards the larynx, so as to uncover the middle of the surface of the tumour. This part of it was then dissected and brought into view, so as to expose the more prominent portion, which was separated from the lower jaw and the ear above, from the larynx before; and the mastoid muscle was turned back from the upper portion of the tumour, care being taken to avoid the accessory nerve where it enters the muscle. About this period the patient fainted twice in succession, but by inclining the head downward, he was recovered. The next object

* Boston Med. and Surg. Journ.

was to disengage the tumour at its lowest part, and ascertain its relation to the great blood-vessels and nerves. In prosecuting this part of the operation, it soon appeared that the disease extended so low as to leave a small space between it and the clavicle. While cautiously attempting to raise the lower part of the tumour, and looking for the internal jugular vein, this vessel was found to be pushed forwards by the tumour, and bent from its course, and to be covered anteriorly by a thin layer of the tumour, which obscured its usual blue colour, and confused it with the surrounding parts. The deep dissection of the tumour was prosecuted at the superior part of the neck. The numerous large arteries from the external carotid being situated here, it was necessary to prevent the hemorrhage from these vessels, by placing a ligature upon the carotid artery at the lower part of the neck. For this purpose the sternal attachment of the mastoid muscle was cut. Then by dissecting the sterno-hyoideus and dividing the omo-hyoideus, which was thin and wasted from passing through the tumour, the artery was exposed, its sheath opened and dissected, and a ligature of three threads passed around it and tied. The patient expressed no emotion at the ligature of the artery, nor did he appear inclined to faint again. Passing a ligature through the tumour, it was drawn backwards, and thus the dissection was continued high and deep to the side of the pharynx. In doing this, a considerable nerve, apparently the glosso-pharyngeal, was unavoidably divided. The tumour being somewhat loosened, a cord was seen proceeding out of it towards the upper part of the neck, appearing to be a part of the tumour. This proved to be the par vagum nerve and the carotid artery. The entire extirpation of this part of the tumour was impracticable, except by dissection, which the patient would not have supported. The tumour was therefore removed in separate portions:—first, the most considerable mass of it, afterwards the other portions, so as to leave a small part only attached to the vessels and nerves; this was in great part broken and detached by the fingers. In performing this part of the operation, it was perceived that when the tumour was so moved as to draw the par vagum (which necessarily happened in a slight degree), at that moment the patient had a sort of spasm or convulsion, extending from the neck into the thorax, and trunk of the body. In the dissection of the upper part of the tumour, the thyroid vein was necessarily cut off, and produced a bleeding, which was troublesome while it lasted. This was the principal hemorrhage. Except at the beginning of the operation, there was scarcely a show of arterial blood. The skin was brought together to allow such parts, as might be disposed, to unite, in order to lessen the extent of the wound. The first night he had some sleep. On the next day, pulse 120—no difficulty in swallowing, breathing, or speaking. Second day: much the same. Third day: says he feels comfortable—speaks with ease—swallows better—has no difficulty in breathing, nor any other alarming symptoms—pulse 100. Took half an ounce of sulphate of magnesia, which was repeated in the afternoon. Fourth day: wound dressed; has in a great measure healed—pulse 100—

has a disposition for nourishment, and swallows well. From this time he recovered rapidly. The tumour on the inside of the throat inflamed soon after the operation, and had great appearance of sloughing away. But this appearance subsiding, in sixteen days from the first operation, the actual cautery was applied. A piece of horn was so shaped as to receive and convey securely an iron across the mouth to the throat. This being introduced, a globe of iron, half an inch in diameter, with a handle attached to it, was heated red hot and carried to the tumour, and pressed forcibly into it. The substance appearing very hard, a second red hot iron was employed in the same manner. On that day and the next, the patient suffered considerably from this operation. By the fourth day he was as well as before it; and the slough having separated, he left the hospital within a week, and went home into the country. From some exposure, he got an inflammation of the throat, which for a time had an unpromising aspect; but from this he has now recovered, and is well enough to resume his common occupation. The recovery of this patient shows what extraordinary wounds a weak, yet unirritable, constitution can support. In this operation, which lasted an hour, including the faintings, the carotid artery was tied; the par vagum nerve and the internal jugular vein dissected, for a considerable extent; the accessory and sublingual nerves exposed; the glosso-pharyngeal and the descending branch of the sublingual, or descendens noni, cut off; part of the pharynx and trachea uncovered; the mastoid muscle dissected for its whole length, and divided; the omo-hyoid, sterno-hyoid and sterno-thyroid dissected, and the first divided; the digastric and internal pterygoid, and other small muscles, dissected; and the transverse processes of the cervical vertebræ in part exposed.

23. *Experiments on the Blood.*

Dr. Davy has repeated many of the experiment which have been made on the blood, and he has instituted some new ones, the results of which are published in the Edinburgh Journal:—

1. *Of the effect of violent agitation of the blood.* Dr. Bostock, in his *System of Physiology*, says, that if blood, as it is discharged from the vessels, be briskly stirred about for some time, the process of coagluation is entirely prevented from taking place. To ascertain if a brisk motion does really prevent coagulation, Dr. Davy allowed about two ounces of blood to flow into a large vial; this was immediately shaken violently, and the agitation was continued without intermission for ten minutes, which was two minutes after the blood at rest coagulated. The result was, that the blood thus shaken acquired a scarlet hue, from being mixed with atmospheric air, and *appeared* to be liquid. But this was merely in appearance, for when poured on a filter it separated into two parts—one serum with colouring matter, which passed through the filter; the other fibrine, in a finely divided state, coloured by adhering red particles, which remained on the filter.

2. *Effects of moderate agitation.* Dr. Davy is of opinion that no two portions—not even two drops—of the blood are exactly alike; that

the portions of a continuous stream flowing from the arm, were it divided into a hundred, may all be different:—Six gallipots of the same size, and a platina crucible of nearly the same size, were filled in succession with blood as it flowed from the arm. They were placed close to each other and carefully observed. The blood in each did not coagulate in the order in which it was received, but irregularly. The first portion received was the last but one to coagulate; and that received in the crucible, which was the fourth in succession, coagulated first. From Dr. Davy's experiments, moderate agitation would appear upon the whole rather to accelerate than retard coagulation; but owing to the difference in the properties of each portion of the blood taken from the same individual, it is difficult, if not impossible, to determine this point satisfactorily.

3. *Effects of change of temperature.* Dr. Davy's experiments agree with those of other physiologists in the result, that cold retards the coagulation of the blood. In the temperature of 32°, he has seen blood remain liquid for more than an hour. A temperature somewhat lower was necessary to freeze it. When frozen, it appeared as a homogeneous mass. After having been kept some time frozen, its temperature was raised, when it again became liquid, and then coagulated as if fresh from the body. From this circumstance Dr. Davy is disposed to infer that blood may be frozen for any length of time, without losing its power of coagulating, and without losing its power of becoming liquid.

From the experiments which he has made on the effect of a high rate of temperature, as 120°, of a moderate degree, as 100°, and of degrees between this and the freezing point, he is disposed to infer, that the first immediately renders the blood more liquid, and accelerates its coagulation; that the second rather retards than accelerates coagulation; and that at 80° or 90° its coagulation is less rapid than at 120°, and more rapid than at 100°. It may appear a paradox, that above 100° should increase the liquidity of the blood and accelerate its coagulation; but is it more so than that cold should render it more thick and viscid, and yet retard or prevent coagulation?

4. *Effects of different kinds of vessels on the blood.* It is generally supposed, that the kind of vessel in which the blood is received, its size, form, and quality, have a considerable influence in promoting or retarding its coagulation, and the formation of a buffy coat. Dr. Davy has made many experiments to endeavour to ascertain the truth of this opinion, but he has not been able to arrive at a satisfactory conclusion. He is rather disposed to think that wood and polished metals retard coagulation, and that glass and earthenware accelerate it. The form and size of the vessel will, of course, have some influence, were it merely in connexion with temperature.

5. It does not appear from Dr. Davy's experiments, that removing the atmospheric pressure from the blood accelerates its coagulation, as Dr. Scudamore seems to suppose. This does not appear to affect the process of coagulation in any way.

6. *Effects of oxygen and carbonic acid gas.* According to Dr. Scuda-

more blood coagulates sooner in oxygen than in atmospheric air, and has its temperature raised; and in carbonic acid gas, its coagulation takes place more slowly and it cools sooner. Dr. Davy's experiments, however, show that this is a mistaken supposition, and that neither of these gases has any influence on the coagulation of the fluid, or on its temperature. He did not simply expose the *surface* of the blood to the influence of the gases, as did Dr. Scudamore, but agitated it in each gas. Of the oxygen there did not appear to be any absorption, but of the carbonic acid a volume equal, or very nearly so, to that of the blood used, was absorbed.

7. *Effect of water, milk, urine, and bile on the coagulation of the blood.* All these substances retard but do not prevent coagulation from taking place. Respecting urine, Dr. Davy remarks that about two ounces of blood were mixed, as it flowed from the arm, with four ounces of the former fluid, containing, perhaps, rather a larger proportion than usual of urea. After about an hour and a-half the blood had gelatinized. After twenty-four hours it had coagulated pretty firmly; the coagulum was much contracted and slightly cupped, and covered with a thick buffy coat. After forty-eight hours the coagulum was still more contracted, and it had acquired a globular form, with a little convexity on its upper surface. The urine was only just perceptibly coloured by the colouring matter of the blood. Dr. Davy remarks, that this fluid is particularly well adapted as a medium for displaying the phenomena of the coagulation of the blood, from its retarding the effect, and yet not preventing it, and from its not dissolving the red particles. It enables one to determine, in a satisfactory manner, that the phenomena of the buffy coat and the cupping of the blood are owing to an unequal distribution of the fibrin; and that, when they occur, there is an excess of fibrin at the surface of the crassamentum, and a deficiency of it below the surface in a regular gradation, and that the buffy coat is cupped in consequence of the unusual contraction of the fibrin and its consequent accumulation at the circumference.

With regard to the action of reagents on the blood, or on the fibrine of blood, as respects coagulation, Dr. Davy remarks, that it is exceedingly various, not to be anticipated *à priori*, and inexplicable upon any one hypothesis hitherto advanced; the effect of each of them requiring special consideration, and further and minute experimental inquiry for its elucidation.

24. *Peculiar Swelling of the Lower Extremity after Fever* *.

Dr. Tweeddie has, within the last four years, at the fever hospital, noticed several cases of swelling of the lower extremities consequent on fever, corresponding very much in its character and progress with the puerperal *phlegmasia dolens*, although from its resemblance to the œdematous swelling of the extremities, which occasionally appears after cases of protracted fever, its real nature and treatment are apt to be overlooked. It differs in many particulars from

* Edin. Med. and Surg. Journ.

common œdema; it is confined to one extremity, making its appearance first about the upper part, extending gradually over the whole limb, and being attended with acute pain. It does not retain the impression of the finger, like common œdema, which usually commences round the ankle and foot, and seldom extends much higher. All the subjects of the cases observed by Dr. Tweeddie were females, two of whom were under twenty years of age, and unmarried. Dr. Tweeddie considers the disease to be inflammation of the cellular tissue of the limb. The following is the substance of one of the two cases recited in illustration of its pathology and treatment.

Mary Benner, aged thirty-six years, unmarried, was admitted into the hospital on the 2nd November, 1827. She had been the subject of fever for ten days previous to admission, the brain being the organ principally affected from the commencement of her illness. She had been twice largely bled from the arm, and afterwards leeched on the temples, from which measures only temporary relief was procured. The severity of the disease being therefore still unsubdued, the pulse strong and full, the face flushed, and the skin hot, it was deemed advisable on her admission into the hospital to repeat the venesection among the other antiphlogistic measures adopted. These being still insufficient to relieve the head, she was largely cupped, which, with the constant application of a cold lotion to the scalp and active purgatives, completely subdued the cerebral symptoms, and in a few days she was evidently convalescing. About a week after, however, and before she was permitted to sit out of bed, symptoms of fever became evident, and on the following day she complained of uneasiness in the left lower extremity, which, on examination, was found considerably swollen from the groin to the toes, and very painful when touched or moved. The integuments were hot, smooth, shining, of a pale marble white colour, and on the fore part of the tibia there was a large mark or scar, seemingly produced by previous vesication. On inquiry, it was found that some time previously she had erysipelas of the leg, which terminated in extensive vesication on the seat of the cicatrix. Judging the disease to be of an inflammatory character, Dr. Tweeddie directed twelve ounces of blood to be taken from the upper and inner part of the thigh, over the region of the inguinal vessels, and afterwards fomentations to be applied to the limb. These measures had the effect of diminishing the pain, but the swelling continued to increase, the circumference of the affected thigh measuring twenty-eight inches. At this period Mr. Lawrence saw the patient with Dr. Tweeddie, when it was agreed that repeated local abstraction of blood and hot fomentations should be used. The patient was at the same time put on a course of purgative and diuretic medicines. Twelve to fifteen leeches were accordingly applied over the general surface of the limb every second day, so that, in the course of ten days, eighty-four leeches were applied. At the end of this period the skin was moderately hot; tongue quite clean; bowels open; urine in natural quantity and appearance; appetite good; pulse 108; sleep good. The circumference

of the affected limb had not diminished, but the integuments were much softer, and the leg and foot when pressed retained the impression of the finger. The same medicines were continued. On the 15th, the temperature of the limb was still warmer than natural, but the swelling had much subsided; the whole limb felt softer; general health much improved. A cold lotion was ordered. On the 23d, the swelling had been gradually decreasing, and the surface had gradually acquired a natural temperature. The limb was ordered to be bandaged. On the 26th of December, the patient was dismissed from the hospital, the limb being nearly reduced to its former size; and she had no perceptible lameness.

25. *Pathology of Gout* *.

Dr. Sanders endeavours, by a series of cases, to show that gout has its seat in the centre of the nervous system, and that the external inflammation observable in the extremities, is to be considered as merely symptomatic of the internal malady. He is of opinion that the tendency of the disease, as well as the morbid appearances found after death, are sufficient to lead us to this conclusion respecting the nature and seat of the complaint. A gentleman who had been for several years subject to attacks of gout had, early in October, 1827, a smart fit, which kept him to his sofa nearly a fortnight. The swellings all subsided, but his toes were still uneasy. In this state, on the 20th, a cold wet day, he went upon some business, and sat in a cold room two hours or more; came home, and fell down seemingly lifeless. Dr. Sanders arrived soon after, and his senses were returning. In a few days he had another fit of the same kind. He was bled at the arm, came to himself again, though not with symptoms equally favourable as on the former occasion. Alarming prostration ensued; his mind was bewildered; breathing oppressed; pulsations hardly perceptible at the temples and wrists, and they seemed to have quite abandoned the inferior extremities. The whole surface of the body was cold and clammy, and deadly so his hands and feet. A cap blister was put on the head, sinapisms on the breast, and on the extremities from the elbows and knees downwards. Antispasmodics were administered internally. In a few hours the arteries beat distinctly about twenty-five times per minute at the temples and wrists, and moderate heat was restored to the superior half of the body; but the mustard was kept to the inferior extremities full twenty-four hours before rubescence was induced, and then heat and pulsation returned together. After this escape he recovered considerably, and was as careless of himself as ever. In the beginning of January, 1828, he encountered his last attack of gout, which seized the right, and, in two days after, the left foot. His head became easy, his mind lively; the beats of the arteries rose from 36 to 38 and 42 per minute; the erysipelatous swelling gradually increased, was very painful on the 5th and 6th days, and then gradually declined. On the evening of the 11th, the feet, free from pain, were slightly œdematous. He said that he had had

* Dr. Sanders, Edin. Med. and Surg. Jour.

some vertigo in the forenoon, which was entirely removed by taking food. His pulsations were now about 50, weak and irregular. Dr. Sanders replied, that he neither liked the vertigo before dinner, nor the total absence of pain in his feet, and advised him to have mustard applied to them and to his head. After Dr. Sanders left him he amused himself for more than two hours, got up, and walked about with uncommon ease and spirits. "I never," said he, "felt myself better. I think I may enjoy myself this one night, and to-morrow I will use the Doctor's prescriptions." At nine next morning his daughter asked him how he had passed the night? He answered, "Very well indeed." She left him, and in three hours after he was found on the floor by the side of his bed, dead. No noise of falling had been heard; no sign of convulsion, or spasm, of bruise, or injury, was discovered on his body. He lay at full length, with his face downwards; his countenance was blue and swollen; but these appearances went off when he was laid on his back. From every circumstance there could be little doubt that life had been extinct at least two hours.

Sectio Cadaveris, twenty-four hours after Death.—General appearance: Plump, and rather tending to obesity.—*Head*: Skull dense, of unequal thickness from the temporal bones backwards, grooved internally in the track of the meningeal arteries, strongly adhering round the corona to the dura mater. Serous and gelatinous effusion on all the surfaces of the cerebrum and cerebellum. When the encephalon was removed, serum and blood flowed through the foramen magnum, and the blood continued to flow copiously, as is usual in such cases. Cerebrum, cerebellum, tuber annulare, and medulla oblongata, all much softened. The basilar artery was enlarged, exhibiting progressive ossification, which appearance pervaded the circle of Willis, and the vessels in the fissuræ Silvii; all the other vascular tubes seemed attenuated, soft, and fragile. There were red patches of small turgid vessels on the medulla oblongata and corpora quadrigemina, on the roots of the second, fourth, eighth, and ninth nerves. The optic nerves were smaller than usual, and in the third ventricle there was partial cohesion of the thalami; all the ventricles were full of water. The plexus choroides, in different parts, imitated hydatids, from limpid serum distending its cellular membrane. On the interior surface of the lateral ventricles some blood-vessels were conspicuously ramified, as is common when water is contained in those cavities, but no distension any where of the larger vessels, and the mass of the brain was as free from any vestige of redness as if the blood had been withdrawn, and the heart had become unable to furnish any supply. In each hemisphere, from about the centre of the middle lobes forwards, were small bullæ or cysts full of a yellowish fluid, seven of these were counted, four on the one side and three on the other; the cineritious substance surrounding each bulla was morbidly dark, and losing its consistency. Though both hemispheres were diseased, yet the right had suffered more than the other.—*Spinal Canal:* Dura mater generally sound.

As soon as it was slit open, turgid vessels of a vermilion colour were seen on the cervical and lumbar portions of the spinal marrow, and some solitary red vessels from these diverging along the nervous cords. On the arachnoid coat, in the lumbar part, appeared minute ossifications. The substance of the spinal cord, like that of the brain, was very soft, and nearly bloodless. The sinus venosi of the canal were full of dark blood—an occurrence presented in almost every instance of sudden death.—*Thorax*: Lungs sound; strong cohesions on the right side, between the pleuræ. Heart a little enlarged, its cavities full of dark fluid blood; the parietes of its right ventricle were thinner, and of its left thicker than it should have been.—*Abdomen:* Spleen a little too large; left kidney a little smaller than the right, both too dark in their cortical substance, and the pelvis of each contained a yellowish clammy fluid.

In his remarks upon this case, Dr. Sanders observes, that the history and the anatomical appearances just detailed give a nosological view so much the more interesting, that the case is almost a complete specimen of this genus. The malady exhibited itself first in the inferior extremities, and afterwards in the head, scarcely sparing in its ascent the functions of any intervening part. An instructive contrast is furnished when the arthritic die of some superinduced or incidental misfortune; in them are disclosed the primary limits of gout, as if accurately circumscribed. Where the inferior extremities are chiefly attacked, the lumbar, but where the superior extremities, the cervical, portion of the spinal cord shows the peculiar condition connected with the paroxysms.

Several more cases are recited, with the view of proving that the symptoms of gout are those which indicate an affection of some part of the brain, or medulla spinalis, and that sufficient traces of disease are found, on examination after death, in these parts, to render it clear that they form the special seat of the malady. All the facts combined seem to establish, as Dr. Sanders believes; 1st, that gout has its primary seat in some part of the centre of the nervous system; 2d, that in whatever part it commences, it gradually, more or less, produces morbid change throughout the whole; 3d, that it most frequently commences in the inferior portion of the spinal marrow; 4th, that, as it extends, the remote organs become disordered in their functions, and, ultimately, in their structure; 5th, that, in fine, gout is primarily and essentially a disease of the centre of the nervous system.

26. *Case of enormous Osteo-Sarcoma of the Lower Jaw removed.* By J. Syme, Esq.*.

Between eight and nine years ago, Robert Penman, then sixteen years old, noticed a hard swelling of the gum on the outer side of the grinding teeth of the lower jaw. The swelling was not painful, but gradually increased. When it attained the size of an egg, he applied to a surgeon of the neighbourhood, who extracted three of the adjoining grinders. It then grew more rapidly, and having

at length become so large as a double fist, induced him to repair to the Royal Infirmary of Edinburgh, where it was removed, i. e. cut off from the bone. The wound did not heal, and the actual cautery was repeatedly applied in vain to make it do so. After remaining eight months in the Infirmary, he returned home; but finding the tumour regularly and rapidly increasing, he, two years afterwards, went again to Edinburgh, and consulted a distinguished operating surgeon, who declined making any attempt towards his relief. He went home with the fearful prospect of a certain, lingering and painful dissolution; and it was after *three years and a half* spent in this miserable state, that Dr. Sibbald happened to see him. Though the tumour was then nearly three times larger than it was when the patient last quitted Edinburgh, Dr. Sibbald felt persuaded that it was still within the reach of surgery, and therefore, encouraged the young man to go once more to town, which he accordingly did.

Though prepared for something extraordinary and frightful, Mr. Syme was astonished at first sight of the patient. The mouth was placed diagonally across the face, and had suffered such monstrous distortion as to measure fifteen inches in circumference. The throat of the patient was almost obliterated, there being only about two inches of it above the sternum, so that the cricoid cartilage of the larynx was on a level with that bone. When the tumour was viewed in profile, it extended eight inches from the front of the neck. It completely filled the mouth, and occupied all the space below it, from jaw to jaw. The tongue was thrust out of its place, and lay between the teeth and cheek of the right side. The only portion of the jaw not implicated in the disease was the right ramus and base of the same side, from the bicuspid teeth backwards. The tumour, where covered by the integuments, was uniformly very firm, and for the most part dintinctly osseous. The part which appeared through the mouth was a florid, irregular, fungous-looking mass of variable consistence, from which an alarming hemorrhage had occasionally occurred; and for the last three or four weeks there had been almost daily a discharge of blood to the extent of one or two ounces. Notwithstanding the great bulk of the tumour the patient could move his jaw pretty freely in all directions. With the exception of the disease now described, Penman enjoyed good health. He was a tall, well made, though much emaciated, intelligent young man, and possessed uncommon fortitude. Having carefully examined the tumour, Mr. Syme undertook to remove it; and this proposal meeting with the approbation of Dr. Abercrombie and Professor Ballingall, was, with the assistance of the latter gentleman, carried into execution on the 7th of July, in the presence of Dr. Abercrombie, Professor Russell, Dr. Hunter, &c.

The patient being seated on an ordinary chair, which posture, though inconvenient to himself, Mr. Syme preferred, as being most conducive to the prevention of suffocation from hemorrhage during the operation, he made an oblique incision by running a sharp pointed knife through the lip, from the right angle of the mouth to

the base of the jaw, where he proposed to divide it, viz. at the second bicuspid tooth, which had been removed the evening before. Having exposed the external surface of the bone at this part, Mr. Syme divided it partially with the saw, and easily completed what remained by means of the cutting pliers. The inferior coronary artery, which Dr. Ballingall had prevented from bleeding by compressing it in the lip, was then tied. Mr. Syme next made a long semicircular incision from the left angle of the mouth, in the direction of the base and ramus of the jaw, and terminating over the condyle. Having secured the facial artery, and two transverse branches of the temporal, he dissected down the large flap thus formed, quite to the neck, so as to let Dr. Ballingall feel the carotid lying in the muscular interspace, and ready to be compressed if there should be occasion. He then made another curved incision in a similar direction, commencing from the mouth, at such a distance above the former as to include a portion of the cheek, which was firmly adherent to the tumour; and having dissected up this flap, divided the masseter muscle, so as to expose the whole external surface of the tumour. The next step was to divide the mucous membrane of the mouth. This rendered the tumour much more moveable, and enabled Mr. Syme to expose the coronoid process, divide the temporal muscle, and open the articulation at its fore part. He had then merely to cut closely round the condyle, and detach the pterygoid, mylohyoid, and other muscular connexions.

The patient made no complaint of any sort after the operation. His pulse for the first two days was about a hundred, but soft, and gradually subsided to the natural standard. He slept well; had an appetite for his food, viz. beef-tea and whey, which were introduced into the pharynx through a funnel with curved tube, and performed his excretions regularly. The whole of the caddis was removed by the third day, when the patient sat up, and declared that he felt better than he did previous to the operation. By the 15th of August, the patient was quite recovered. His mouth had contracted to nearly its natural size, and his appearance was not disagreeable.

In his remarks on the above case, Mr. Syme observes, that the patient ought to be seated during the operation, since the blood will thus be prevented from running into the throat, so as to delay the operation, or even render tracheotomy necessary to prevent suffocation. There is no advantage in tying the carotid artery previous to commencing the extirpation. Mr. Syme was advised to do so in the case above related, but declined on the following grounds:—1. It is unnecessary, since the only arteries which must and ought to be cut are the facial, some of its branches, and some branches of the temporal. 2. It must exhaust the patient, especially when the tumour throws an obstacle in the way, as in Penman's case, where there was hardly any space left for applying a ligature. Thus, in one of Dr. Mott's cases, the patient was so much fatigued, as to require the delay of a day after the artery was tied. 3. It increases the danger, since it cannot be denied that

there is always more or less risk of hemorrhage on the separation of a ligature from so large a vessel as the carotid. 4. It is of no use, since the anastomotic communications are so free, that a ligature of the trunk is not sufficient to arrest the flow of blood from its branches. Thus, in Dr. Mott's case above-mentioned, the arteries which were cut during the operation required to be tied; and Mr. Syme has heard of a case where the operator, attempting to remove a tumour of the upper jaw, tied *both* carotids, and was still obliged to desist by the bleeding. 5. Any good effect that can be expected from *tying* the trunk may be obtained by *compressing* it after the integuments lying over it have been dissected off or divided.

27. *Case of Spontaneous Preternatural Anus*.*

Dr. Henderson relates a rather remarkable case of the formation of preternatural anus. April 3, 1826, G. D., aged eight years, had been from August, 1825, liable to severe fits of obstruction in his bowels. With this exception, he had been a healthy and vigorous boy from his infancy. After one of these attacks, which was overcome by croton oil, scammony, gamboge, &c. his bowels acted regularly without the aid of medicine; his appetite, however, did not return; he became daily more feeble, and lost flesh very fast: the skin was hot and dry; the tongue moist, but furred; the pulse 120; his stools passed copiously every morning, clay coloured, and of yeasty consistence, with glistening scum on the surface; urine seldom passed, except when his bowels were moved, and then, and at all other times, with much pain; the little food he took was often rejected. Three days after the yeast-like stools appeared, he entirely lost the power of his lower extremities. One grain of calomel was mixed with his food three times a-day, and this was continued for ten days, when his bowels became more relaxed. Although he had three or four stools in the course of twenty-four hours, still the abdomen rapidly enlarged, and was tense and painful to the touch. After this he recovered the use of his limbs, and the urinary symptoms disappeared. The abdomen, however, went on increasing in size, and he became emaciated to the last degree. The nitro-muriatic acid bath, enemata, and other remedies, were tried with no success. As a last resource Dr. Henderson determined on making trial of iodine, and began with ten drops of the saturated tincture morning and evening, gradually increasing the dose to thirty drops. From this time the patient improved daily; his appetite, in a few days, became keen; the abdomen gradually decreased in size, and every day became less tender; his strength and flesh also improved rapidly. Ten days after he first took the iodine the right testicle became painful and enlarged. As the iodine he took rested well on his stomach, Dr. Henderson gave him an additional dose daily, at first fifteen, afterwards thirty drops; cooling lotions being at the same time applied to the testicle. In seven days the left knee swelled, and became stiff and painful; but the

* Ed. Med. Jour.

testicle showed symptoms of amendment, and fifteen days, from the time the knee began to swell, all traces of disease in the testicle were gone. The alvine dejections also improved; the skin became cool and moist; the pulse 130; his appetite good; and he slept well. From June, 1826, until the middle of September, 1827, his health continued in a precarious state. A collect on of fluid took place in the inside of the left knee; this was evacuated, and the part continued to discharge until the period last mentioned. At this time the discharge dried up almost entirely; but his appetite and strength failed; the abdomen began to enlarge, and to be affected with twitching pain around the navel; he had frequent vomiting after taking food, the bowels became relaxed, and in a few days his emaciation was very much increased. At last the umbilicus became tender and discoloured, and on the 29th it gave way and discharged a great quantity of matter. On being suddenly summoned to visit him during the night, Dr. Henderson found a small opening in the centre of the umbilicus, through which fæces and particles of undigested food passed freely. A compress and bandage were applied, and he was directed to be kept very quiet. Next morning Dr. Henderson learned that he had slept well, and had a natural evacuation; his appetite was improved, he had no pain, and no inclination to vomit. On the following day he continued to improve, and was less apprehensive of himself. On the 11th the discharge from the umbilicus had ceased. Till this time his improvement was progressive. Now, however, his appetite failed, and a profuse diarrhœa commenced, which, notwithstanding the liberal employment of kino and catechu, wine and brandy, continued excessively till the 15th, and reduced him to an extreme state of weakness and exhaustion. The discharges by stool then gradually became less abundant, when at length, on the 18th, the umbilical discharge returned profusely, and relieved him much. Matters went on in this way during the rest of the winter. When the wound discharged freely, which it generally did for three or four days, his appetite improved, he was more cheerful, and slept better; but when the discharge diminished, which usually was the case for six or eight days, he had sickness and vomiting of food. When it dried up altogether, which was the case for a week at one time, it brought on the same profuse alvine discharge as above, and brought him again to the point of death, until a fresh discharge relieved him. Early in November, 1827, some fulness and hardness were first observed in the epigastric region, and continued to increase till his death. Towards the end of January, 1828, small circular elevations were felt on the surface of the fulness in the epigastrium; these also went on increasing. As the enlargement increased in the epigastrium, the quantity of food he could take at one time diminished, and latterly almost every attempt at taking food brought on vomiting. During all this period his bowels were pretty regular; the tongue was always quite clean and moist, and of a bright cherry colour; the pulse always about 130; the skin generally natural. He continued to get worse and worse till the

2d of April, 1828, when he died. For six hours previous to his death, his sufferings were extreme.

Sectio Cadaveris, twenty-four hours after death.—Extreme emaciation; the wound in umbilicus gangrenous; great distension in the epigastrium. On laying open the abdomen the liver was the first object that attracted attention; it occupied the whole of the upper part of the abdomen, and by its great size had forced up the false ribs on both sides. The muscles, peritoneum, and liver were all found firmly adhering together, and could not be separated but by the scalpel. The convex surface of the liver was profusely studded with steatomatous tumours, varying in size from a pullet's egg to a pea, and all deeply imbedded in its substance. The inspectors were obliged to dissect the liver from the diaphragm, bowels, and spleen, to which it firmly adhered. After tying a ligature round the extremities of the stomach, and dividing the œsophagus and duodenum, the whole were removed out of the body. The stomach and pancreas were found closely adhering to, and imbedded in, the substance of the liver; and after searching in vain for the right kidney elsewhere, it was found buried in the substance of this gland. The tumours were smaller, and much less numerous in the concave than on the convex surface of the liver. The liver weighed four pounds ten ounces, and its substance was of a pale colour, and so soft as to give way under moderate pressure. The gall bladder was moderately distended with apparently healthy bile. The pancreas adhered closely to the liver and stomach, and was completely steatomatous throughout its whole substance. The stomach was very small, and much thickened where it adhered to the liver and pancreas. The kidneys were larger, softer, and of a darker colour than usual, but presented no other form of disease. The parietes adhered so firmly to the viscera, that they could not be separated without the scalpel, except at that part of the *parietes abdominis* which formed the anterior wall of the sac about to be described. The intestines were of a deep bluish purple colour, highly vascular, and every where agglutinated to one another, and to the surrounding organs. The opening through the umbilicus was found to run into the arch of the colon; the opening into which was from three and a half to four inches in length on the under side. The bowel was much thickened, was in a state of great expansion, and formed the superior wall of a sac, which, when in a state of distension, was supposed to contain from sixteen to twenty fluid ounces. The anterior wall was formed by the *parietes abdominis*, and the posterior by the intestines in a state of complete adhesion. The intestines here had their coats very much thickened, and their vessels gorged with dark-coloured blood. The sac contained feculent matter. The mesenteric glands formed one congeries of tumours, exactly resembling those on the liver, and varying in size from a large walnut to a pea. The bladder was free from all appearance of disease.

GENERAL MISCELLANY

OF THE ACCESSORY SCIENCES.

1. *Identical Active Molecules in Organic and Inorganic bodies.*—While Mr Brown was examining the pollen of various plants under the microscope, he observed distinct motion in the grains when immersed in water, consisting not only of a change in place, but of form also. Having observed this in the pollen of all the living plants he examined, he next tried to ascertain how long this property continued after the death of a plant, and found that plants dried, or immersed in spirit for a few days, and some even which had been dried for twenty years, and others not less than a century, still exhibited these active particles. Whilst making the observation with the ovula or seeds of the *equisetum*, they were accidentally bruised, which very much increased the number of moving particles; and on bruising the floral leaves and other parts of mosses, they were also obtained.

With a view of ascertaining whether these active particles, obtained from such different parts of plants, were the supposed constituents or elementary molecules of organic bodies, different animal and vegetable tissues were examined; whether living or dead, if bruised in water, they gave moving particles, identical with those of pollen. They were also found in products of organization, as gum resins, vegetable substances, and even pit-coal. The dust or soot deposited on bodies, especially in London, is entirely composed of them.

As the particles were found in fossil and silicified wood, they were next sought for in inorganic substances, and were at once obtained merely by bruising a small splinter of window-glass upon the stage of the microscope. They were obtained in succession from rocks of all ages, each of the constituents of granite, travertine, stalactites, lava, obsidian, pumice, volcanic-ashes, meteorites, manganese, nickel, plumbago, bismuth, antimony, arsenic, and in every mineral that could be reduced to powder sufficiently fine to be temporarily suspended in water. In many cases the particles seemed to aggregate into linear arrangements or fibrils, consisting of three or four, and these also had motion.

Wood, linen, paper, cotton, wool, silk, hair, and muscular fibre, being burnt, gave the molecules as evidently in motion as before combustion.

The form of these molecules appears to be spherical, but modifications of it occur in certain circumstances; the diameters of the particles are from one-fifteenth-thousand to the one-twenty-thousand of an inch.

The principal substances from which these molecules have not been obtained, are oil, resin, wax and sulphur; such of the metals as could not be reduced to the state of division necessary for their separation; and finally, bodies soluble in water.

All these observations were made under a simple microscope, and, indeed, with one and the same lens, the focal length of which is about one-thirty-second part of an inch.—*Phil. Mag.*

2. *British Ergot of Rye.*—Mr. Hammerson, of Elland, in Yorkshire, has discovered ergot in the rye grown in some part of Yorkshire, a sample of which he has sent to Dr. James Johnson, who states—'The specimen of ergot seems excellent, and we thus give publicity to the fact that the secale cornutum will, in all probability, be afforded in abundance by our farmers.'—*Medical Chir. Review*, 18. *N. S.*

3. *Oil of Euphorbia Lathyris.*—This has been manufactured in this country as an article likely to supersede oil of croton tiglium. We have received a valuable communication on the subject from Mr. Shillitoe, of Hertford, who perpared the oil from the seeds. 'The seeds were bruised and boiled in water; when cold, the oil was removed by means of a glass funnel; the colour of the oil was pale and without any particular flavour. I began,' he states, 'by taking one drop and gradually increased the dose to six, when it produced an intolerable nausea,

far more distressing than that occasioned by antim. tart. or ipecacuanha, but no purgative effect. I gave it in the same manner to a patient, and the effect was the same as I felt in my own person.'

4. *Preparation of Conia.*—The best method of obtaining this alkali is to digest the fresh herb (conium maculatum) in alcohol during some days, afterwards evaporating the filtered alcohol, agitating the residuum with water, and treating this mixture either with alumina, magnesia, or oxyde of lead. The whole is to be evaporated to dryness, and the residuum obtained treated with a mixture of alcohol and ether, which, when again evaporated, leaves the conia. This substance, which was discovered, and also named by M. Peschier, possesses very marked alkaline properties. According to M. Giseke, the aqueous solution forms with the tincture of iodine an abundant reddish precipitate; it renders tincture of galls slightly brown, precipitates muriate of zinc and nitrate of mercury of a dirty yellow; renders carbonate of potass and soda slightly turbid; gives a brown colour to muriate of platina; and produces a white precipitate with the nitrates of silver and barytes, the acetates of barytes and lead, muriate of lime and lime water. Half a grain of conia is sufficient to kill a rabbit; the symptoms which occur resemble those which are produced by strychnia.—*Repertoire de Chimie.*

5. *Hyosciamus Niger.*—In the *Bulletin des Sciences Médicales* for July, are recorded some experiments made with the extract of hyosciamus, prepared from the young leaves, that is, from leaves of the first year, six grains of which in a dose produced no sensible effect in an adult; one grain of good extract will, in most cases, produce a decided effect; three or four grains will bring on very unpleasant sensations in the head, with dilatation of the pupil. We know that most of the extract sold in town is prepared from the young leaves, but as some is also prepared at the proper season from mature leaves, that is, in June, great inequality of power must exist in the preparations. The want of uniformity in preparations from indigenous medicines is as criminal as it is easily rectified. A little attention to the natural history of the articles, and due care in the mode of preparation, would insure accuracy and uniformity.

6. *Effects of Bitter Almonds.*—Half an ounce of bitter almonds eaten in the morning, previously to taking food, produced at the end of half an hour violent pain in the head and nausea, which lasted for three hours; no other signs of poisoning were present. The vapour of ammonia being respired afforded no relief. —*Bull. des Sciences Méd. Juillet.*

7. *On Gum Kino.*—According to Dierbach, the true kino is procured from the *pterocarpus senegalensis* (Hooker); that which is commonly found in the shops is only an extract of the *nauclea gamboi.—Bull. des Sciences.*

8. *Preparation of Gallic Acid.*—The following is M. Le Roger's method: Gall-nuts are to be exhausted by repeated decoctions, the liquid obtained concentrated and precipitated by a solution of jelly; the tannin thus rendered insoluble is to be filtered out; very pure animal charcoal is to be added to the liquid, and boiled with it for eight or ten minutes, and the whole filtered, when the liquid, on cooling, will give pure white and silky crystals of gallic acid, amounting, when the best galls are used, to one-fourth of their weight.—*Mem. de Geneve.*

9. *Volatilization of Alcohol.*—According to M. Söemmering, strong alcohol yields a weaker spirit at the commencement of distillation than it does afterwards. With weak alcohol, the weaker it is the more readily is its strength increased by distillation; on the contrary, the more concentrated it is, the more difficult is it to remove the rest of the water. When alcohol of specific gravity 0,796 is distilled, the weakest comes over first, and the product becomes stronger as the operation proceeds.—*Bull. Univ.*

10. *Hyosciamus Picta.*—In the Apothecaries' garden at Chelsea, there is the hyosciamus picta, a hardy plant, and annual; it is probable, from the sensible properties of this plant, that it would, if tried, be found to possess the medicinal virtue of the H. niger; if such should be the case, it would be desirable to cultivate it in preference to the species niger, on account of its yielding a quicker return for the labour and expense.

11. *Solanum Dulcamara used externally.*—The juice of the ripe berries of the solanum dulcamara, or woody night shade, is said to possess much efficacy in cutaneous diseases of the scalp, such as the different forms of porrigo; it is used mixed with common white ointment, and applied night and morning.

12. *Purgative property of Convolvulus Sepium.*—Twenty pounds of the root of this plant, gathered in April, yielded one pound, twelve ounces, avoirdupois, of watery extract, which, in doses of from fifteen to twenty grains, acted freely on the bowels. Haller affirms, that the expressed juice of this herb, taken in the dose of twenty or thirty grains, possesses the virtues of scammony; and hence it is sometimes called German scammony.—*Med. Botany.*

13. *Mean Height of the Inhabitants of Paris, &c.*—During eight years, from 1816 to 1823 inclusive, the mean height of the young men found fit for military service has been five feet two inches 1⅓ lines for Paris, and five feet one inch 9½ lines for the suburbs de Sceaux and Saint-Denis; so that the mean height is higher in Paris than in the rest of the department de la Seine. The same fact has been remarked in the department du Rhone, between the town of Lyons and the suburb of Villefranche, in the years from 1806 to 1810 inclusive. From other facts of a similar nature also, it may be concluded that all other things being equal, the height of men is in proportion to their condition in life, or rather, perhaps, inversely, as the troubles, fatigue, and deprivations which occur in infancy and youth.—*Corr. Mathem.*

14. *Sting of a Wasp.*—The bulb of an onion or garlic, cut and applied immediately to the place stung, instantly removes the pain.—*Recueil Industrielle.*

15. *Red Viper of Dorsetshire.*—The Rev. Mr. Rackett states that a serpent, known to the gamekeepers of Dorsetshire under the name of the red viper, was recently killed in Cranbourne Chase. It does not appear to have been previously known to British naturalists, and is considered to be more poisonous than the common viper, but, fortunately, very rare. Mr. Rackett describes it as of a marked red colour, and thinks it probably the Coluber Chersea of Linnæus.—*N. Monthly Mag.*

16. *Loss in weight of Meat during cooking.*

4 lb. of beef lost by	boiling	1 lb.
4 lb. ditto. . .	roasting	1 lb. 5 oz.
4 lb. ditto. . .	baking	1 lb. 3 oz.
4 lb. of mutton .	boiling	14 oz.
4 lb. ditto . .	roasting	1 lb. 6 oz.
4 lb. ditto . .	baking	1 lb. 4 oz.

Jour. des Conn. Usuelles.

17. *On a Plant living entirely in the Air.*—This plant, which is described by M. Loureiro, in the 'Lisbon Memoirs,' ii. 83, is not the epidendrum flos aeris of Linnæus, but a different species, which grows in Cochin China, and in one part of China itself. The calyx is small, oval, and of one flower; the corolla has five equal petals; the nectarium consists of two horizontal petals, of which the lower is oblong, fleshy, concave, and shaped like a boat; it is covered by the upper nectary, which rises and turns at one side into the form of a tube, whilst the other side extends horizontally. The stamina are two short, elastic filaments united to the internal extremity of the lower leaf of the nectary; the anthers are oblate, simple, and covered; the pistillum consists of a three sided, thin, curved stem which supports the flower; the flower is of a yellow colour, larger than that of the jessamine, of an agreeable appearance, and pleasant odour. The root consists of intertwined bulbs. This plant is found in the woods, suspended from the branches of trees; being removed and hung upon a string, or some other support, it continues to vegetate, though slowly, and it flowers every autumn. It is multiplied by producing each year new filaments, which send out roots, become covered with leaves, and, separating from the parent plant, still continue to vegetate and increase.

18. *Benzoic Acid in the Grasses.*—Benzoic acid has been found by M. Vogel in the sweet-scented vernal grass (anthoxanthum odoratum), and in the sweet-scented soft grass (holcus odoratus). It is these two grasses which communicate to hay the aroma peculiar to themselves.

19. *Eradication of Meadow Saffron.*—Colchicum, or meadow saffron, is highly injurious in meadows, in consequence of its poisonous qualities, especially when green. Instances are not at all uncommon of cattle, pigs, &c, being poisoned by it. It is not easily eradicated, propagating itself readily both by its seeds and roots, and the latter lying deep in the earth. The best method is to pull it up in the beginning of May, before the seeds are ripe. It is only necessary that the stem should be separated at the neck of the bulb, for it has been ascertained that then the plant no longer has the power of reproduction.—*Bull. Univ.*

20. *Regulations of the Court of Examiners of the Society of Apothecaries.*—The following letter has been addressed to the Editor of the 'London Medical Gazette' in answer to a correspondent in that Journal, signing himself 'Inquirer,' giving an explanation of the regulations of 1826, 7, and 8:—

"All medical students who commenced their attendance on lectures prior to February, 1828, will be admitted to be examined agreeably to the regulations of 1826 - viz. after an attendance on one course of lectures on chemistry; one course of lectures on materia medica; two courses of lectures on anatomy and physiology; two courses of lectures on the theory and practice of medicine; and six months physicians' practice at a hospital, or nine months at a dispensary.

Those who *began* to attend lectures subsequently to the 1st of February, 1828, and previously to the present month, will be expected to comply with the regulations of 1827, and will only be admitted to be examined after the following course of study—viz. an attendance on one course of lectures on chemistry; one course of lectures on materia medica and medical botany; two courses of lectures on anatomy and physiology; two courses of lectures on the theory and practice of medicine; these last to be attended subsequently to the lectures on chemistry and materia medica, and to one course, at least, of anatomy—and six months, at least, physicians' practice at a hospital, or nine months at a dispensary: such attendance to commence subsequently to the termination of the first course of lectures on the principles and practice of medicine.

Those students whose attendance on lectures commenced in the present month, will be required to observe the regulations of 1828—viz. to attend two courses of lectures on chemistry; two courses of lectures on materia medica and botany; two courses of lectures of anatomy and physiology; two courses of anatomical demonstrations; two courses of lectures on the theory and practice of medicine;—these last to be attended subsequently to one course of lectures on chemistry, materia medica, and anatomy; and *six* months, at least, physicians' practice at a hospital, or *nine* months at a dispensary; such attendance to commence subsequently to the termination of the first course of lectures on the principles and practice of medicine.

But all students who shall *commence* their attendance on *lectures* at the second course of the present winter session (namely, in January, 1829), will be required to attend the physicians' practice at a hospital for nine months, or at a dispensary for twelve months.

Your obedient servant, JOHN WATSON,
Secretary to the Court of Examiners.

Apothecaries' Hall, Oct. 16, 1828."

21. *London Medical Society.*—A few evenings ago a curious case of double uterus was detailed by Mr. Waller; but, with this exception, the proceedings have scarcely been of sufficient importance to warrant their publication since our last report.

22 *Hunterian Society.*—Dr. Macbraire reported a case of hydrothorax, in which there appeared a probability of a successful result. The compressed state of the lung, and its being covered with false membrane, were mentioned as rendering the operation of tapping for empyema in most instances hopeless.

At an early period of the meeting, the Secretary announced the melancholy tidings of the death of the Society's Treasurer, Dr. Robinson. The event had happened only about an hour previous to the meeting. It was unanimously resolved, as a mark of the Society's high esteem for Dr. Robinson, and their deep sorrow at hearing of his decease, that the meeting do now adjourn.

23. *Westminster Medical Society*—This Society commenced its meetings on Saturday, the 18th, when Mr. Arnott took the chair.

The evening was principally occupied with routine business: among the rest, the election of Presidents. Dr. A. T. Thomson and Mr. C. Hawkins were nominated in the room of Dr. J. Somerville and Mr. Mayo, who go out in rotation. A letter was read from Dr. Barry, stating that he was about to proceed forthwith to Gibraltar, on service, and regretting that he would therefore be unable to discharge his duties as President.

24. *Celebration of the Anniversary of Ray.*—At the last anniversary meeting of the Zoological Club of the Linnean Society, the chairman, Mr. Children, towards the close of his oration, stated that November 29, 1828, would be the two hundredth anniversary of the birth-day of the great naturalist, John Ray! He added, "should not British zoologists celebrate the Jubilee! let us mark it by more than the common ceremonies of our anniversary, and devote the day to that innocent cheerful conviviality which he himself loved and cherished, and pour out a generous libation to the immortal memory of John Ray." A committee has been appointed to carry this suggestion into effect, on a scale commensurate with the event it is proposed to celebrate.

The committee consists of Messrs. Bell, Bennet, Bicheno, Brooks, Children, Haworth, Kirby, Morgan, Stephens Taylor, Vigors and Yarrell, with power to add to their number.

25. *Shower of Insects in Russia.*—On the 17th of October, 1827, there fell in the district of Riga, in the Government of Twer, a heavy shower of snow, in the space of about ten versts, which contained the village of Pokroff and its environs. It was accompanied in its fall by a prodigious quantity of worms, of a black colour, ringed, and in length three quarters of a verschok. The heads of these insects were flat and shining, furnished with antennæ, and the hair in the form of whiskers, while their bodies, from their head to about one third of their length, resembled a band of black velvet. They had on each side three feet, by means of which they appeared to crawl very fast upon the snow, and assembled in groups about the plants, and in the holes in trees and buildings. Several having been exposed to the air in a vessel filled with snow, lived there until the 26th of October, although in that interval the thermometer had fallen to 8° below Zero. Some others, which had been frozen, continued equally long in life, for they were not found exactly incrusted with the ice, but they had formed round their bodies a space similar to the hollow of a tree. When they were plunged into water they swam about as if they had received no injury; but those which were carried into a warm place, perished in a few minutes.—*Journal de St. Petersburgh, No.* 141.

26. *Rare Insects.*—There exists in Livonia a very rare insect, which is not met with in more northern countries, and whose existence has been for a long time considered doubtful: it is the *Furia infernalis*, described by Linnaus, in the *Noveaux Memoires de l'Academie d'Upsal*, in Sweden. It is so small that it is very difficult to distinguish it by the naked eye. In warm weather it descends from the atmosphere upon the inhabitants, and its sting produces a swelling, which, unless a proper remedy be applied, proves mortal.

During the hay harvest, other insects, named *Miggar*, occasion great injury both to men and to beasts. They are of the size of a grain of sand; at sunset they appear in great numbers, descend in a perpendicular line, pierce the strongest linen, and cause an itching and pustules, which, if scratched, become dangerous. Cattle which breathe these insects are attacked with swellings in the throat, which destroy them, unless promptly relieved. They are cured by a fumigation from flax, which occasions a violent cough.

27. *A shower of Herrings.*—A remarkable, though not unprecedented occurrence happened lately in the county of Ross, N. B. A field belonging to Major Forbes Mackenzie, of Foderty, was found covered, to a considerable extent, with herring fry, of from three to four inches in length; they were fresh and entire. The only rational conjecture that can be formed of the circumstance is, that the fish were transported thither in a water-spout, probably from the Firth of Dingwall, which lies about three miles distant from the place.

28. *Itch cured by Chloride of Lime.*—Mr. Johnson, of Lynn, has cured a family of seven persons affected with scabies papaliformis by a bath formed of one part of Fincham's chloride of lime to six pints of water. They remained in the bath for ten minutes, this was repeated daily for six days, the disease was not felt by the patients after the second application.

(Continued from Page 403.)

29. *Formulary of the* HOTEL-DIEU, *at Paris.*—The quantities are expressed in Troy weight and English fluid measure.

Ointment for Ophthalmia.—(M. Dupuytren.)—Take of Hog's Lard ʒij. Red Oxyde of Mercury gr. viij. Sulphate of Zinc gr. xvj. Mix.

ANOTHER.

Take of Hog's Lard ʒiij. Red Oxyde of Mercury ℥ss. Superacetate of Lead ℥ss. Alum ʒss. Tutty ʒss. Oxymuriate of Mercury ℈ij. Mix.

Th se two ointments are employed in similar cases, that is, in chronic and rebellious ophthalmias, kept up by a general scrofulous affection: that of M. Dupuytren is the most in use. The tarsi are to be lightly smeared with it. It is not to be employed until the acute stage of inflammation has ceased.

Resolutive Ointment.—(M. Dupuytren.)—Take of Hog's Lard ʒij. Calomel and Squills, of each ʒss. Oil of Roses gr. iv. Mix.

Used successfully in friction for chronic enlargements of the articulations.

Ointment for Dartres (Herpes.)—(M. Dupuytren.)—Take of Rose Ointment ʒiij. Nitrate of Mercury or Submuriate of Mercury ʒj. Mix.

Epispastic Ointment with Camphor.—(M. Marjolin.)—Take of Cantharides in coarse powder ʒij. Boil in Water Ojss. for half an hour, strain and boil the Cantharides again in a similar quantity of water; mix the decoctions together, and evaporate them to eleven ounces, then add Lard ʒxij. Olive Oil and Yellow Wax, of each ʒviij. Boil until the water be evaporated, leave it to cool and deposit, then add Camphor in Powder ʒss.

Febrifuge Bolus.—Take of Cinchona Bark in Powder ʒj. Muriate of Ammonia, Carbonate of Ammonia, of each ℈j. Tartarized Antimony gr. xv. Simple Syrup q. s. Mix.

A bolus, differing in quantity according to the case, is given in intermittent fever during the state of apyrexia.

Stomachic Bolus.—Take of Saffron in Powder gr. vj. Cinnamon in Powder gr. iv. Magnesia gr. viij. Brown Oxyde of Iron gr. vj. Syrup q. s. Mix.

Bolus ad Quartarium.—Take of Cinchona Bark in Powder ʒj. Subcarbonate of Potass ʒj. Tartarized Antimony gr. xiij. Syrup q. s. Mix for sixty boluses to be taken in twenty-four hours.

Camphor Bolus.—Take of Camphor and Nitre, of each gr. xij. Starch and Syrup q. s. for a bolus.

Anodyne Pills.—(M. Récamier.)—Take of Extract of Opium, Hydro-Sulphuretted Oxyde of Antimony, of each gr. iss. Nitre gr. iij. Syrup q. s.

Very useful in rheumatism.

Pills for Hospital Gangrene.—(M Dupuytren.)—Take of Camphor gr. ij. Musk gr. viii. Extract of Opium gr. ij. Syrup q. s.

Antisyphilitic Pills.—(M. Dupuytren.)—Take of Oxymuriate of Mercury gr. one-third. Extract of Opium gr. one-third. Extract of Bark gr. viii. for one pill. Dose, two or three daily.

Pills for Epilepsy.—(M. Dupuytren.) Take of Valerian in Powder gr xxv. Castor gr. iij. Oxyde of Zinc gr. xvj. Syrup q. s. to make three pills, which are to be taken in the day.

This remedy should be continued for a year.

Resolvent Pills.—(M. Récamier.)—Take of Hard Soap ʒiij. Gum Ammoniacum ʒj. Aloes gr. viij. Assafœtida ʒss. Rhubarb ʒj. Saffron ʒss. Mix four pills of gr. iiss.; each dose four or five pills per diem.

Pills of Bark with Camphor.—(M. Dupuytren.)—Take of Extract of Cinchona ʒj Opium gr. j. Camphor gr. xij. Cinchona in Powder q. s. Divide into twelve pills.

Astringent Pills.—(M. Récamier.)—Take of Alum gr. v. Opium gr. j. Catechu ℈j. Make six pills. To be taken in the day.

Antispasmodic Pills.—(M. Montaign.)—Take of Musk gr. j. Assafœtid. gr. ij. Gum Ammoniacum gr. ij. Valerian in Powder gr. viij. Syrup q. s. for one pill.

Pills Suédoises.—Take of Black Sulphuret of Mercury, Red Hydro-Sulphuretted Oxyde of Antimony, of each ʒj. Calomel ʒiss. Crum of Bread q. s. for 144 pills.

(To be continued.)

30. *New Cinchona.*—M. Gondat, professor of Botany at Bogota, in New Granada, has recently discovered a new species of cinchona in the extensive forests which surround the city of Muzo, to which he has given the name Cinchona Muzonensis, with the following character: Cinchona Muzonensis, foliis ovata-oblongis, acutis, basi attenuatis, stipulis revolutis paniculâ hachiatâ, corollis albis, limbo imberbi.

31. *Poisoning by Atropa Belladonna.* A man, forty-six years of age, swallowed, by mistake, 44 grains of the powder of atropa belladonna; an hour afterwards he was attacked with violent headach, especially over the orbits; the eyes became of a red colour, which quickly extended over the face, and, at last over the body, so that within a few minutes the whole skin exhibited an intense uniform redness, such as is observed in scarlet fever; at the same time the patient felt a violent pain and heat in the throat along the œsophagus, and, on examination, the fauces were found strongly inflamed. These symptoms were accompanied by a very painful irritation of the urinary passages, especially of the neck of the bladder, with a constant but fruitless desire to make water. Copious bleeding, emollient clysters, fomentations on the belly, and twenty-five leeches to the hypogastrium relieved the patient in some degree, and within twenty-four hours he was perfectly recovered.—*Nouvel Biblioth. Méd.*

32. *Fossil Bones.*—Fossil bones, similar to those found in caves in Germany and England, have been lately discovered in the cavern of Miremont, in the department of La Dordogne, in France. They were near the surface, imbedded in red clay, and are friable and fractured. They consist principally of teeth and bones resembling those of the bear with the arched forehead, fossil remains of which have been found at Iserlohn and elsewhere in Germany. There are no stalactites in the cavern of Miremont. In one part of it, under several strata of marl, which seem of a more recent formation than those of the red clay, fragments of earthenware have been found, strongly resembling those which have been discovered, though rarely, in certain ruins and modern alluvial soils; and the form, colour, and other properties of which, denote them to belong to a period anterior to the introduction of Roman arts into Gaul.—*New Monthly Mag.*

33. *Singular Method of Rearing Olive Trees.*—It was remarked by an inhabitant of Marseilles, that when the olive tree is produced naturally, it is by means of kernels carried into the woods, and sown there by birds, which have swallowed the olives. By the act of digestion, he further observed, these olives are deprived of their natural oil, and the kernels have become permeable to the moisture of the earth, the dung of the bird at the same time serving for manure, and perhaps the soda which the dung contains, by combining with a portion of the oil that has escaped digestion, still furthering germination. Following up this fact, a number of turkies were, by the experimenter, made to swallow ripe olives: the dung was collected, containing the swallowed kernels; the whole was placed in a stratum of earth and frequently watered. The kernels thus treated germinated easily, and a number of plants was procured. In order to produce upon olives an effect similar to that experienced from the digestive power of the stomach, a quantity of them was macerated in an alkaline lixivium; they were then sown, and proved highly productive.—*Good's Book of Nature.*

34. *Human Life, &c. in France.*—A variety of curious calculations has lately been made in France with a view to ascertain the average duration of human life, &c. in Paris, during the eighteenth century. It appears that the average age of marriage was for men about twenty-nine years and three quarters, for women, about twenty-four years and three-quarters, and that the average age of parents at the birth of a son was, for women about twenty-eight years and a quarter, and for men about thirty-three years and a quarter. It follows that there were nearly three generations in Paris during the last century. It is a remarkable fact that this estimate coincides with that of the Greeks in their chronological tables.—*New Monthly Mag.*

35. *Prevalent Diseases during the past Month.*—The diseases which have prevailed in the Royal Infirmary for Children during the last month have been hooping cough and other pulmonary complaints; in most of the cases symptoms of

inflammatory action were present in the accession; by early depletory and active treatment and regimen, the cases terminated favourably. In the north-west part of the metropolis there have been fewer cases of cholera morbus and other bowel affections than usual; this has been attributed to the great scarcity of fruit. Pulmonary diseases have been here also more numerous than any other morbid affections.

36. *Bread Fruit.*—The artocarpus integrifolia, or entire leaved bread fruit flowered in December 1827, in the stove of the Edinburgh botanic gardens. It belongs to the Nat. Ord. Urticeæ, has the male and female blossoms on the same plant, the fruit is a pod; in the East and West Indies it grows to a very large size, and is eaten by the natives. In the West Indies it is less eaten than in the East Indies, but the seeds, when roasted like chestnuts, are allowed to be good even by strangers. The tree arrives at its greatest size and perfection in Ceylon, where it may be seen forming a dense mass of foliage thirty feet high, supported by a trunk eight to twelve feet in diameter.—*Mag. of Nat. Hist.*

BOOKS RECEIVED DURING THE MONTH.

1. An Essay on a New Mode of Treatment for diseased Joints, and the Non-union of Fracture; with Cases and Formulæ of the various Preparations used. By Thomas Buchannan, C. M. Member of the University of Glasgow; Surgeon to the Hull Dispensary, for the Diseases of the Eye and the Ear, &c. &c. 8vo. pp. 100, Longman and Co. 1828.

2. Observations on the Nature and Treatment of Cholera, and on the Pathology of Mucous Membranes. By A. T. Christie, M.D., Madras Medical Establishment. 8vo. pp. 137. Maclachlan and Stewart, Edinburgh, and Simpkin and Marshall, London.

3. An Introductory Lecture, delivered in the University of London, on Thursday, October 2, 1828. By John Conolly, M.D. Professor of the Nature and Treatment of Diseases.

4. A Manual on Midwifery; or a Summary of the Science and Art of Obstetric Medicine; including the Anatomy, Physiology, Pathology and Therapeutics, peculiar to Females; Treatment of Parturition, Puerperal and Infantile Diseases;

5. Medical Botany, Number 22. By John Stephenson, M.D. and James Morss Churchill, F.L.S. Churchill, Leicester Square.

6. Cases illustrative of the immediate Effects of Acupuncturation in Rheumatism, &c. By James Morss Churchill, F.L.S., &c. Callow and Wilson, 1828.

7. Observations on the Nature and Treatment of Fractures of the Upper Third of the Thigh Bone, and of Fractures of Long Standing; showing that Fractures of the Neck of the Femur and others which occur in the Upper Third of this Bone, admit of being united, so as to restore the natural powers of the limb, without deformity or lameness. Illustrated by cases obtained from public and private practice. By Joseph Amesbury, Consulting Surgeon to the Royal Union Association; Surgeon to the South London Dispensary; Lecturer on Surgery, &c. &c. Underwood, London.

8. Chemical Re-agents or Tests, and their application in Analysing Waters, Earths, Soils, Metalliferous Ores, Metallic Alloys, &c. &c. Originally by F. Accum; improved and brought down to the present state of Medical Science. By William Maugham, Surgeon, Lecturer on Chemistry and Materia Medica, &c. Charles Tilt, London.

NOTICE TO CORRESPONDENTS.

Communications have been received from Mr. Storer and Captain Saunders.

Communications and Works for Review are requested to be addressed to the Editors, to the care of Messrs. Underwood, 32, Fleet Street.

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CRITICAL REVIEW.

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I.—*An Essay on a New Mode of Treatment for Diseased Joints, and the Non-union of Fracture; with Cases and Formulæ of the various Preparations used.* By Thomas Buchanan, C.M., &c. 8vo, pp, 100. Longman and Co. London, 1828.

That an extensive knowledge of morbid anatomy imparts a confidence to the practitioner in the pursuit of his profession cannot be for a moment denied, but something more than an acquaintance with this branch of medical science is necessary to guide him in the treatment of disease. In the examination of bodies after death the morbid appearances presented to our view are, in ninety-nine cases out of a hundred, traces of inflammation, or the consequences of inflammation in the form of morbid depositions, changes in the condition of the solid structure, gangrene, &c. The change from the healthy state exists in different degrees in different instances, from a simple congestion of the capillary vessels to the total disorganization of the solid parts. It might be expected, *à priori*, from a knowledge of morbid anatomy only, that the treatment of disease must be remarkably simple, that the principle upon which it should be founded ought to be that of reducing the powers of the system, by depletion and other antiphlogistic means, and that nothing more would be required of the practitioner than an attention paid to the degree of reduction in individual cases, according to the degree or severity of the inflammation. According to the pathology of the present day, inflammation is curable only by depletion in one form or another; it therefore follows, as the same effects necessarily proceed from the same causes, and as almost every disease consists in inflammation, that the same plan of treatment, varying in degree in different cases, should be pursued in almost all diseases. Modern practice, however, although inclining to this rule, is still at

variance with it in many respects. Pathology and treatment are often found opposed to each other, and necessarily so, for experience confirms the fact, that remedies capable of subduing inflammation in one case, are perfectly inadequate to do so in another.

The preceding remarks are applicable to diseases of the joints. The morbid anatomy of these important parts has been for some time understood, and numerous are the works published, which treat, professedly or collaterally, of their maladies. To the authors of many of these works the profession is highly indebted for the light which has been thrown on the morbid anatomy of the joints, but we look into most of them in vain for any new hints respecting the treatment of articular diseases. The practice commonly adopted in the affections of these seats consists in rest, local blood-letting, evaporating lotions, sedative fomentations, warm and cold cataplasms, blisters, setons, issues, tartar-emetic ointment, compression, &c., and the constitutional treatment is modified according to the state of the system and the stage and severity of the local affection. Some months ago (See *Med. Rep.* Vol. xxix) Mr. Scott proposed a plan, bearing something of novelty in its character, namely, the combined application of mercury and mechanical support to the limb affected. This plan appears to have proved eminently successful in the hands of an individual of extensive practice; but although we have reason to infer, from our knowledge of the influence of mercury, internally exhibited, over acute inflammation in general, that Mr. Scott's plan is likely to maintain the character which he has given to it, still it has not been yet put sufficiently to the test of experiment, by the members of the profession at large, to deserve our implicit confidence.

In the essay before us another method of treating diseased joints is developed, and if it should support the character given to it by the author, it cannot fail to redound to the honour of the profession, and prove an inestimable blessing to those who may require to be subjected to its influence. We say *if* it should maintain the character which Mr. Buchanan gives it, for we are led to suppose from his remarks and the cases detailed in the present work, that the plan which he proposes is irresistible, not only in affections of the joints, and not only in un-united fractures, external inflammation and tumours of various kinds, but even in gangrene itself. Not to detain the reader, we shall at once inform him that Mr. Buchanan's method consists in the application of tincture of iodine to the part affected. This treatment, we believe, is new, so far as the tincture is con-

cerned, but the iodinic ointment had been previously employed and recommended as an application to diseased joints. Dr. Manson, in his interesting work on the effects of iodine, published in 1825, speaks very favourably of the ointment, used externally, aided by the internal exhibition of the tincture.

Mr. Buchanan, in the first place, takes a rapid view of the treatment recommended by Hunter, Russell, Crutwell, Ford, Wilson, Lloyd, Latta, Brodie, S. Cooper, and Manson; he then gives a sketch of the symptoms indicative of disease of the hip-joint. He is of opinion that all spontaneous diseases of the joints, both of the upper and lower extremities, proceed from a scrofulous diathesis. This is contrary to the opinions of many authors. Indeed it is a point rather difficult to settle satisfactorily, inasmuch as we are not able to draw a line of distinction between the lowest degree of scrofulous diathesis and that which is not scrofulous. We have witnessed disease of the joints in subjects in whom the characteristic signs, usually considered as indicative of scrofula, were altogether absent, and we see no reason why the tissues forming the articulations should not be as liable as other parts to many diseases besides scrofula. There is, however, one remark applicable to maladies of these parts, as well as to those of all other seats, namely, that what is generally called spontaneous disease must be preceded by some predisposition in the part to become affected, whether that predisposition be scrofulous or not. Philosophically speaking, no such a thing as a spontaneous disease can occur, for every malady must be preceded by causes, internal or external, capable of bringing about its development. In diseases called spontaneous the action of the causes is, for a length of time, slow and imperceptible, and would, perhaps, in many instances, never produce a full development of the malady unless some fresh causes were added. We are apt to associate, in almost every instance, chronic affections of the lymphatic glands, and of the joints, with scrofula. This is assuming, without a shadow of proof, and contrary to analogy, that these structures are subject to no other disease of a spontaneous kind. In truth, our notions of scrofula are very undefined, and we have no hesitation in saying that this affection is often confounded with other diseases, bearing some resemblance to it. We have examples of affections of the joints, not scrofulous, in rheumatism and gout, and what reason is there to infer that they are not susceptible to other diseases? We are fully aware of the difficulty of distinguishing analogous diseases, owing to the circumstance that almost all maladies are accompanied by one common

sign, namely, inflammation. As has been already observed, if the inflammation be identified with the disease itself, the catalogue of human diseases is reduced to a very narrow compass; for, with the exception of half a dozen or perhaps less, this common symptom is always present. When a correct view is taken of the properties of the blood-vessels, it will appear very natural that inflammation should form one of the symptoms of almost every affection. The arteries can hardly escape being involved in the disease, in whatever part or tissue it may be situated. We need scarcely repeat here that we cannot coincide with the doctrine which assigns an increase of vital properties to parts undergoing the process of disease. Were this the case, disease, instead of tending to the destruction of life, must be the most powerful agent of preservation to it. As the reverse appears to be the case, the necessary effect of disease involving the capillary vessels must be a reduction of their natural properties, which are those of contractility.

As disease of the hip-joint is sometimes obscure at its commencement, and as it is of great importance, both to the patient and the practitioner, that it should be recognised at its very onset, it may be advantageous, especially to the junior part of our readers, that we should give a short sketch of its symptoms; and we cannot do so better than in the author's own words, which form an abstract of the description given of the symptoms of this affection by the most eminent authors who have written on the subject:—

'*Incipient Stage.*—Weakness in the limb affected, which appears emaciated and elongated, with limping when attempting to walk, tumefaction in the groin and nates, with tenderness and pain in the joint, particularly on motion or pressure, pain in and about the trochanter major, often shooting downwards, and felt sometimes in the knee, generally with debility, characterize the disease of the hip-joint, prior to suppuration.'

'*Acute Stage.*—When the inflammation is acute and suppuration taking place, the parts diseased become hot, sometimes red, frequently tense, with extreme pain and fever, accompanied with spasms, particularly during sleep.'

'*Chronic Stage.*—When abscess has formed there is prostration of strength with great emaciation, particularly of the limb, which becomes shortened, toes generally turned inwards; thigh bent forwards, destruction of the articular parts of the joint, especially the acetabulum; head of the femur dislocated upwards and outwards, frequent discharge of matter or sanies; and hectic fever, which speedily reduce the unfortunate sufferer.'

Mr. Buchanan properly remarks, that in the acute stage of the complaint the application of liniments, ointments, or friction is inadmissible; that opium may soothe pain, and

lull the patient to repose ; but as soon as its effects have subsided, irritation and pain, accompanied with lassitude, return with redoubled violence. We are then asked with much confidence, 'under these circumstances, what other mode of treatment ought to be adopted than those which have been already mentioned?' We should answer, local blood-letting and fomentations, in default of a better remedy. 'The indication of cure appears to me to consist in producing healthy action in the parts diseased, consequently aleviation of pain and irritability.' This is a truism which has never been doubted, not only in hip disease, but also in every other malady. There is no question that the indication of cure consists in converting a diseased, into a healthy, seat : the important question is, how is that indication to be fulfilled ?

'Agreeable to this indication of cure, neither blisters, issues, setons, friction, with or without liniments or ointments, are admissible, inasmuch as they will increase the pain and irritability of the parts. If the local application of remedies, whose medical qualities are known to be valuable in other diseases, be inadmissible from their frequent opposition to the indication of cure, the exhibition of medicine internally must be of still more difficult administration, from the new combinations formed before it arrives at the seat of disease ; and even then the whole system must be saturated with the medicine before any amelioration of the diseased joint can be effected, and also the risk of the stomach becoming disordered. In the meantime, destruction of the parts takes place, and the system becomes frequently so exhausted as to render the case hopeless.'

Mr. Buchanan next observes, that as diseased inguinal glands are more speedily cured by exhibiting mercury by means of friction than by giving it internally, it should follow as a natural inference that other medicines might possibly act in the same manner by absorption. From this view he was led to try the tincture of iodine in diseases of the joints, as well as in other affections. He prefers the tincture to the iodinic ointment, as one reason, because it may be applied by means of a camel hair brush, without producing the least irritation, whereas the ointment cannot act without the use of friction. We shall now proceed to notice the cases which he recites in proof of the utility of the plan which he proposes :—

Case 1.—A poor woman, when at harvest, cut the middle finger of her left hand, near the second joint, eight days prior to application for medical advice. The wound was closed, and had extended to the joint; the finger was considerably swelled, and motion was apparently lost, which

made Mr.Buchanan think that the tendon of the flexor muscle had been divided. The tincture of iodine was applied every morning to the finger, and to the back of the hand, which was also painful, and in a few days the swelling diminished; in eight days motion was partially restored; and at the end of a fortnight the finger was reduced to nearly its usual size, and rendered as useful as before the accident.

Case 2.—Jane Wynn, aged 19, had a large swelling on the back of her hand, which obstructed the motion of the wrist and fingers; painful to the touch; menstruation and bowels regular. The circumference of the hand measured eight inches and three quarters. The tincture of iodine was applied. On the second day, the hand measured only seven inches and three quarters; motion almost restored; pain diminished. The application was repeated for four days more, when the patient was dismissed, cured.

Case 3.—A young gentleman received a partial injury on the first joint of the middle finger, for which he was several months under the care of a practitioner (of the quack tribe we should conceive), who had made an incision in the palm of the hand, opposite to the articulation, so as to divide the tendon of the flexor muscle, in order, as he said, *to draw off the humour!* The 'humour,' however, would not be drawn, but the finger was drawn into a very contracted state; the joint was considerably enlarged and painful to the touch, with great irritability of the system. The tincture of iodine was applied to the part in the manner described, and in four days afterwards no pain was felt; the integuments were moveable, but considerably thickened. The tincture was applied every morning; the tendon of the muscle gradually relaxed; the induration of the integuments rapidly decreased, and in about five weeks the patient was well.

Case 4.—A girl, aged 19, had great pain in the joint of the left index finger, extending up the forearm and down to the point of the finger; pain increased by motion; parts slightly discoloured, and matter distinctly felt; grating noise or crepitus perceptible when the joint was moved. The complaint originated about a year before. The tincture of iodine was applied daily to the part affected, and the patient was ordered to take a little blue pill and rhubarb every night. She first applied on the 1st of March; and by the 7th the pain was gone, and the swelling considerably diminished. The matter within the capsular ligament was absorbed: 10th, as the patient persisted in returning to her service, she was discharged. On the 31st she again presented herself, with the part much swollen, from having used the joint too soon. The same remedy was again re-

sorted to; and on the 12th of April the patient was dismissed, cured.

Case 5.—Edward Epworth, aged 5½, had his left foot considerably enlarged, especially the parts covering the metatarsal bones; and matter was felt and seen under the integuments. From the great irritation of the system, the bones underneath were supposed to be affected. Mr. Buchanan applied the tincture of iodine every day to the diseased part. On the third day, as the relations of the patient supposed the tumour to contain a quantity of pus, Mr. Buchanan laid it open. Only a small quantity, however, of matter escaped, the iodine having promoted absorption of the greatest part of it; it had also partially organized the cavity, which was filled with muscular fibres running in various directions. The application was daily repeated, and on the 12th day the patient was dismissed, cured.

Case 6.—A young woman, aged 15, who had never menstruated, of a delicate constitution, was obliged to leave her situation of chamber-maid, in consequence of considerable swelling and pain of the left knee, which she attributed to kneeling in washing the floor. A crepitus was distinctly felt and heard when the knee was moved. The tincture of iodine was applied for five days, at the end of which period the part had resumed its healthy state, and the patient was dismissed. She had no return of the complaint. We may remark on this case, that the crepitus could not have been caused by ulceration of the synovial membrane, for five days, or even five weeks, could not have sufficed for the part, under such a lesion, to recover its natural state.

Case 7.—A man, aged 27, had swelling of the left hand, with the posterior portion of the first phalanx of the little finger laid bare, forming a wound of about an inch in length, and about four lines in breadth, with its edges raised considerably higher than the other parts of the finger. The fleshy parts surrounding the phalanx were detached from the bone to some extent, and were of a bluish colour near the periosteum. The forearm was considerably swelled, and painful up to the axilla, and the motion of the fingers was obstructed, owing to the tumefaction. The tincture was applied to the tumefied parts, and by the following day the swelling and pain had diminished. The treatment was commenced on the 27th of October, 1827. By the 30th the forearm and hand had resumed their natural size; but the swelling of the finger over the joint had only partially subsided. The wound was filled up with a small pledget of lint spread with basilicon, and the tincture applied all around, and in the wound; the finger was then bound up with a narrow roller.

On the 31st, the muscular substance was found to have adhered, and granulations were growing on the bone. On the 6th of November the patient was discharged, cured. This is a most interesting case; and it proves undeniably the superior efficacy of the remedy. The patient, we are told, arrived from Hamburg, and one of his shipmates, who was affected in a similar manner, had his hand amputated, and died within a few weeks after the operation.

Case 8.—The eighth case is that of a bricklayer, aged 24, whose right knee was swollen to above twice the size of the left. The injury was supposed to have arisen from a fall. He had had an abscess in the same knee ever since he was six years of age, until about two months previous to the commencement of the present swelling. The eschars were still visible on the sides of the knee. Before applying to Mr. Buchanan, he had been confined for several days to his room, in expectation that, by rest, the swelling would disappear. The patient was of a fair complexion, skin thin and white; hair reddish, with freckles on the face. Mr. Buchanan being unable to attend the evening when first called, sent the patient six leeches to apply to the knee. On the following day the tumefaction was increasing, and he was no better in any respect. The tincture of iodine was now applied to the inflamed parts, and an opening mixture prescribed. On the third day the swelling and pain were considerably diminished. On the 9th day the patient was able to go to work; by the 12th he was perfectly recovered, and the remedy was therefore discontinued. The patient said, that the limb, which was formerly diseased, was now stronger than the other.

The foregoing cases are highly interesting, inasmuch as they prove, in a decided manner, the efficacy of iodine applied externally in the form of tincture. As the plan is novel, we have been anxious to lay before our readers an abridgement of all the cases so far as we have yet proceeded with our analysis of the work. It will be said, that all the cases are such as would have done well under the common antiphlogistic treatment. This may probably be admitted; still it may be doubted that they would have recovered so rapidly as under the treatment to which they were subjected. The following case is of a different kind to the preceding ones; and, it must be confessed, it presents characters such as are not found to yield very readily to the common treatment. We shall insert it in full:—

Case 9.—'March 19th, 1827. Robert Oliver, aged one year and nine months, was brought to me under the following circumstances: Right hip greatly enlarged, particularly the parts cover-

ing, and around, the joint; limb shortened; the toes turned inwards, and the leg and thigh of the diseased limb wasted; appetite bad; fæces dark coloured, with hectic fever. Hair fair, skne clear, veins seen distinctly. Patient a twin brother, but of rather large stature. Complaint began about six months ago, and during that period the case had been submitted successively to the inspection and treatment of two eminent physicians, and also of two surgeons. Agreeable to their directions, leeches and poultices had been applied, and medicine administered in various forms without affording any relief. One of the physicians refused to prescribe, alleging that medicine was of no use, the child being emaciated with symptoms of hectic fever, could not survive the shock which the system had received*.

'At present there is a large collection of matter forming a conical shaped tumour, rather over the posterior parts of the joint, and apparently ready to burst. The integuments of the central parts of the tumour of a whitish colour, similar to that which is usually seen covering collections of matter, and surrounded with a blush of red, indicative of the acute stage of inflammation. The tumefaction of the joint forms a striking contrast to the emaciation of the leg and thigh. Great pain felt when the least attempt is made to move the limb, or even when the parts are slightly touched.

'℞. Applicat. Tinct. Iodinæ partibus dolentibus et tumefactæ omni die.

'℞. Pulv. Comp. gr. v. sumend. omni nocte.

'21st. Size of the parts rather diminished, and the integumests considerably shrivelled.

'℞ Decoct. Dulcam. C. ℥viij cujus capiat coch. j. mag. ter in die.

'Contin. pulvis.

'24th. Tumour still more diminished, the external integuments considerably softer and wrinkled.

'Repet. applicat. et contin. medi.

'April 1st. Tumour less conical, patient can move the limb with considerably more ease than formerly.

'8th. Tumefaction of the parts decreased; integuments more wrinkled and softer; appetite good; general health improving; patient can raise the limb when desired without pain. Aspect of the toes gradually resuming their natural position. Integuments covering the joint of the natural colour, but considerably thickened.

'11th. Head of the trochanter major felt.

'Cont. applicat. tincturæ et medi.

'May 9th. The whole of the hip nearly of the same size as that of the left, except over the joint, which is rather more full. Right leg not quite so firm and muscular as the left. Discoloration

* These circumstances are mentioned, not with any view to depreciate the professional character of the gentlemen consulted, they being the most respectable practitioners in this town or neighbourhood; but merely to show the deplorable state to which the patient was reduced.

completely gone; child looking remarkably well; induration of the integuments diminishing.

'Cont. applicat. tincturæ et medi.

'June 8th. Child brought to the surgery, where he walked across the room with a little help. Swelling gone, there remaining only a slight elevation formed by the indurated integuments.

'Cont. applicat. tincturæ et medi.

'August 8th. The tincture has been applied every second day this week past. The muscular substance of the leg and thigh very much improved. During a considerable period no motion could be obtained without great pain. The application speedily caused a cessation of pain, except when the joint was violently moved, and even then the pain was only partial. When absorption of the tumour took place, the parts continued for some time apparently of the same size, but turned gradually soft and spongy to the touch, and diminished almost imperceptibly.

'In the early period of the treatment, the integuments on, and around, the joint used to be more swollen some days than others; but now the parts are regularly of a uniform size, except a slight enlargement about the joint, and even this slight elevation is gradually diminishing.

'At present (1828) the boy can run about without any assistance, has the free use of the limb, but has a slight halt, which may be attributed to part of the head of the femur being destroyed by ulceration during the time occupied by the palliative mode of practice, which was certainly consistent with the prevailing mode of treatment; but failed completely in arresting the progress of the disease in this instance, as well as in many others.'

Mr. Buchanan next travels a little out of his way to show the efficacy of the application of the tincture of iodine in affections unconnected with the joints or the bones. We are not sorry to find that he does so, for the information which he affords us is highly valuable.

Case 10.—A woman, aged forty-three, who had a large oblong tumour on the left forearm, applied to the author on the 19th November, 1827. The part was of a dirty, brownish black colour, and of a doughy, crepitous feel, with sensibility partially lost, being apparently in a state of gangrene. In the middle of the tumour there was a sore, about an inch and a half in diameter, with elevated and thickened edges. The sore was dressed with ung. resinæ c. and the tincture of iodine applied to the greater part of the forearm. On the following day (20th) sensibility was partially restored; the doughy, crepitous feel of the part had considerably subsided; a large slough was almost detached, and the edges of the sore appeared more healthy than on the day before. The slough came off with the dressing on the 21st; the gra-

nulations were red and healthy, and the sensibility of the arm was perfectly restored. By the end of the month the arm was well, and the patient was dismissed on the 3d of December, when the cuticle had formed on the part.

Another case of gangrene is related, where the remedy proved highly useful. A strong, healthy young man had his great toe crushed by a heavy stone falling upon it, which divided it at the second joint. The parts were brought together and dressed, but in two days afterwards gangrene took place in the part. Mr. Buchanan applied the tincture, not only to the surrounding parts, but to the slough itself, and afterwards covered the wound with lint spread with ung. resinæ c. Part of the apparently dead substance became reorganized; so that instead of one half of the toe being thrown off, only a small piece became detached. The bone united, and the parts healed and became as useful as before the accident happened. We can hardly agree with the author, that *reorganization* took place in any of the parts. The remedy, probably, stopped the progress of disorganization, and tended to save a great portion which would otherwise have sloughed.

We are told that 'in affections of the spine, this mode of treatment is equally efficacious in arresting the progress of disease, and restoring healthy action in the parts.' The proof, however, adduced in support of this assertion is not sufficiently strong to establish the fact. It consists in the case of a young lady, who had contracted a habit of tying her clothes extremely tight, so that the tape attached to some parts of her dress, invariably covering the same sinous process of the vertebræ, produced ulceration of this part. The integuments gradually acquired a darkish colour, and matter could be distinctly felt. The tincture was applied in the manner described, and in the space of five weeks the matter was absorbed; the parts and the extremity of the process regained their natural state, and the patient was relieved from a dangerous complaint.

We have next three cases, showing the efficacy of this remedy in enlarged inguinal glands. In all these the pain, inflammation and swelling gave way, in a very rapid manner. The tincture appears to have proved equally efficacious when applied to nodes. Two cases of fistulæ, one in the perinæum and the other near the anus, are mentioned. In these the application of the remedy speedily effected a total obliteration of the fistulous cavities.

The account which Mr. Buchanan gives of the stimulating properties of the tincture of iodine, when externally applied, is rather curious. A person applied to him with an ezten-

sive collection of matter in the palm of the hand. Mr. Buchanan opened the tumour to let out the matter, and afterwards cut out a portion of the loose integuments, in order to afford a permanent outlet. After applying the tincture to the integuments surrounding and forming the cavity of the tumour, he perceived the blood gradually oozing from the minute branches of the arteries of the integuments, which became adherent, and in a few hours the parts regained their healthy appearance, and the greater part of the cavity was obliterated.

We always feel some degree of reluctance in speaking in praise of new remedies or new plans of treatment; or, rather, we consider it necessary to do so with great caution. Disappointments often result from placing too great a confidence in remedies whose effects have not been confirmed by experience. But supposing that the one now proposed by the author should continue to maintain the character which the cases recited would lead us to believe it to possess, the principle of its application must be very extensive, and it will be the most valuable surgical agent hitherto known to the practitioner. From its stimulating properties it may be expected, when applied to the skin, over extensive chronic abscesses, to promote adhesion of the surfaces of their cavities after the pus has been evacuated; or to promote absorption of the matter in the incipient stage of the abscess. It also deserves trial in hydrocele, applied to the scrotum, as a substitute for injection, after the evacuation of the fluid. Several other affections, of an analogous nature, may be brought within the scope of its influence, according to the same principle. But to proceed.

In illustration of the effects of the remedy in affections of the mamma, Mr. Buchanan selects the following case, from a number of others :—

'Sept. 6th, 1827. A young woman, ætat. 20, applied to me with nearly the whole of the conglomerate glands in the superior parts of the right mamma indurated and swollen, occasioned by a blow which she had received about two years ago. Immediately after she had received the blow, the parts became very much discoloured, and several weeks elapsed before the integuments regained their usual appearance.

'As the discoloration disappeared, the upper parts of the mamma became gradually indurated, accompanied with severe shooting pains, darting towards the axilla, and which had increased very much within the last twelve months.

'The tincture of iodine was applied (in the manner described) every evening; and seven grains of the pulvis comp. mixed in a little milk, taken three times a-day. In a week the pain was subdued; and in three weeks afterwards the indurated glands were

as soft and flexible, and the integuments as elastic, as before the accident happened. The general appearance and health of the patient were also greatly improved.'

The author further remarks that 'he has extended this mode of treatment to several cases of *cancerous* affections of the breast, and which were cured by it: at least, the ulcers healed, and all the symptoms of the disease disappeared, and up to this period they have not returned.' We hope that it will not be long before the question of its efficacy in this hitherto incurable and desperate malady, is fully put to the proof.

We now come to the second division of the work, where the author treats of Non-union of Fracture. It is well known that from some peculiarity of constitution, the fractured ends of the bone show no disposition to unite, and some cases have resisted every means which art could contrive to bring about a union. In cases of this nature, John Hunter advised the extremities of the fracture to be stimulated by being rubbed against one another, and that the patient should be allowed to walk when the fracture is situated in the leg or thigh. Mr. White, of Manchester, proposed, and practised, cutting down to the bone, turning out the fractured ends, and removing a small portion of the extremities, then replacing them in apposition, and endeavouring to heal the fracture and the wound in the usual way. Dr. Physic, of New-York, treated such cases by inserting a seton through the limb, between the fractured ends of the bone, with a view of stimulating them. By means of this plan he succeeded in severeal instances in promoting union, but the method has often failed in the hands of others. We have witnessed one case treated according to this plan terminate fatally, owing to the inflammation and constitutional irritation brought on by the seton. Mr. Amesbury's method, which has been hitherto the most successful, consists in applying strong pressure, by means of an apparatus invented by him; but this method has also failed in one, if not in a greater number of cases. This being the case, Mr. Buchanan very justly observes that, 'since neither excision of the extremities, seton, nor pressure have (has) been uniformly successful, a desideratum is still wanting for this singular disease.' To fill up the deficiency on this point the following case, of forty-six weeks standing, is recommended to the particular attention of the profession. It is rather long, but we are unwilling to abridge it, for we are desirous that it should receive due consideration from the reader :—

'Hull, November 18th, 1826. Samuel Ridpath, ætat. 18, seaman apprentice, applied to me under the following circumstances :

The patient had been employed, during the preceding summer, on board of the ship Alfred, in the Davis' Straits fishery; and on the 31st of May his right leg was fractured by the tiller of the vessel, when she was making a stern board among the ice. The tibia and fibula were both broken, but reduced immediately afterwards by the surgeon of the vessel. The fracture being oblique, and bad weather occurring, the medical attendant failed in keeping the extremities of the bones in apposition. As to the propriety of his conduct in allowing the bones to remain in that state, it forms no part of the present subject, and I shall merely state the situation in which I found the limb at the time of application. The extremity of the lower portion of the fibula was detained in the gastrocnemius muscle, while the extremity of the upper portion was in partial contact with the extremity of the lower portion of the tibia, and the extremity of the upper portion of the tibia, from the obliquity of the fracture, overlayed, but in partial contact with the extremity of the lower portion. The patient was obliged to be supported at first with a crutch, and afterwards with a staff, from the weakness of the limb, otherwise in excellent health, and a strong good-looking young man. I applied a pledget of lint, dipped in a stimulating and astringent lotion, to the fracture, and then passed a bandage over it, from the toes to the knee, so as to cause pressure on the parts, and ordered him to take a wine glassful of the decoction of dulcamara three times a-day. I persevered in this mode of treatment until April, 1827, but without the least success.

'Tired with this method, I proposed to cut down on the fracture, excise the extremities of the tibia and fibula, and then endeavour to place them in apposition. The owner of the vessel to whom the young man was apprentice, from principles of humanity, would not consent to the operation; but preferred consulting his physician, a gentleman well known in the medical circles, and of extensive practice.

'After a minute investigation, the physician disapproved of the operation, chiefly from the length of time elapsed since the accident happened, and the danger to which the patient might be exposed from the operation; but advised that he should wear pieces of strong leather attached to his shoes, in order to defend the parts from injury, and added, that the limb might, perhaps, get better.

'From the great uncertainty often fatally attending excision of the extremities of the fracture, I could not, consistently with due regard to medical etiquette, perform the operation as mentioned, contrary to the medical opinion delivered, and also against the will of the patient, who objected to the operation. Under these circumstances, I desired the patient to call upon me next day, and I would by that time endeavour, if possible, to hit upon some expedient which perhaps might relieve, or at least ameliorate, the disagreeable and painful condition of the limb.

'On due reflection I was convinced, that if six mouths trial of the Hunterian mode, partially combined with that of Mr. Amesbury, had no effect in relieving any of the symptoms, they would

not in all probability be any way relieved even by a continuance of seven years of the same mode of treatment.

'But what was to be done? For although a physician might, knowing that medicine could be of no avail in this instance, consistently propose the case to be left to nature; yet no surgeon could, or ought, to forsake his patient until either he be dismissed, or the patient be relieved as far as surgery will admit.

'From the stimulating effects of the tincture of iodine when applied externally*, I resolved to put its qualities to a severe test, by applying it to the limb in the manner already described, in order to produce increased action of the arteries in the extremities of the fracture, and consequently secretion of the ossific matter. At this period it was with the greatest difficulty and extreme pain that the patient could drag himself along with a staff. The limb was considerably swelled, particularly below the fracture; and if, when attempting to drag himself along, he touched a stone, or the least elevation above the common level of the path on which he walked, he was by that means put to the most excrutiating torture. His foot, with the lower portion of the leg, could be wrought outwards and inwards, in a rotatory manner, when crepitus could be distinctly felt; while, at the same time, the knee and upper part of the leg were not affected by the motion of the foot. The limb was about two inches shorter than the other.

'April 16th. Applied the tincture to the limb, particularly about the fracture and the parts around the ankle, and in three days afterwards (19th) the pain and swelling were removed. The patient took at the same time a wine glassful of the decoct. dulcam. c. three times a-day. I continued to apply the tincture every morning until May, and then applied it only every second day: the decoction was, however, continued as usual. The parts became stimulated, and deposited osseous substance, union of the extremities of the fractured bones took place, and in the month of August following (1827) he was dismissed cured, with the limb apparently stronger than before the accident happened, and is now (1828) on board of his vessel, as active as formerly.†'

This part of the work contains another case, in which, consequent to fracture of the neck of the femur, great weakness remained in the part, attended with pain in, or near, the acetabulum when walking. The tincture of iodine was applied once every two days to the groin, haunch, and part of the hip. 'In a few days the pain ceased; and in a month from the time of the first application the parts were restored to their former strength.'

Mr. Buchanan next offers some remarks on the proper-

* The greatest advocates for the exhibition of iodine, powerful at it may be in many instances, could not, I presume, with any plausibility, have ordered it to be taken *internally* in this case.

† The patient walked (supported by a staff) to my surgery every time the medicine was applied, so that part of the Hunterian mode was adopted, in conjunction with my own.

ties of iodine, the mode of applying the tincture, the quantity to be used, &c., but through this part of the work we do not find it necessary to follow him. We may observe, however, that if applied too often, or in too large a quantity at a time, the remedy will produce inflammation, and will prove injurious rather than beneficial.

In the appendix we have the formulæ of the preparations noticed in the work. The tincture of iodine which the author uses, is made with one drachm of iodine and three ounces of rectified spirit of wine. The other preparations require no particular notice.

In conclusion, we beg to observe that the plan recommended by Mr. Buchanan is deserving of every consideration on the part of the practitioner. We have been highly interested in the perusal of his work, and we doubt not that every member of the profession would be so. From the novelty of the treatment we have been induced to give a very minute and extended analysis of the volume; for a remedy which appears to have proved so efficacious in the hands of an individual cannot be too generally known to the profession, nor can the method of applying it be too fully exposed.

II.—*A Manual on Midwifery; or, a Summary of the Science and Art of Obstetric Medicine; including the Anatomy, Physiology, Pathology, and Therapeutics, peculiar to Females; Treatment of Parturition, Puerperal and Infantile Diseases; and an Exposition of Obstetrico-legal Medicine.* By Michael Ryan, M.D., M.R.C.S., London and Edinburgh; Lecturer on Midwifery, and Medical Jurisprudence, &c. &c. 12mo., pp. 353. London, 1828.

The art and science of midwifery, fortunately for society, maintain their rank among the other branches of the healing art, in spite of the denunciation of one or two individuals who, throughout their career in life, have done any thing but confer honour on the profession to which they belong. Labour, it has been said, being a natural process, requires not the aid of art to bring about its accomplishment. Agreeably to this species of logic, spontaneous disease should be allowed to take its own course, and not interrupted in its progress, for it is equally as much a natural process as parturition is. Why should we interfere with small-pox, typhus fever, the plague, scarlatina, measles, and a host of other maladies? for they are all brought about by natural causes, and their progress is as conformable to the laws of nature as the falling of a heavy body, or the ebbing and flowing of the tide.

Those who pretend to be so fond of allowing nature to take her own course in all her operations, would, probably, be soon cured of their mania were they to attempt to follow the dictates of their own doctrine. Instead of seeking protection against storms and tempests within artificial walls, and under coverings formed by human art, they might find habitations ready carved out for them by the hands of nature. If nature should not supply them with all the savoury viands and vegetable productions requiring human labour, they will find no lack of thistles; and, as an occasional change, she will grant them a few acorns to titilate their palates. But, to come nearer the point in question; is not *death* as natural a process as parturition? yet who would not endeavour t turn the course of nature when they saw it directed towards this point? Can these self-sufficient logicians not comprehend the aim and end of the profession to which they have wedded themselves? Nature does not require their assistance to enable her to carry on her operations; but mankind require the aid of art to change, as far as can be done, the course of nature when her progress is likely to prove destructive to their existence. Art does this by the interposition of fresh causes. When these are brought into play, nature will proceed with the same facility in her new course as she did before in a different one. It is true that parturition would be accomplished in the majority of instances without the aid of art; and it is equally true that, in the greater number of cases, persons in the middle period of life would recover from attacks of disease if left to the efforts of nature alone; but the question is, whether mankind would consider themselves, or whether they have reason to consider themselves, as safe in the hands of nature as in those of art, when labouring under disease? If, by the interposition of fresh causes, the progress of disease, whether external or internal, can be turned into a new direction, so that its seat may be gradually brought to perform its healthy function, mankind must, upon the whole, be benefited by the healing art.

It will, perhaps, be said that parturition is not a disease, and that it, therefore, does not come within the limits of the healing art. Now, what is it that constitutes disease? Are excessive pain, debility, the separation of one living part from another, rupture of numerous large arteries, and, consequently, more or less hemorrhage, amounting from a pound of blood to a quantity sufficient to destroy the function of life—are all these symptoms indicative of perfect health? Labour never takes place without being accompanied by these signs, which, certainly, vary in degree in different instances,

but which are seldom so trifling as to deserve no attention. *If* assistance be required from art, say in one case only out of a hundred, who is there so capable of affording it as those who fully understand the mechanism of the parts engaged in the parturient process, and who have made the physiology of labour a principal part of their study? Those only who are totally ignorant of the art and science of midwifery, in the full meaning of the term, and whose shortsightedness will not enable them to perceive the distinction between the operations of nature as regard the phenomena of the physical world, and as they relate to the existence and happiness of mankind, will attempt to sever this branch of medicine from the other branches. But there is at least one individual who has made himself notorious as a universal professional slanderer, whom we cannot acquit on the score of ignorance *alone*, although we believe him to possess his full share of this quality as regards medical science, especially that of midwifery. But the motives and insignificance of this individual are too well known to the profession and to the public for his mad effusions to make any impression on their minds. We will not say that Dr. Ryan has done much to *place* midwifery on a respectable footing as a science and art, for it was placed upon that footing before; but we do not hesitate to say, that his work will contribute in a high degree to maintain the respectability and importance of that branch of medicine. With the exception of some typographical, and a few grammatical errors, which are evidently the effect of hurrying the work through the press, and which, we doubt not, will be corrected in another edition, Dr. Ryan's *Manual* contains, according to its size, more useful information on the subject of midwifery than any work with which we are acquainted. Instead of spreading out the subject into an extensive systematic treatise, the author has drawn together all the facts recorded both in ancient and modern writing; and has condensed them into 353 duodecimo pages. Dr. Ryan divides his treatise in the following order: 1, Gynæcotomy, or the anatomy of woman; 2, Gynæcophysiology, or the physiology of woman; 3, Parthenosology, or diseases of unimpregnated woman; 4, Geneseology, or generation, conception, and its phenomena; 5, Encyonosology, or diseases of pregnant woman; 6, Tocology, or parturition or child-bearing; 7, Lochianosology, or puerperal diseases; and, 8, Paidonosology, or diseases of infants and children.

We consider the above the most natural arrangement which could be adopted; but the author might as well have

excluded the technical terms, as not one reader in a hundred will attempt to load his memory with them.

As there is no English term expressive of the male practitioner of midwifery, Dr. Ryan proposes the word obstetrician, 'which is as appropriate as electrician, geometrician,' &c. To this term we find no objection. No term can be more absurd than *man*-mid*wife*. The only objection to the word accoucheur consists in its being of foreign origin; but its meaning is now more generally understood than that of obstetrician. It may be also noticed, that the latter term belongs no more to our language than the former.

Respecting the anatomy and physiology of the parts peculiar to the female, it is not necessary that we should here offer any remarks. With regard to the signs of pregnancy, Dr. Ryan observes—

'The signs that usually accompany pregnancy are, 1st, the suppression of the menses; 2d, nausea or vomiting; 3rd, uneasiness or enlargement of the breasts; 4th, the dark areola round the nipple; 5th, secretion of the milk; 6th, enlargement of the abdomen; 7th, enlargement of the womb, or uneasy sensations of that organ and the vagina, increase of labia, loss of appetite, or dyspepsia.

'But these signs, though often present, are yet equivocal, and many of them may not be present during pregnancy. Thus the menses may appear regularly in the first seven months of gestation, according to Dewees, who contends that Hunter, Denman, Boudelocque, and Burns are of opinion that the uterus is not closed by decidua, during the first two months of pregnancy.

'The neck of the womb is free, and hence menstruation may happen; and Dr. Coxe had a patient who menstruated regularly, and in whom there was not more than the size of a thumb nail of healthy surface in the womb. Dr. Dewees knew a number of women who menstruated during the early months, and a mother and daughter who continued to do so to the seventh month. Dr. Heberden knew a lady who menstruated regularly during four pregnancies. Haller, Hossack, and Francis were of the same opinion. Dr. Dewees knew a woman who menstruated only during pregnancy; also Deventer, Fodere, and Capuron. Dr. Hamilton denies the possibility of the occurrence. Nausea may or may not be an attendant on pregnancy.

'The same observation may be made as to enlargement of the breasts, for in many cases it never happens. The dark areola round the nipple is an infallible sign of pregnancy with Drs. Hamilton and Dewees, especially during a first pregnancy; yet this is not a certain sign, as conception has happened when no areola appeared. Formation of milk is also equivocal. Enlargement of the abdomen and uterus are not positive proofs of pregnancy, and may happen from various diseases, as dropsy, various tumours, enlargement of the viscera, of the ovaries, or different

growths in the womb, as I have already enumerated. In a word, there are no certain signs of pregnancy, none which would warrant a medical man to swear positively to the affirmative. All obstetricographers agree on this point, a fact that ought never to be forgotten; as some obstetricians depend on the motion of the infant called quickening, but this, although in general certain, is not universally so, as women felt such motion and were not pregnant, and others have gone to the full time, and never experienced it. The first physicians and accoucheurs of Paris were deceived as to this sign (Capuron 73). We shall often, however, detect pregnancy by attending to this point in the manner recommended by Morgagni.

'If the weather be warm, he advises the hand to be immersed in cold water or ice, and then applied to the naked abdomen, it will often rouse the motion of the fœtus; in cold weather, the hand is to be placed in warm water and then applied, when the infantile motion will be often perceived. But women are often alarmed, and do not believe themselves pregnant, because they never experience the motion of the infant; yet in due time they will produce healthy infants. Few questions, says Dr. Beck, in his most valuable and best work on *Medical Jurisprudence*, occur in legal medicine of greater importance than the one we are considering. On its proper decision may depend the prosperity, honour, and life of the female, or of those accused of causing abortion.

'Many obstetric writers inform us, that increased irritability of temper, melancholy, a languid cast of countenance, nausea, heartburn, loathing of food in the morning, feverish heat, emaciation, depraved appetite, erratic pain in head, teeth, and different parts of the body, areola of breasts, &c., are conclusive; but all do not occur in every case of pregnancy, many of them do in most cases. Milk may be secreted before pregnancy (Hebensteit, p. 185; Belloc, p. 70). Sir Hans Sloane describes a woman, aged sixty-eight, who had not borne a child for twenty years, yet had milk (Smith, p. 484; Fodere, p. 440). Dr. Francis, of New-York, describes a lady who continued to have milk uninterruptedly for fourteen years. She was thirty-five years old, never menstruated during the period, nor became pregnant (edition of Denman, 229). Even men are said to suckle children *(Philosophical Transactions*, v. 41, p. 810). Of the signs said to indicate pregnancy, the greatest stress is laid on what is called quickening. The ancient opinion was, and on which even our own present laws are founded, that the fœtus became animated at the period of quickening; but the fœtus is animated at the moment of conception. Yet it is murder, by the laws of England, to cause the expulsion of it after, but not before quickening. This law is founded on the canon law, which distinguishes between animate and inanimate fœtuses; an idea as preposterous as absurd, according to the principles of the physiological science. Quickening also implies the first sensations the mother has of the infant. Others say it is caused by the sudden starting of the uterus out of the pelvis. Dr. Denman asserts, that it occurs from the tenth to the twelfth week, but mostly

at the sixteenth; Puzos from the eighth to the eighteenth; others from the fourteenth to the twenty-first; it happens most commonly between the third and fifth month. Many writers recommend examination by the vagina, as the surest test of pregnancy; but this requires greater practice than most obstetricians can enjoy. On the whole, there is no individual sign of pregnancy.'

Speaking of the formation of monsters, and the question respecting the influence of the imagination of the mother on the uterine contents, the author observes—

'Every obstetric practitioner could give a long catalogue of pregnant women, who had had ungratified longings—who had been frightened by dismal objects—and even met with dreadful accidents, and yet their infants have been perfect, and without any marks or blemishes. In fact, no woman can arrive at the end of utero-gestation in this, or any other crowded city, without encountering some of these longings, frights, or accidents, and yet how few deformed children are produced! Again, look to the reports of our lying-in hospitals, and see the small proportion of imperfect or monstrous births—scarcely one in five thousand. Is not this an unanswerable argument against the assertion, that the imagination is the cause of them? We know the imagination to be exerted in almost every case, but not followed by the reputed result; here we have a constant cause, but not a constant effect. If we inspect the bills of mortality in the different nations, we must observe how few cases of monstrous births are recorded. If we examine the repeated cases detailed by Dr. Turner, and others, we shall in every instance discover the credulity of the witnesses, the inconclusiveness of the evidence, and the absurdity and folly of the narrations. Thus, a woman in Italy longed for a lobster, and not being gratified, brought forth a lobster. Such is the story of Aldrovandus. There was a child said to be born in Normandy, in 1682, with horns and cloven feet, because his father, having represented a satyr on the stage, had connexion with his wife in his stage dress. Zodiacus Mart. Hildanus was informed by Hornicœus, a physician of Frankfort, that a woman being frightened by a musket shot, brought forth a child with a wound in its back, as if made by a musket shot. I would ask, was this wound made by the imagination, and what stopped the bleeding? The Abbe Malebranche relates various incredulous stories of this kind; one where all the bones of the fœtus were broken in the womb, because the mother had witnessed the breaking of a malefactor on the wheel; another, where the child was born resembling Saint Pius, as the mother had gazed on this picture. About the year 1700, a boy was exhibited in Moorfields, in this city, who had the word 'Elohim,' in Hebrew characters round one iris, and 'Deus' round the other. This deceit was managed by two thin pieces of glass, commonly called artificial eyes. There is now a child exhibiting in London, as with the words 'Napoleon' 'Empereur' on each iris, and said to have been caused by the mother having cried over a French coin which was left her by her brother. I have

visited this case, and aver that there is no letter whatever visible, but the usual appearance of the blue eye of an infant for the first three months. Malebranche asserts, that the infants in the womb see and hear, as their mothers, have the same passions, &c. I would ask, how can an infant, enclosed in the membranes, see without light; and surrounded by the womb, the membranes and a considerable quantity of fluid, hear external sounds, without vibration of the air? The good father relates a case where the bones were soft from imagination, the mother having witnessed the execution of a criminal; but will not mollities ossium, or softening of the bones, better explain such an occurrence? Hesiod recommends men not to cohabit with their wives after the latter returned from a funeral; but in this country, people are not so fastidious or cautious, and pregnant women attend funerals; and although the mind is naturally depressed, we never hear of, or observe a child marked with a coffin, scarfs, or white feathers. There is no truth whatever in the fabulous stories, that Ethiopians have produced white children, or Europeans children perfectly black. There is good reason to suppose, that there were other very solid and more legitimate causes to account for the phenomena. Bartholin relates the case of a woman who, in 1638, produced an infant with the head of a cat; but a flat nose, a short chin, and a few hairy moles, would account for that sage report. The same writer describes a case where a rat was produced; how unfortunate it was, that the cat was not in the neighbourhood! This writer also speaks of a woman who was brought to bed of two small fishes with scales, which were no sooner born than they swam in the neighbouring waters. But the semen of one species of animals will not impregnate another; for if the converse of this held good, there would be an endless confusion, and no distinct generation. One of Pope Nicholas's family, the Ursini, brought forth a substance like a bear; but how very singular that the lady should be frightened by looking on her own coat of arms! I should not dwell on these absurd stories, only that Sir E. Home has lately attempted to revive this ridiculous and absurd doctrine.

'Ludovicus Vives informs us, that a loose fellow, at Brabant, who personated the devil in a play, said he should have to do with his wife in his stage dress, which so frightened the poor woman, that she in due time brought forth an infant of a diabolical figure. An American woman is said to have brought forth a child with a wooden leg, and a ferrule at the end of it, exactly similar to her husband's. Though physiologists assure us, that the blood produces all the tissues in the human body, they have overlooked the power of its producing a wooden leg with an iron ferrule. In this country, the blood does not take on that action, as fathers with one leg produce infants with both natural; neither of them cork, wood, or iron.

'Women have been said to have their children marked with frogs, mice, rats, lizards, &c.; yet thousands of women are now daily frightened by these insects, and no marks appear on their infants. Marks and deformities often exist on the offspring, without

any previous imagination. Conception is independent of the mother's will and pleasure. How many women are desirous of children, and yet have none; while others, not only conceive, contrary to their wishes, but go to their full time in despite of the various means they wickedly and designedly employ to destroy the fœtus. Again, the nutrition and growth of the infant go on according to the laws of nature, whether the woman wishes or not. It is also out of the mother's power to choose a boy or girl—to have one or more children at a birth—to cause the infant to be fair, dark, large or small, weak or strong, or to give it her own or the father's features. If, then, the woman cannot, by imagination or will, promote or impede conception, how can any one believe, without derogating from the power and wisdom of God, that they can disfigure the infants, and injure the works of nature? Is it not absurd to suppose that the mother has more influence over her child than over her own body? The idea is preposterous. If she cannot, by the strength of her imagination, make any mark on her own body, or change the figure, situation, quantity, and number of her own limbs, why should we believe she can do so to the body of the infant? Is it not silly and ridiculous to think, that if the affrighted mother apply her hand to any part of her body, which may be done accidentally and undesignedly, this can affect the same part of the infant? Does she mark that part of her own body by such application of the hand? But the child hears and sees, and feels the passions of the mother. How can this happen, when there is no nervous connexion between the mother and infant? Surely every obstetrician has observed, on dividing the navel string, that the child suffers no pain whatever, neither does the mother. And can nerves be divided in any other part of the body without pain? Again, how can the mother communicate her thoughts to the child, when her soul is distinct from that of the infant? That marks and deformities frequently happen, cannot be denied; but they can be accounted for in a much more scientific and natural manner, than by the influence of the mother's imagination.

'Why should we be surprised at some irregularities on the skin and other parts of the body, when we observe the same happen to vegetables, though incapable of imagination? They have their moles, their hairy parts, their discolorations, their excrescences, their unnatural shapes, which resemble animals and other bodies; and all without the help of fancy. There are many deformities never referred to the imagination, as the irregular conformation of the viscera. Is the whole empire of the microcosm, or world of the human body, so divided between nature and imagination, that one governs the internal, and the other the external parts? We ought to be little amazed at the deformities, when we consider the wonderful uniformity that exists among all living creatures. We should remember, that the rudiments of all animals are infinitely small, and composed of an infinite number of minute parts, which the least shock may put out of order; and yet they remain whole and entire, except in a

few extraordinary cases, which we can readily account for, by the following reasons :—Firstly, the variety of particles, and of their combinations. Secondly, the distempers of the children in the womb. Thirdly, the interrupted developements of some parts in the children. Fourthly, force and violence upon the body of the infant ; and lastly, diseases from inheritance.'

In discussing the question relative to protracted pregnancy, Dr. Ryan relates the following remarkable case :—

'I know a delicate woman, who menstruated the last week in February, 1826, quickened in July, and engaged me to attend on her in November. She had spurious pains in November, December, and January, 1827, and was delivered on the 28th of February, 1827 ; nearly twelve months from her previous indisposition. I had most serious business from home in November, but by her entreaties deferred my journey in that, and even the next month, and of course I then daily expected her delivery ; yet she went two months later. The infant was a girl and of the ordinary size, and she and all her friends thought she would be undelivered from her protracted pregnancy ; yet her labour was only of two hours continuance and perfectly natural. I shall ever have cause to remember this case, as I nearly lost some property by deferring my journey to attend upon it. It was a first pregnancy. I most solemnly declare, that the case was a true one, and not fabricated to support any particular opinion. This is the longest instance of protracted pregnancy which has hitherto been recorded in British medicine.'

The above extracts will convey some idea of the work before us. In the majority of works presented to our notice, we are able to select all that is of any value in them, and condense it into a few pages of our Journal, thereby saving our readers the time and trouble, saying nothing about the expense, of wading through whole volumes. But Dr. Ryan's *Manual* will not admit of this being done. Every page of it is full of information highly interesting to the practitioner. We beg, therefore, to recommend it to the perusal of our readers ; for we feel satisfied that it will be appreciated by every scientific member of the profession.

III.—*Expériences sur le Traitement des Affections Putrides —Experiments on the Treatment of Putrid Affections.* By MM. Leuret and Hamont *.

The study of morbid anatomy, notwithstanding the importance of the science to the medical practitioner, has tended, in some measure, as we before observed, to confine the views of pathologists respecting the general nature of

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* *Journal des Progrés, &c.*

disease. It has led some authors to conclude that all the affections generally termed *fevers* have their local habitation, either in the brain or in some other particular organ. But even morbid anatomy confirms the fact, that fevers of the same class do not always leave the same marks to be observable after death. In one case, the brain or its membranes may be found in a state of congestion, or of inflammation; in another, the lungs, or the pleura; in a third, the peritoneum, the mucous lining of the intestines, or of the air tubes, the liver, or any other organ; and in some cases no unequivocal marks of disease can be discovered in any part of the body. This being the case, surely there is no reason, according to the present state of our knowledge, to assign any one particular organ as the special seat of fever, to whatever class it may belong.

Conformably to the above doctrine of fever, all fevers are supposed to be of the same kind, or of the same essential nature, differing only in degree, or intensity, according to climate, local situation, and other external causes. If this view of fever be correct, it follows that the laws of nature, in regard to health and disease, act in a manner perfectly contrary to the regular order of natural phenomena. Physical laws, insofar as we are acquainted with their operations, determine the effects by the causes which precede. It would follow from this, that fevers, as well as other diseases, produced by dissimilar causes acting upon constitutions similarly modified, must differ in kind and in their essential properties as much as one salt differs from another possessing a different base. If we observe the progress of infectious diseases, we shall find, invariably, that the same effects follow the application of the same causes. The syphilitic virus never produces small-pox, nor does the small-pox virus ever give rise to measles or scarlet fever. Thus, in affections whose causes are palpable, nature works in the regular order of causation, and the effects in every instance are such as experience or observation of the order of natural phenomena would lead us to expect. Now, have we any reason to infer that impalpable causes act under laws different from those which govern objects of sense? Or is there reason to infer that the properties of all impalpable causes are alike, that they should all produce the same effects? Such an inference cannot, surely, be drawn if our senses are the only means in our possession by which we are to judge of the properties of external objects. We have no other means of judging of the properties of causes which do not form objects of sense, than by their phenomena in relation with sensible objects, or from analogy founded on

our knowledge of the properties of causes cognizable to the senses. Now the phenomena of fevers differ in the same constitution, under the influence of the same climate, and in the same local situation, according to the different causes which give rise to them. This fact would lead us to infer the existence of a difference in the essential, or (as some would call them) secret, properties of the disease itself. The symptoms of fever in general fully denote an affection of the system at large, and the symptoms of one species of fever are different in many respects from those of others.

Now, if the fever set up in the system as a consequence of the introduction of morbific effluvia be a general affection, it becomes an interesting subject of inquiry, through what medium is the subtile cause communicated to the various parts? It is evident that its first application is made to the surface of the mucous membrane either of the lungs or of the stomach, or both, or else to the surface of the skin. But the question respecting which much difference of opinion has existed is, does the morbific principle form its primary and chief relation, after becoming in contact with the mucous or the cutaneous tissue, with the extremities of the nerves ramifying on that tissue, and is it conveyed by these organs into the brain and from thence to the rest of the system? or is it absorbed and conveyed into the blood, and through this medium distributed throughout the different tissues? So far as our knowledge of physiology and pathology extends, the phenomena of fever, from beginning to end, are not such as might naturally be expected to proceed from derangement of the functions of the nerves; and no examples of nervous disease can be adduced bearing strict analogy to fever. The functions of the cerebro-spinal nerves may be said to consist in conveying sensation and voluntary motion. With regard to time, each of these acts is accomplished in a very short space. From the nature of these functions, it might be expected that the symptoms of disease of the organs, or, which is the same thing, that a derangement of their functions, would bear some resemblance in their characters, as to time and other things, to their healthy phenomena. And, in fact, this is the case in nervous diseases, at any rate in those affections which are generally allowed to depend on the nervous system. For example, a fit of hysteria is sudden in its attack and short in its duration; so is epilepsy; so are the paroxysms of tetanus, of hydrophobia, of different species of convulsions dependent on cerebral irritation, catalepsy, &c. These affections bear certain peculiar characters which the mind associates with the functions of the nerves, but which, from the inti-

mate relation and mutual dependence of the nervous and vascular systems, must, in some measure, modify, or even derange, the function of the latter system also. Again, substances which possess the properties of deranging and of destroying the nervous functions, when inserted under the skin, or applied to the surface of the mucous membranes, are very sudden in their action; whereas, morbific poisons, which are supposed, from pretty strong proof, to act through the medium of the blood, are comparatively slow in their operations.

From the foregoing facts, compared with the origin, progress, and general character of febrile diseases, the inference to be drawn from them is, that every part of the system bears its share in these affections, and that the cause, whether in the form of effluvia of different kinds, or in a more palpable form, is conveyed to the different seats through the medium of the circulating fluid. Several facts tend to prove that this fluid is subject to disease, and, as this is the case, it is nothing extraordinary that the functions of all the organs should manifest derangement under such circumstances. It has been supposed of late years that the constitutional symptoms which proceed from the exposure of the cavity of chronic abscesses depend upon inflammation of the lining membrane, and that the affection of the system is merely symptomatic of the local irritation. But the fact that the cyst of the abscess is in a state of inflammation before it is exposed to the atmospheric air, and yet that no severe constitutional symptoms take place, would render it probable that the symptoms which occur afterwards proceed from the absorption of some deleterious substances into the blood. We shall now proceed to notice the facts adduced by MM. Leuret and Hamont, to prove that the system is liable to be so affected when putrid substances are introduced into the vascular system, and that the general system may be again relieved from these effects by the abstraction of blood, so far as to enable it to resume its healthy functions. We have often argued in favour of the probability that abstraction of blood would prove beneficial in all diseases of a putrescent tendency, if this could be done without reducing the system so far as to render it incapable of keeping up the function of respiration, and some other functions upon which vivifaction immediately depends. We have also maintained that the benefit arising from loss of blood under such circumstances does not obtain according to the principle that blood-letting tends to reduce inflammation, but that it is a means of depriving the system of a part of the morbific cause upon which the general derangement depends, and which acts through the medium of the blood.

MM. Leuret and Hamont observe, that after having caused the death of a great number of horses by the injection of putrid matter into the veins, they have been led to conclude that the death of these animals could not be attributed to a local affection of an inflammatory nature, for they could not discover constant and incontestible traces of inflammation after such experiments. In the greater number of cases the nervous system was healthy, the heart, the organs of respiration and of digestion presented only some ecchymoses, or slight sanguineous effusions: the internal surface of the large vessels, and particularly that of the aorta, and of its primary divisions, was sometimes red, but this colour was rarely discovered immediately after death; it was merely found in bodies examined a certain number of hours after the death of the animal. Considering, likewise, that the matter employed had been injected, not into a circumscribed part, but into a large venous trunk, and that it became, consequently, mixed with the mass of blood, with which it was conveyed to every part of the body, MM. Leuret and Hamont deem it impossible to believe otherwise than that it gave rise to a general affection. Being afterwards assured that the observations furnished by numerous examples of morbid affections were analogous to those produced by the injection of morbid matter, and having communicated carbunculous disease by means of transfusion, they could no longer doubt that the blood was susceptible of becoming vitiated.

Having arrived at this conclusion, MM. Leuret and Hamont began to turn their attention in search of some curative means by which the alteration of the blood might be destroyed. They found that numerous authors, such as Mercatus, Massa, Forestus, Botal, have employed bleeding with success in the treatment of the plague, and that Sydenham, considering the blood as the seat of this malady, advised the same practice; they, therefore, deemed it proper to commence their inquiry by subjecting this treatment to the test of experiment. They consequently produced an alteration of the blood by mixing putrid matter with it, and when the symptoms had become sufficiently manifest, as indicative of a general affection of the system, they had recourse to bloodletting, unaided by other remedies. The following are the details of their experiments:—

Experiment 1.—October 4th, at two o'clock in the afternoon, about two drachms of pus, diluted with water, were injected into the jugular vein of a horse affected with chronic catarrh. The vessel was previously isolated, and immediately after the injection it was tied, both above and below the

incision. 5th. General debility; head carried low; loss of appetite; the eyelids covering the eyes; conjunctivæ infiltred; temperature of the body elevated; pulse frequent, full and tense. 6th. Trembling of the whole body; head always low; eyes shining; respiration frequent; pulse hard, sixty in a minute; mouth hot and dry; the animal drinks little; excrements appearing natural. *Bleeding, nine pounds;* the blood is of a dark purple colour, and very hot. An hour after the bleeding the animal appeared less affected. He voluntarily ate some bran and straw. The pulse remained frequent during the day. 7th. The trembling is gone; head not so low; the eyes are less shining than they were before; the pulse is hard, beating sixty in a minute. *Bleeding, eight pounds; bran-water, straw, and hay.* The pulse became fuller during the day, and, at the same time, diminished in frequency. The animal was less oppressed. 8th. He lay during the night; he both ate and drank; he voided some excrement, which was in the natural state; respiration free and easy; pulse small and frequent. *Bleeding, five pounds; the same regimen as before.* On the 9th and 10th the animal continued to mend, and by the 12th, that is to say, eight days after the injection, his health was completely re-established.

It will be observed, that in this case the treatment employed had a marked influence on the progress of the affection produced by the injection of putrid matter. Animals submitted to experiments of this kind most commonly sink under them; but the horse which formed the subject of the above survived it, although the symptoms made their appearance with great promptitude and severity. An amendment was remarked to have taken place an hour only after the first bleeding; and although no other remedies than bloodletting were had recourse to, the animal perfectly recovered. From the nature of the case, and the severity of the symptoms at the commencement, MM. Leuret and Hamont do not hesitate to say, that its termination would have been very different had it been allowed to take its own course.

Experiment 2.—October 11th, at six o'clock in the afternoon, two drachms of very fetid pus, diluted in a small quantity of water, were injected into the jugular vein of a strong horse affected with chronic catarrh. On the morrow morning the animal appeared oppressed; he held his head low; eyelids tumefied; eyes clear and shining; the mouth hot and dry; the mucous membrane red; pulse tense and frequent; skin very hot. 13th. His manner is stupid; eyes bleared and less brilliant; mouth not quite so hot as yesterday, a little glutinous; pulse regular, but rather hard,

beating fifty-seven times in a minute. The animal ate some hay, but did not drink. The excrements appeared natural. *Bleeding, eight pounds; bran-water and hay.* During bleeding the pulse became developed, and when the bleeding was over, the pulsations were sixty-four in a minute. The blood, examined on the morrow, presented a very firm coagulum, covered by a thick crust; it had scarcely any serum. 14th. The animal shows less oppression; the eyes are no longer bleared, but rather turbid; pulse hard, without intermission, beating sixty-five times in a minute. The animal eats voluntarily; the mouth is moist and slabbering; excrements natural. *Bleeding, nine pounds.* The blood at first was of a bright red, but towards the end of the bleeding it became dark coloured. After coagulating, it had the same appearance as the former blood, only that the quantity of serum was rather greater. The pulse became developed during the bleeding; it beat during the day as much as eighty times in a minute. The mouth is hot, less humid; oppression augmented. 15th. All the symptoms have much diminished; the pulse is scarcely frequent; alvine evacuations during the night, which present nothing particular. About two o'clock the oppression returned, not so severe, however, as yesterday; the pulse developed, more frequent and irregular. 16th. He carries his head low; somnolence; yellowness of the conjunctivæ; mouth humid; pulse frequent; temperature of the body rather elevated. *Bleeding, nine pounds.* The blood was of a bright red colour, and remained a long time fluid; when coagulated, it presented rather more serum still than the second blood: immediately after the bleeding the pulse increased in frequency. In the morning of the 17th, the animal was less oppressed than the evening before; he lay down; pulse still frequent, and irregular. *Bleeding, nine pounds.* Blood of a vermilion colour; it gave out a great quantity of serum on coagulation; the crust yellow, but thin; the pulse became elevated and frequent during bleeding. 18th. The animal does not carry his head so low as he did; appetite returning; pulse less frequent, regular; eyes more natural; conjunctivæ of a rose colour; mouth cool. From this time the horse continued to improve, and on the 23d, recovery was complete.

Experiment 3.—Two drachms of purulent matter, taken from the same source as that used in the second experiment, were injected into the jugular vein of a strong horse on the 12th of October.—13th. The animal appeared stupid and oppressed; eyes bleared; temperature of the body elevated; pulse devcloped, beating fifty-five times in a minute; little appetite; no thirst; excrements appearing natural. *Bleeding,*

seven pounds. Blood very red; when coagulated, it presented a very thick crust, and contained but little serum; pulse became developed during the flow of blood, beating sixty times in a minute. 14th. Less oppression; redness of the conjunctivæ, with slight ecchymosis; eyes rather bleared; mouth slightly hot, but moist; buccal membrane of a rose colour; appetite; excrements natural; pulse full, but regular; temperature of the body rather higher than natural. During the day the animal did not eat any; the pulse beat fifty times in a minute. *Bleeding, eight pounds.* Blood red and hot; the coagulum still presented a thick crust, and gave out but little serum. The pulse acquired frequency during the flow of blood. 15th. Amendment very obvious: the oppression has nearly subsided; the animal eats with avidity some bran presented to him; temperature of the body natural; pulse rather frequent; conjunctivæ in the same state as before. He continued to improve from this time, and the recovery was complete on the 20th, with the exception of a slight elevation of the pulse, which, also, soon returned to its natural state.

MM. Leuret and Hamont remark, that the same cause in different animals does not always produce effects perfectly similar, because they are differently organized in some measure, and their constitutions differ in modification. Although the symptoms produced by the injection of purulent matter into the veins differ in the degree of their intensity in different animals, still they are the same in kind, and bleeding appears to exert a decided influence over them. The disease in the second case lasted eleven days, and the treatment was continued for nine days; whereas, in the third experiment, the animal was well by the eighth day. In the third case, also, the symptoms did not acquire the same intensity as in the first, and particularly the second. What could be the cause of this difference? MM. Leuret and Hamont think it may be accounted for by the circumstance that bleeding was not had recourse to in the first and second cases until the third day, thereby allowing the morbific cause time to produce great alteration in the blood, as well as derangement of the organic functions; whereas, in the third case, bleeding was performed on the second day, before the poison had sufficient time to derange the function of the different organs to the same extent.

If it were asked, say the authors, in what manner bleeding cures, many would answer, that it is by acting as an antiphlogistic. But, is it an inflammation that we have to treat? The answer to this question is to be founded upon an examination of the symptoms, and the morbid appearances observable in the bodies of animals into whose veins putrid

matter has been injected. The symptoms are not those of encephalitis, of pneumonia, of carditis, of gastro-enteritis, &c.; and the lesions discoverable after death, in the greater number of instances, consist of nothing more than ecchymoses. It is, doubtless, possible that, in certain cases, the disease has some complication of an inflammatory nature; but it is equally true that this complication is always ruled by the general nature of the malady. M. Gaspard has observed that dogs upon which he experimented had often critical alvine evacuations; this is a further proof in favour of the existence of a general disease, since these evacuations announce the approach of health. If it is not upon the principle of subduing inflammation that bleeding acts in these cases, are its successful results attributable to the depletion of the vascular system, or to the evacuation of a certain portion of the altered blood from that system? It certainly produces this depletion and this evacuation. But how these effects contribute to bring about recovery is a problem which they have not attempted to solve. Therefore, without attempting to explain things which they consider themselves unable to penetrate, they arrive at a conclusion which appears necessarily to follow from the experiments, namely: that when bleeding has sufficed in the treatment of a disease, it does not follow that that disease was of an inflammatory nature. Bleeding was formerly practised with the view of evacuating the diseased blood; it is practised at the present time with that of averting or of combatting inflammation. Under similar circumstances, the practice remains the same among all well-educated physicians. The explication differs, but the successes are numerous, inasmuch as the case does not result from the hypotheses, but from remedies, the virtues of which experience has demonstrated.

To prove the effects on the constitution of other substances than putrid pus, M. Leuret inserted portions of carbuncled tumours into the cellular membrane of horses, in order to allow the system to become affected by absorption of the diseased matter. These experiments were followed by considerable local tumefaction; intense pain, and a discharge of fetid ichor from the wound. To these symptoms succeeded others of a more grave character. The pulse became weak, frequent and intermitting; respiration laborious; yellowness of the conjunctivæ; lippitude of the eyes; the walk became feeble and tottering; rumbling of the bowels; alvine discharges frequent and fetid; appetite continued for some time. These symptoms went on increasing in intensity, and were followed, in a longer or shorter time, by death. On examination of the bodies after death, independ-

ently of the local affection, the tissue of the heart was generally found softened, and its external surface ecchymosed along the course of the vessels; ecchymosis of its internal surface, especially in the left cavities; the parietes of the large vessels were generally found healthy, but sometimes of a reddish colour; the blood was commonly fluid; sometimes in black or whitish yellow coagula, but very soft; the lungs emphysematous, strewed with ecchymoses, and presenting dark coloured spots; dark streaks along the vessels of the external surface of the digestive canal; its internal surface ecchymosed; that of the small intestines injected and red in places, especially in the situation of the follicular glands; liver and spleen friable; the urinary passages healthy; the cellular tissue surrounding the kidneys emphysematous; nervous system healthy.

These morbid appearances are the same as those observable in cases where the disease takes place spontaneously. M. Leuret endeavoured to determine, by chemical analysis, whether or not the blood itself be affected in such cases. He submitted to the same chemical process, blood taken from an animal labouring under the malady in question, and blood taken from a healthy animal: the products were the same both in nature and in quantity; so that these experiments did not furnish a solution of the question. M. Leuret next thought of allowing the two to putrify; the result here was, that the blood taken from the diseased animal appeared to decompose sooner than the other, at least carbonic acid was disengaged from it thirty-six hours sooner than from that taken from the healthy animal. This experiment, however, was not satisfactory, for the prior disengagement of the carbonic acid from the former might have taken place in consequence of its possessing less cohesive property than the latter, and this acid might have been only that which the blood naturally contained. But M. Leuret should have considered that there must have been some cause to determine the carbuncled blood to be less cohesive than that obtained from the healthy animal. However, he proceeded to solve the question by a different process, namely, by transfusing the blood of a diseased horse into the veins of a healthy one. The result was, that the animal subjected to the experiment fell ill, died, and presented, on dissection, all the appearances already described. From these facts, therefore, it would appear that the blood was altered in its condition, and that it possessed the property of imparting the disease to a healthy animal, but, what the alteration consisted in, or in what chemical properties did the fluid differ from healthy blood, could not be determined.

IV.—*Observations on the Nature and Treatment of Cholera, and the Pathology of Mucous Membranes.* By Alexander Turnbull Christie, M.D., Madras Medical Establishment.

It frequently happens that in the search after objects of difficult attainment, facts are elicited, and valuable observations recorded, which, though they may not bear so much on the point in question as their authors imagine, yet add considerably to the general stock of information. This is, in some measure the case with the author before us, who has written a book, in which the theory and explanation of certain phenomena are any thing but satisfactory, yet in which many of the principal facts connected with cholera are briefly and clearly related, and the treatment of it, founded on considerable experience, bold, judicious and successful.

Dr. Christie observing, that in every case of cholera the mucous system 'bore the principal onus of the disease,' was induced to think that to this system we must look for its pathological cause; he has, therefore, for the purpose of elucidating the subject, prefixed some general remarks on the pathology of mucous membranes, and, by observation and experiment, has arrived at conclusions, the principal of which are the following:—1, 'That mucous membranes are liable to two distinct, simple, morbid affections, viz., inflammation and catarrh. 2. Catarrh consists of a diseased action of a secretory apparatus of a mucous membrane, which produces an increased and vitiated secretion, &c. 3. Either of these morbid affections may occur alone in a mucous membrane, or conjoined with the other.'

Dr. Christie observes that the morbid appearances *invariably* met with in cholera are confined to the mucous system. In all his dissections, the following have been present:—A whitish, opaque, viscid substance adhering to some portions of the mucous membranes, sometimes very abundant, the stomach and portions of intestine were filled with a transparent or turbid serous fluid, and, frequently, the viscid matter above mentioned was found mixed with it, or floating in it, in the form of flakes. The mucous membranes, except when inflamed, had an unnatural whiteness, and could, generally, be detached, by scraping, in the form of a thick pulp, from the subjacent coat. The secretion has been sometimes observed to be bloody, at others, of the colour and consistence of cream. The morbid appearances next in frequency are, venous congestion of the viscera, particularly of the abdomen; dark coloured blood in the veins, sometimes in the left side of the heart, and inflammation of the mucous membranes, generally

confined to the pyloric extremity of the stomach and small intestines. The blood drawn from cholera patients is sometimes perfectly black, of the consistence of liquid honey, or forming, after a few minutes' exposure, an uniform coagulum, without separating into serum and crassamentum; sometimes it is of the usual dark colour, with red streaks, and sometimes nearly natural.

By experiments on the secretions Dr. Christie proves, that the fluid part is pure serum, and the coagulated part fibrin.

The catarrhal affection, in severe cases, pervades every mucous membrane in the body.

From a variety of dissections and observations, Dr. Christie arrives at the conclusion that there are two essentially distinct kinds of cholera, viz. 'cholera morbus, or cholera biliosa, consisting of an inflammation of the gastro-enteric mucous membrane; the other, the Indian cholera, or cholera asphyxia of Scott, consisting of a violent catarrh of the mucous membranes generally; and further, that cases sometimes occur of a mixed nature, from catarrh and inflammation being present in the mucous membranes at the same time.' It will be found, we think, rather a difficult task to support the position, that catarrh and inflammation of a mucous membrane are essentially distinct from each other, or that there is any specific difference in the proximate cause of the two diseases—cholera morbus and Indian cholera. We consider them both to be inflammatory, varying, probably, in the kind as well as the degree of inflammation, and modified by circumstances. We are borne out in this opinion by the *practice* of the author himself, who treats both species of the disease with the same remedies. If cholera be not inflammatory, wherefore the almost certain relief from copious venesection and evacuants? But if catarrh and inflammation of a mucous membrane are so completely different as the author says they are,—'their effects,' he observes, 'on the heart and arteries are very different, nay, completely opposite'—how happens it that they both go on together at the same time, and in the same place? It is generally found that opposite diseases do not exist together in the same structure; but these are inconsistencies which men who coin theories will occasionally fall into. The author's treatment, we have before observed, is good, and to that we hasten. In the catarrhal cholera, Dr. Christie remarks, there will always be two principal indications of cure, viz. 'To remove the diseased action of the mucous membranes, and to restore the circulation of blood towards the surface.' Blood-letting, which is universally considered the most powerful remedy in cholera, Dr. Christie thinks, is

not generally carried to a sufficient extent. He recommends it not only in the robust European, but in the most delicate native, not only when there is increased action in the circulation, but 'in every case where blood can be obtained,' except only where great debility exists previously to the attack of the disease. The *modus medendi* of bloodletting in cholera morbus is evident; it removes the inflammation in the gatro-enteric mucous membrane. In the catarrhal, or Indian, cholera, it relieves the affection, by restoring the circulation of blood towards the surface. How it does this, Dr. Christie knows not, nor does he seem inclined to take much trouble about it; 'that it does so,' he says, 'is a fact, and that is sufficient.'

Blisters to the abdomen, and cataplasms of mustard and capsicums to the feet and legs, with hot sand or friction to the arms and hands, are also very beneficial

Dr. Christie does not recommend raising a blister by boiling water or acid, except in extreme cases, where no time is allowed for the action of cantharides.

In catarrhal cholera, according to Dr. Christie, opium is given to suppress the vomiting and purging, to alleviate spasms, and assist in restoring the circulation to the surface. In inflammatory cholera, it is only given to allay the vomiting. Alcohol, ether, and other stimulants are only admissible in the latter stages of the diseases; but calomel is one of the most extensively useful medicines we possess for the treatment of cholera; it is used in both forms of the disease, either alone, or in combination with cathartics, or, in the catarrhal form, with opium.

Dr. Christie thinks fumigation with mercury, as recommended by Dr. Gibson, might be useful, but appears to have had no opportunity of witnessing its effects. We conclude our review of this book with a very favourable opinion of its author: the opportunities he had of investigating the disease were extensive, and he does not appear to have neglected them; the book contains much to praise, and but little to blame, and may be safely recommended to the profession, more particularly to those of it whose destiny it is to visit the scenes where cholera commits its ravages.

ORIGINAL COMMUNICATIONS.

I.—*Remarks on 'Practical Queries, by* Chirurgus,' *respecting Mortification in a New-born Infant.* By Chirurgo-Medicus.

In the fifth Number of the Medical and Surgical Journal, a Correspondent relates a case of much practical

importance, where mortification was found to have taken place in the arm of a fœtus *in utero*. The narrator of the case proposes two questions respecting it, viz. 1st, 'At the time of the spurious pains,' which the mother had eight days before parturition came on, 'did the circumstance of disease of the arm begin, and what could have been the cause of this unusual phenomenon? 2d, On a line of separation between the mortified and living parts having been established by the second or third day after birth, and the child being healthy, whether ought the arm to have been *then* amputated, or left to the efforts of nature?'

Now, before a correct judgment can be formed relative to these questions, we ought to be in possession of more facts connected with the case than what Chirurgus has published. A knowledge of the issue of it, of which he, of course, is possessed, would have, in some measure, assisted us to arrive at correct conclusions. What was the state of the vessels and of the nerves of the amputated portion of the arm? Did the mortification, at the time of birth, extend deeper than the integuments? Had the child any power of moving the fingers? Did the mortification extend at all up the arm *after birth?* or did the line of separation form at the point where the living and dead parts met when the child was born? Another question is, at the time the arm was removed, had a complete separation, *down to the bone*, taken place between the living and dead parts? In the absence of a knowledge of these facts, which Chirurgus ought to have afforded us, the data upon which answers to his questions are to be founded are barely sufficient for that purpose.

However, let us take the case as it is related. We are told that the child was 'in all respects well formed, and apparently healthy,' excepting the gangrene of the arm. From the circumstance that the child was healthy, I should infer, in the first place, that the *cause* of the mortification was of a *local* nature. From the same circumstance I should infer, judging from analogy, founded upon two cases which I have witnessed in grown persons, that the mortification was *not* preceded by *inflammation*, but that it was caused by some accidental obstruction taking place in the vessels of the part. Then what could cause this obstruction? In answer to this question I would observe, that the vessels become sometimes suddenly obstructed without any *known* cause. In one of the cases to which I alluded above, a delicate, otherwise healthy, woman was seized *instantaneously*, between two and three weeks after her delivery, with a most excruciating and insupportable pain in the leg and foot; from that in-

stant the foot and the lower two-thirds of the leg became insensible; gangrene showed itself in two or three days, and the soft parts all sloughed. The pain did not continue many hours, and the health of the patient appeared remarkably good during the time the parts were in a sloughing state. After the sloughing had been allowed to take place *down to the bone*, and after the foot had become completely detached from the leg, the patient being still in apparently very good health, amputation above the knee was performed, the limb, externally, appearing perfectly healthy; but on dividing the vessels the blood in many of the veins was found coagulated. The patient appeared for four or five days to be doing extremely well; but at the expiration of that period she was suddenly seized with a peculiar nervous affection, and died in a few hours, the wound made by the amputation appearing perfectly healthy until the time of death. Judging from this and another case, besides from the history of many more on record, I should say that the mortification in the arm of the child in question took place in a similar way, owing to a spontaneous obstruction occurring in some of the vessels.

We are asked by Chirurgus, did the disease of the arm commence at the time when the woman had an attack of spurious pains? The spurious pains, it appears, occurred eight days before delivery. We ought to have been informed here, what appearance the arm presented at the time of birth; whether it was in a state of sloughing, or of vesicles, or whether there was only a livid colour of the skin, without any detachment of the cuticle. According to the march of the decomposition, it appears that eighteen days elapsed, from the time the child was born, until the separation became complete between the dead and living parts. Now, from this circumstance, and considering that the process of gangrene is generally slower at first than when it has advanced to a certain stage, *eight* days would not have sufficed for the decomposition to proceed to a very advanced stage, especially as the part was enclosed in the uterus and within the membranes, thereby excluded from the action of the atmosphere. If, however, the gangrene was in its first stage at the time of birth, I should infer that the disease commenced at the period when the mother suffered under the spurious pains.

Having proceeded so far, let us consider whether these pains were the *cause*, or the *effects*, of the affection of the fœtus; that is, admitting that they were at all related to each other. It is possible that the uterus, in contracting, might, by its pressure on the child, cause obstruction of the vessels of the arm, either by producing a rupture of the

lining membrane of a principal trunk, or by producing inflammation of their inner surface. But this appears only a bare possibility, when we consider that of the millions of children that are born no such effect is produced, although the pressure in most instances is very great. It should also be considered, that an obstruction in *one* vessel, though a principal trunk, would not be sufficient to deprive the part beyond it of life; for we find that the arm will be nourished after a ligature has been applied to the subclavian artery. From these circumstances it may be inferred, that the disease in the instance in question took place spontaneously, or from some cause (probably connected, primarily, with the nerves of the part), of whose nature or mode of action we are ignorant, but whose effects have been noticed in numerous cases on record, as well as in the case to which I have already alluded.

Then, might the spurious pains of the mother be the *effect* of the affection of the fœtus? I answer, that it is probable they might; though I fear that the mode in which I shall endeavour to connect the two phenomena will be considered a mere speculation. Affections analogous to that of the child in question generally take place *suddenly*, and are attended, at their *commencement*, with a *most excruciating pain*. As I believe that a fœtus *in utero* is as subject to physical pain as a child when born, I can also believe that his muscular system would be thrown into action by that pain, as an instinctive attempt of resisting it, or of throwing it off. If these points be admitted, I should say that the convulsive or instinctive motion of the child, under the influence of pain, was sufficient to produce the 'shivering, sickness, and abdominal pains, resembling those of parturition,' of which Chirurgus speaks. We know that the pressure, simply, of the gravid uterus on the stomach towards the latter stage of utero-gestation, is sufficient to produce sickness. Any violent motion on the part of the fœtus would, in all probability, aggravate the functional disorder of this organ, as well as produce spurious pains of the abdomen, from spasmodic contractions of the uterus.

I shall next offer a remark or two on Chirurgus's second question, which I consider as one of much practical importance, not only as it applies to the case under present consideration, but also as it relates to analogous cases occurring at any period of life.

I take it for granted, as nothing is stated to the contrary, that when the child was born no inflammation was present in the arm, above the line of separation between the living and dead parts. Had the gangrene been preceded by in-

flammation, in other words, had it been the *consequence* of inflammation, that inflammation, judging from analogous cases, would have extended up the arm, beyond the point at which a line of separation was to be subsequently formed between the dead and living parts, and some traces of it would have been found at the time of birth. In cases where inflammation terminates in gangrene, and where a line of separation subsequently appears, that line does not take place at the boundary of the inflamed part, but generally a considerable space within that boundary, and the parts beyond it retain an inflamed appearance for some time after the line of demarcation has taken place.

Now, when gangrene is caused by inflammation, the vessels are generally free and unobstructed, not only so low as the inflamed boundary, but also to within a very short distance of the margin of the mortification, so that after amputation is performed, the blood meets with no impediment in its return from the extremity of the stump. But in spontaneous grangrene the blood will generally be found coagulated in the veins to a great distance above the line of separation; and the result in most instances is, that the operation proves unsuccessful. What the immediate cause of the unfavourable result of such cases may be, I do not pretend to know; but the fact has been noticed by many eminent surgeons. Did it depend merely upon a want of free passage for the blood to return by, the effect which might be expected to result would be mortification of the stump; but this, I believe, is not generally, at any rate not always, the case; for the patient dies before any signs of such an affection make their appearance. Were I to meet again a case similar to the one I have alluded to, I would not amputate *above* the line of separation, but would wait until the parts should slough away *down to the bone*. I would then divide the bone close to the living parts, and give the stump a chance of healing by granulation. Such a mode of proceeding would, of course, be only applicable to cases in which the general health is good, where the gangrene has occurred spontaneously, without being preceded by inflammation, and where the discharge from the surface of the stump is not so abundant as to subdue the powers of the system. I believe that the discharge in such cases is seldom profuse.

Applying these remarks to Chirurgus's question, I should be inclined to think that the arm, in the case that he relates, ought *not* to have been removed a day or two after the child was born, and that he acted judiciously in deferring the operation. But the above remarks lead to another question, viz. whether it was better to amputate at all

under such a circumstance, or leave the case to the efforts of nature, assisting her merely by dividing the bone and dressing the sore? Being unacquainted with the issue of the case, I shall merely observe, judging from analogous cases, that I should have been disposed to form an unfavourable prognosis of the result of the operation, whether performed immediately after birth, or after waiting until the dead had separated from the living parts. In many points of surgery, however, we may say that 'all's well that ends well,' and the result is the best proof of the expediency or inexpediency of the practice adopted. Whether the case in question terminated favourably or unfavourably, those who had the care of it were, in all probability, justifiable in having recourse to amputation; at any rate, authority is in favour of such a practice.

I have been induced to offer these few observations, as I considered the questions of practical importance; but I hope that some one who has witnessed similar cases, and whose surgical experience is more extensive, will notice the subject, and will give more satisfactory answers to the questions proposed by Chirurgus.

London, November 10, 1828.

II.—*Case of Abscess in the Brain.* By D. F. Jones, Esq. Surgeon, &c.

James Murdoch, aged nine years, an apparently healthy, though delicate, boy, felt himself, on the 5th of February, 1828, rather unwell; his pulse was frequent and wiry; skin hotter than natural; tongue dry, whitish; thirst; a slight pain in the head, accompanied with drowsiness. He was well purged with calomel and jalap, and ordered to abstain from food.

6th. Pain in the head much increased; considerable fever; pulse from 110 to 120; skin very hot, particularly about the face and neck; excessive thirst; tongue dry and furred; urine scanty; alvine discharges have been abundant, watery and slimy.

Three leeches were applied to each temple, which produced a profuse flow of blood. He was ordered to take a dose of calomel and jalap, followed by a saline mixture, containing tartar emetic.

7th. He appeared to have rather less fever after the leeches were applied; but to-day he is not any better. The bowels have been several times open; urine very scanty; mouth parched; pulse about 120, and irregular at times; scarcely any sleep; when he happens to dose he starts suddenly,

and screams out aloud; the pupils are in a rather contracted state, but moveable under the influence of light and darkness.

The head to be shaved, and ten leeches applied to different parts of the scalp. When the bleeding shall have ceased, an evaporating lotion to be constantly applied. The mixture to be continued.

8th and 9th. Symptoms were much the same; if any thing, aggravated. The mixture and lotion were continued.

10th. In the night of the 9th the patient had a convulsive fit, since which he has appeared comatose; screaming out very loud at times. Pulse very small, and from 120 to 130 in a minute; bowels very loose, and the motions passing involuntarily; the body looks very much emaciated; the skin about the head is hot, but its temperature in other parts is lower than it was.

A large blister to be applied between the shoulders; the lotion to be continued; two grains of calomel to be administered every four hours, with a dose of saline mixture.

11th. The patient appears sensible only at times; he lifts his hands towards his head; his speech is quite incoherent; the pupils are dilated, but a little moveable when a candle is applied to the eyes; the head, as well as other parts of the body, is much cooler than it was; the blister had only partially risen; pulse extremely small and quick; alvine evacuations still passing involuntarily; they are perfectly fluid, and of a brownish white colour.

A large blister to be applied to the scalp; the patient to be placed in the warm bath; the same medicines continued; a little beef tea, and milk and water.

12th. The patient is sinking very fast; the eyes are drawn upwards, so that the pupils are hidden by the upper eyelid; pupils much dilated; screams uttered at intervals; in other respects he appears quite insensible. From this time the patient became unable to swallow but very little of any thing; the same remedies were prescribed, but he continued to sink until the night of the 13th, when death relieved him from his misery.

Post-mortem Examination.—On lifting the skull-cap, and laying open the dura mater, the membranes of the brain appeared healthy; the vessels might, perhaps, be considered rather fuller than natural, but there was no thickening of the arachnoid, nor was there any effusion between it and the subjacent pia mater. The substance of the brain, on being cut, exhibited a greater number of red points than usual in a healthy brain, but the difference was very trifling. In the posterior lobe of the right hemisphere was found an abscess,

containing about half an ounce of perfectly pure pus; and situated behind this, just within the posterior extremity of the lobe, was another abscess, which contained about a drachm of pus of the same quality. These abscesses were enveloped in very delicate cysts, of a pale, whitish colour, and scarcely any trace of inflammation could be discovered in the cerebral substance surrounding them. The cerebral ventricles contained no more than two or three drachms of fluid. The arachnoid membrane covering the tuber annulare was a little opaque, and its vessels were injected. The thoracic and abdominal viscera presented nothing worthy of notice, if we except a slight injection of the mucous membrane of the large intestines in some parts.

October 29, 1828.

III.—*Case of Puerperal Peritonitis, successfully Treated.*

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

GENTLEMEN,—If you should consider the present case of puerperal inflammation of the peritoneum worthy of publication in your valuable Journal, you will oblige me by inserting it. Yours, &c. C. B.

London, November 5, 1828

Mrs. P—, naturally a strong and healthy woman, about thirty years of age, was delivered of her second child in July. The labour was tedious and lingering for several hours, otherwise it was natural. After delivery very profuse hemorrhage came on. The placenta was immediately extracted by traction at the umbilical cord, and pressure on the abdomen. However, in spite of pressure, cold applications to the abdomen, the introduction of the hand into the uterus, &c. the hemorrhage continued for several hours, and was very profuse at intervals. On the third day after delivery she had slight symptoms of abdominal inflammation, for which leeches, fomentations, &c. were applied to the belly, and saline aperients administered internally. Under this treatment the abdominal symptoms disappeared; but owing to the previous hemorrhage, during the continuance of which she several times fainted, and the loss of blood subsequently by the application of the leeches, she remained for several weeks in a very debilitated state. No milk was secreted, so that she was obliged to engage a wet-nurse for the child.

At the end of four months, whilst still in rather a weakly state, the patient conceived again, for the third time; and her health and strength rapidly improved. During her pregnancy, until within a month of her confinement, she enjoyed

good health, but towards the latter end of the eighth, or the beginning of the ninth, month of utero-gestation, some symptoms of abdominal inflammation came on very gradually and insidiously during a catarrhal affection. Her appetite now left her; she had nausea, sickness, a good deal of fever at times, and cough in paroxysms. For these symptoms she was bled to the amount of eight ounces, and she was ordered some saline aperient and demulcent medicines. These remedies tended to mitigate the febrile symptoms, but the cough continued, and the patient's strength became very much reduced, so much so, that she was obliged to confine herself to her bed. The abdominal symptoms, which were before almost eclipsed by the general febrile affection and the cough, now became more evident; they were still attended by a low, febrile, irritable state of the system, furred tongue, and a small, wiry, quick pulse. The patient was in too debilitated a state to lose any blood by venesection, but leeches were applied to the abdomen, followed by frequent fomentations. The symptoms of abdominal inflammation, however, became more and more developed, in spite of the antiphlogistic remedies in common use, and, although the patient was now within a week or nine days of her expected confinement, I saw no chance of subduing the disease, which was insidiously gaining ground in the abdomen, without having recourse to the submuriate of mercury. Two grains of calomel were therefore given her three times a-day, combined with a small quantity of opium, the bowels being very open. Under this plan the disease gave way almost as if it were by magic. At the end of three days the tenderness of the abdomen had quite left her; the tongue had become moist, the pulse softer and much less frequent; the low fever had subsided, and the stools were of a more natural consistence and colour. The cough, however, continued very troublesome, but it did not appear to depend upon thoracic inflammation; it was very loud and came on in paroxysms.

Three days after the period last mentioned, whilst the patient was in a state of extreme debility, labour came on. The parturient process advanced much better than I had anticipated. With the exception of a breech presentation, the labour, until the child was born, offered nothing worthy of notice; it was completed in six hours from the first coming on of the pains. But no sooner was the child expelled than a terrible gush of blood followed. The patient immediately fainted, and remained in a state of syncope for a considerable time. By means of brandy, poured down her throat, in large quantities, she was, however, resuscitated, but the brandy was obliged to be continued at short intervals

for several hours after, to keep her from relapsing into a similar state. The placenta came away with the gush of blood, immediately after the child; and the hemorrhage did not return in any considerable quantity. The child had been dead, apparently, for two or three weeks. During three days after delivery the patient went on well; she was in a very feeble state, but by being allowed a light, nourishing diet, flavoured with a small quantity of brandy, her strength was improving as fast as could be expected. About four o'clock in the afternoon of the third day I visited her for the second time that day, and was highly gratified to witness her progressive improvement. But about seven o'clock the same evening I was sent for in a great hurry, and was told that the patient had been suddenly seized with a violent pain in the abdomen. On my arrival I found her in the following state: the abdomen apparently tumid, and so tender that she could not bear the weight of the bed-clothes on it; pulse beating from 130 to 140 in a minute, very small and irregular; intense heat of the skin; excessive thirst; great restlessness, and continual tossing about of the head and arms; sense of extreme debility; skin pale, with the exception of a rosy spot on each cheek-bone; lochia continuing to flow; the bowels had been kept gently open ever since her delivery.

I was informed, that about an hour before I was sent for, while the patient was dozing, the nurse let something fall at the door of the room, which occasioned a great noise. This startled the patient, and she was instantly seized with an excruciating pain in the abdomen, accompanied by a violent fit of shivering. The shivering fit continued for about half an hour, or a little longer, and was followed by the symptoms already described. Although the pain had come on in so sudden and violent a manner, there was no doubt of its being of an inflammatory character, and there was little doubt of its being seated in the peritoneum. The attack was more violent at its commencement than in any instance I had ever witnessed before; and from all the circumstances connected with this case, I felt convinced in my own mind that the disease would, in a few hours, subdue the patient's life, unless the malady itself was attacked by some very active means. The patient was already in too weak a state to bear general bleeding. Twenty leeches were immediately applied to different parts of the abdomen, the pain and tenderness being general over it; these were followed by frequent fomentations.

A twelve o'clock at night the leeches had drawn well, and the bleeding had been plentiful, and was still continuing in some degree; but the disease was evidently gaining ground;

the abdomen appeared more tumid, and its whole extent was so tender, that the slightest touch gave the most excruciating pain. All the symptoms already described were also present in an aggravated degree. The lochia still continued, but in small quantities.

Disregarding, now, all other remedies, I resolved to bring the system under the influence of mercury as soon as possible, as being the means upon which I had previously found reason to place the greatest dependence. I, therefore, prescribed ten grains of calomel, combined with one grain of opium, to be taken immediately, and five grains of the former, with a fourth of a grain of the latter, to be repeated every two hours. At eight o'clock on the following morning she had taken four doses, containing in all twenty-five grains of the submuriate of mercury. I could not help being surprised, but very agreeably so, upon witnessing the change which had now taken place in the character of the case. Although the mercury had not, apparently, at all affected the system, yet the pain of the abdomen had considerably diminished, and the tumefaction had very much decreased; the pulse was between 100 and 105, beating with regularity; the skin was moist; the thirst was much less intense than it had been, and the tongue moister; lochia more abundant; bowels had been only once open since twelve o'clock at night.

The mercury was now ordered to be taken every four hours, combined with the opium as before. In the evening the edges of the gums appeared slightly red, and the breath exhaled a slight mercurial fœtor. Scarcely any of the abdominal pain remained; the belly was soft, and the patient could bear pressure on it without flinching; the skin was moist, so were also the tongue and mouth, and the thirst had quite left her; the bowels were moved twice in the course of the day; the pulse was from 96 to 100; in a word, the patient complained of nothing more than great debility.

The calomel was now omitted, and three grains of blue pill, combined with two grains of rhubarb, substituted for it, every six hours; a dose of infusion of calumba, containing a few grains of nitre, was also administered between the doses of the pills. The patient was allowed a little beef tea occasionally.

The following morning the mouth was very slightly affected by the mercury; the pills were, therefore, discontinued. In fact, no symptoms now remained but those of debility. The patient continued to improve progressively from this period, under the use of slight tonics and nourish-

ing diet, and her recovery took place more rapidly than any one could have anticipated.

I shall offer no remarks upon the present case, but leave the reader to form his own opinion of it. I admit there is nothing new in the plan of treatment adopted, but its superior efficacy over any other hitherto employed is fully proved. In the present case, and others of a similar nature, general blood-letting could not be resorted to, owing to the extreme debility under which the patient already laboured.

IV.—*Case of Lymphatics inflamed by Poison, cured by a Blister.* By John Epps, M.D.

On Tuesday evening, November 4, I felt a soreness in my thumb, and, on examination, found it to be swelled, and also that it had been scratched. Being very fatigued I retired to rest, simply sucking the thumb, not being aware, however, of its having been poisoned. On the Thursday morning the pain was considerably increased; the thumb was quite puffed up, and there existed a livid redness all over it. A dull, uneasy sensation was felt up the arm, and happening to look at the wrist, a streak of red passing along it was perceptible. Convinced of danger, I examined my arm, and found that the reddened streak extended upwards, over the radius, entering into the cavity at the bend of the arm, whence three red stripes had extended up to the axilla. Knowing that no time should be lost, a blister, of a length sufficient *to extend from the axilla down the arm to the last phalanx of the thumb*, was sent for. It was applied the second day, and in the evening it was in full activity. I allowed it to remain on till the following morning, when I removed the part of the blister from the bend of the arm downwards and upwards, and afterwards the superior portion. Several large blisters were formed, and a considerable quantity of a yellowish serum was poured out. The blistered surface being dressed with ung. cetacei, the arm was supported in a sling. The peculiar sensation up the arm was gone, but the thumb remained stiff and puffed. On Saturday, having examined the thumb more minutely, a pimple was seen on the part where the original scratch was situated, and a circumscribed redness and tension around the same. I cut open the skin all around, and then applied the following ointment:

℞ Ung. Resinæ flavæ
— Cetacei āā p. æ. Misce.

On Monday, as the thumb was still swelled, I applied a

poultice, and continued to apply the same till Thursday morning, by which time the thumb was reduced to its natural size. No more need existing for poultices, the thumb was strapped with adhesive plaster, and the whole was speedily well.

The hand swelled considerably after the blister was removed, but this depended upon the position of the arm.

By this case the important utility of a blister, when the lymphatics are inflamed, is sufficiently established, and so convinced am I hereof, that should such a case happen again, the application of a blister down the *whole arm* would form a part of my plan of treatment,

Keeping the mind cheerful is also very important in such cases: it is difficult, it is true, since the anxious countenances of friends tend to throw a gloom over the most determined cheerfulness. It may be useful to notice that the only internal medicine taken was sulphur præcipitatum, in small doses.

46, South Audley Street.

MONTHLY SYNOPSIS OF PRACTICAL MEDICINE.

1. *Case of Extra-Uterine Abdominal Gestation.—Biliary Calculi.—Prurigo.—Erysipelas, &c**.—Marie Jeanne Cauht, aged seventy-three years, mother of a daughter about thirty years, cook, widow, entered the hospital the 27th of February, under the care of M. Rayer, presenting the following symptoms: the skin of the trunk and that of the members, in some parts only, was the seat of two eruptions of a different nature, easily distinguished from each other. The first, (prurigo) situated on the superior part of the back and posterior part of the neck, consisted of small, hard elevations, whose bases were surrounded by rosy areolæ, and whose tops were surmounted by small sanguineous crusts. This eruption was attended with an insupportable itching. These papular elevations were intermixed with spots appertaining to another eruption *(syphilide en plaques)*. These were in irregularly round patches, of various dimensions, from the size of a pin's head to that of a ten-sous piece. They were of a red, coppery colour, disappearing momentarily on pressure with the finger; they were not elevated above the level of the skin; they were for the most part covered with very thin scales; none of them presented any crusts or ulcerations in their centre. These spots occupied the anterior and posterior regions of the trunk, and similar ones were situated on the thighs. The skin of the axillæ presented some differing in certain points from the preceding; for in this latter region the eruption was elevated above the level of the skin; their

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* Hôpital St. Antoine.

surface was humid, and as if slightly tuberculous. None of these syphilitic spots gave the patient any pain, nor were they attended with itching. The mouth, pharynx, and genital organs presented no trace of syphilis. The abdominal and thoracic organs appeared to perform their healthy functions.

February 28th.—The patient was bled to the amount of eight ounces, placed in the warm bath, and ordered to take mollifying drinks, &c. 29th. The itching attending the prurigo has been quite allayed by the bleeding; and the greater part of the sanguineous crusts covering the tops of the eruption came off in the bath. March 1st. The treatment for the syphilitic eruption was now commenced. *(A quarter of a grain of deutochloruret of mercury daily; a pint of sarsaparilla tisan; warm bath every two or three days.)* This treatment was persisted in until the 30th, when the cutaneous eruption was all gone, with the exception of the brownish spots which are generally observed to follow syphilitic eruptions. But the patient was at this time taken with a violent shivering, which lasted several hours, and which was followed by a sort of loquacity and a very marked derangement of the intellectual functions. On the morrow, March 31st, erysipelas appeared on the forehead, attended with cephalalgia, yellow fur on the tongue, bitterness of the mouth, loss of appetite, dull pain in the epigastric region, constipation, and quick pulse. The antisyphilitic treatment was now discontinued, and leeches were applied to the epigastrium, and to the face, and behind the ears. The erysipelas, however, continued to gain ground until the 3rd of April, in the evening of which day, the erysipelatous symptoms suddenly disappeared; but the cephalalgia at the same time increased, and the patient became more delirious. *(V.S. ℥viij.; emollient lavement.)* The blood formed a very firm coagulum. The following day, blisters were applied to the thighs. The patient continued to improve from this time until the end of the month, when, May 2d, a fresh attack of erysipelas came on in the face, which continued to increase until the 9th, when death took place. The treatment consisted in the application of leeches behind the ears, lavements, diluent drinks, and low diet. We may notice that on the 3rd, the mouth was observed to be drawn a little to the right, but the patient possessed the power of extending the tongue *directly* forward; the right arm became contracted; its sensibility was diminished, but not quite abolished.

Sectio Cadaveris, twenty-six hours after death.—Head: The membranes were injected, and slightly opaque in some parts. The right hemisphere of the brain appeared healthy, but in the left lateral ventricle, at the posterior part of the corpus striatum, a small spot was found in a state of ramollissement. The ventricles contained a small quantity of fluid. The cerebellum and tuber annulare appeared in a healthy state. The *thoracic* viscera were healthy.—*Abdomen:* The kidneys, spleen, and liver were in the natural state. The gall-bladder contained—besides colourless, transparent bile, like the white of an egg, only less consistent—108 small, brownish, angular calculi; another more volumi-

nous calculus was engaged in the cystic duct. The mucous membrane of the stomach and of the intestines was, in some parts, in a softened state. In the mesentery was discovered a small tumour, formed by a fœtus bent upon itself in such a way as to occupy the space of about two inches in length. Lying parallel to the axis of the ileum, it adhered to the portion of the mesentery which fixes the lower extremity of the small intestine, as well as to that intestine itself. An intestinal ring, situated a little above this part, had also contracted adhesion to the fœtus. The fœtus was enveloped in a *very thin, transparent membrane*, through which could be distinctly seen the head, the fontanelle, scapula, and the other parts of the side exposed to the sight. The tumour formed no connexion with the genito-urinary organs. The cavity of the uterus contained about a spoonful of sanguineous, purulent fluid; its mouth was a little dilated. These were all the alterations which the genito-urinary organs presented.

2. *Case of Pneumo-thorax, with considerable Displacement of the Heart* *.—Sophie Gonce, aged twenty-three years, had menstruated regularly from the age of sixteen to that of twenty-one, when, eighteen months after her marriage, she became pregnant. Two months after her confinement she took a severe cold, which affected more particularly the left side of her chest. The catarrh increased in severity, while she was at the same time suffering under the influence of domestic troubles. After about two months, there came on a diarrhœa, which continued for a considerable time. The patient stated that, about six weeks before the period at which she entered the hospital, she felt, during a fit of coughing, a cracking sensation in the abdomen, after which great difficulty of breathing immediately came on, and she was obliged to assume a singular attitude, which she never quitted until a few days previous to her death. She had expectorated some blood during two months, and had taken only simple remedies for her complaint when she entered the hospital. March 11, the second day after her entrance, she had the following symptoms: Respiration, short and difficult, compelled the patient to retain the sitting posture in bed, or she supported herself on her elbows and knees, with the body inclining sometimes to one side and sometimes to the other. The whole of the left side of the chest was very sonorous on percussion; so was also the precordial region, whilst the sound on the right side was not only less marked, but also obscure in all the anterior part. Auscultation proved a blustering but short respiration on the right side; on the left, on the contrary, respiration was null, but a remarkable sound could be heard, which varied in simple inspirations, or when the patient spoke or coughed. This noise, in the two latter circumstances, resembled that occasioned by blowing strongly into a large empty bottle. The noise was not perceptible when the patient respired feebly; but the metallic tinckling could be distinctly perceived. The pulsations of the heart could be evidently felt at the anterior part of the *right* side

* Hôpital St. Antoine.

of the chest, but on the left side they could hardly be felt at all. M. Rayer's diagnosis was—*Phthysis Pulmonalis; opening from a cavern into the left pleuritic cavity; communication between the bronchi and this cavern; heart in the right side of the chest.* M. Rayer observed that the position of the heart might be either a displacement, or a congenital disposition of the organ; he adopted the latter opinion, having never witnessed a displacement so considerable, for the pulsations could be felt beneath the right breast. On examination, however, after death this mal-position of the organ was found to be a displacement in consequence of the left pleura being distended with gas, thereby pushing the heart to the right side. The intercostal spaces were much greater on the left side than on the right, and percussion made it sound like a tambourine. The symptoms continued to increase until the 23rd, at which period and during the 24th and 25th, respiration became very difficult; *and the patient then became able to lie either on the back or on the side indifferently.* She died on the 29th.

Sectio Cadaveris, twenty-six hours after death.—The body was remarkably emaciated; the left side of the thorax much more dilated than the right, presenting considerable spaces between the ribs. The thoracic parietes having been deprived of their soft parts, the intercostal muscles between two of the ribs were removed, in order to expose the pleura; but in endeavouring to separate one of the ribs, the pleura was torn, and a considerable quantity of air immediately escaped. The left thoracic cavity appeared, at first view, as if it contained no lung; this organ was pushed up by the gas against the upper and back part of the thorax. The pleura of this side was covered by a false membrane, which also lined the external surface of the lung. The lower edge of the lung was fixed to the diaphragmatic pleura by two long bands of adventitious membrane of ancient formation. Patches of membranous concretions were observable on the external surface of the lungs in some parts. The cavity contained but a very small quantity of fluid. On the surface of the lung, at the point corresponding to the third rib, was observed a small opening. through which, evidently, the air had found its way into the pleura. Air blown into the trachea escaped readily through this opening. The fistula led into a cavern, situated quite superficially in the lung, and of a size large sufficient to contain a large nut. In this cavern several branches of the bronchi were observed to open. This cavern communicated with another of a larger size. The rest of the lung, pressed up against the vertebral column, with its tissue strongly contracted, contained several tubercles. The heart was displaced considerably to the right, from the pressure of the contained air. The *right* pleura contained a great quantity of transparent serum. The lung had contracted recent adhesions to the costal pleura; at its upper part an opening, larger than that on the left lung, was discovered. The organ was engorged with blood, and its texture was harder and less crepitous than natural. The pericardium contained a considerable quantity of fluid. The base of the heart rested on the edge of the right lung, and its apex

pointed to the left. Nothing worthy of remark was noticed either in the abdomen or in the head.

3. *Erysipelas treated by Incision and Bandage* *.—Thomas Jack, aged forty-three, officer of police, was admitted, under the care of Dr. Couper, December 1, 1827. Eleven days previous to admission, he had received a severe sprain of the left tarsus; on the following day he had frequent rigors, which were succeeded by inflammation of the integuments around the injured joint. The inflammation was at first most severe over the dorsum of the foot, but soon extended with equal severity over the whole of the inferior and inner part of the calf of the leg. A patch of integuments extending along the outside of the foot, and around the outer ankle, first vesicated, and, six days previous to admission, sloughed, leaving, at the time of admission, a sore, ten inches long, and four inches broad, covered by dead cellular membrane of a yellow colour, and having its edges extensively undermined. The whole of the integuments of the lower third of the leg were then greatly swollen, tense, of a dull red colour, and somewhat boggy to the feeling. On the back of the calf were numerous vesicles. The strength was much reduced, his pulse 120, and small, and his tongue brown; he had great thirst, and occasional delirium. He had applied emollient and fermenting poultices.

An incision, between three and four inches in length, was immediately made, completely through the inflamed integuments on the inner side of the calf. Sore and wound were dressed with camphorated oil, a bandage was lightly applied from the toes to the knee, and that part of the bandage which covered the leg was kept constantly moist with a lotion of spirits and lime water. He experienced immediate relief. During the night he slept well, and on the following morning he felt easier than he had done for many days. No sloughing took place on the leg. On the 8th, seven days after admission, the inflammation of the leg had ceased. The slough on the dorsum of the foot had separated, leaving a tolerably healthy sore. His pulse had fallen to 72, and his appetite was good; but it was not till after a residence of nearly three months in the hospital, that the healing of the sore on the foot was effected.

The treatment of erysipelas by incision has been so generally successful as to establish the character of the plan as the best hitherto adopted. Dr. Couper remarks upon the above case (*Glasgow Journal*), that it seems clear enough that the incision prevented the integuments covering the calf of the leg from sloughing; and that, had the incisions been practised sufficiently early in the dorsum of the foot, the sore which afterwards proved so tedious, might, in all probability, have been prevented.

4. *Compound Fracture of the Upper Maxillary, Malar, and Nasal Bones* †.—Michael Conor, aged twenty-six, labourer, admitted February 1, 1828. Seven hours ago, while standing in a coal pit, a portion of the roof fell, and struck the face, breast, shoulders,

* Glasgow Infirmary. † Ibid.

and occiput. Both nasal bones are fractured near their anterior extremities; and over the seat of fracture there is a wound of the integuments passing across the right side of the nose, and communicating both with the fracture and with the nostrils. Face and left side of the scalp are slightly emphysematous. Portions of the malar and maxillary bones forming the lower margin of the right orbit are driven considerably backwards, but the vision is not affected. Teeth on the right side of the upper jaw, from the first incisor to the second malar, are driven considerably inwards, and the gums are detached from them. Probe passes freely along their bared roots, and along the maxillary bone to the edge of the orbit, and the depressed bones are felt rough. The same bones are also felt through a wound in the right cheek, commencing about an inch to the outer side of the angle of the mouth, and running upwards and inwards to the extent of an inch. This wound does not communicate directly with the mouth, but a probe passed into it in a direction towards the orbit, comes in contact with another passed in the same direction, from a wound within the mouth.

The shattered pieces of bone were pressed as nearly as possible into their natural situation, and the wounds dressed with adhesive plaster. By the aid of free bleeding, both general and topical, rest and abstinence, suppuration was prevented; and on March 19, between five and six weeks after the accident, the patient was dismissed with the shattered bones consolidated, the wounds cicatrized, and scarcely any deformity resulting from the injury.

5. *Cases of Compound Fracture of the Leg* *.—Dr. Couper observes, respecting compound fractures, that most surgeons, although fully alive to the injurious effects of profuse discharge in them, yet seem but little aware how much it depends on the frequent renewal of the dressings. The following cases serve to illustrate this point. It should, however, be considered that these were treated at seasons of the year when the atmosphere was cool, and when, therefore, the discharge was not so likely to become putrid, and irritate the wounds, as if the atmosphere had been of a higher temperature.

Case 1.—John Little, aged sixteen, admitted January 20th, 1828. An hour ago, he received a kick from a horse on the front of the right leg. Both bones are obliquely fractured at the upper end of the lower third; and on the inner side of the leg at the seat of fracture, there is a roundish wound of the integuments, of the size of a sixpence, through which the fractured bones are felt. There has been some venous hemorrhage, and the parts around the wound are considerably swollen from ecchymosis.

The limb was placed in the straight position, the wounds dressed with oiled lint, and splints and a bandage applied. During *five weeks* these dressings were allowed to remain undisturbed, the patient suffering no pain in the limb, and not the slightest derangement of the general health; at the end of that time, on re-

* Glasgow Infirmary.

moval of the bandages, the bones were found completely united; the wound in the integuments still admitted the point of the little finger, but no bone could be felt either with the finger or a probe. The integuments above, and to the outer side of the wound, were undermined to the extent of about three inches, and, when pressed, discharged about two teaspoonfuls of healthy pus. About the same quantity of pus was found on the bandages. Immediately after this first dressing, pus was formed in such quantity that the leg required to be dressed every day, or every second day, and many weeks elapsed before the undermined integuments became sound.

Case 2.—William M'Millan, aged eight, admitted April 2, 1828. An hour ago, a bale of cloth fell from a cart, struck the front of the left leg, and fractured it a little above the inferior third. Tibia is broken obliquely, and its inner margin projects half an inch through a wound of the soft parts, which would admit a finger. Integuments are detached to the extent of an inch around the wound.

The limb was placed in the straight position, the wound dressed with dry lint and adhesive plaster, over which a bandage and splints were applied. The whole was allowed to remain untouched till the 30th of April, when it was removed. The following is the report then entered in the Journal:—'To-day, bandage was removed for the first time, complete union of bone has taken place; integuments are perfectly sound. External wound superficial, and not larger than the base of a split pea. During the whole treatment no pain has been experienced, and not the smallest disturbance of the general health.'

This patient would have been dismissed cured at the end of the fifth week, but for a slight attack of dysentery with which he was then seized, and which delayed his dismissal a week longer.

6. *Chronic Laryngitis—Tracheotomy.*—William Limpitlaw, aged fifty, weaver, admitted November 7th, 1827. Respiration and deglutition are performed with great difficulty, and when asked where impediment is felt, he points to larynx. Voice is much impaired. Air during inspiration, when passing the upper part of larynx, produces a loud, dry, snoring noise, and occasionally a ringing sound. Has now and then, especially in the morning, a paroxysm of severe cough, with copious but difficult expectoration of tough, yellowish sputum. Parts in front, and to either side of thyroid cartilage, are tender to pressure, and somewhat swollen, and swelling extends, in a less degree, towards cricoid cartilage and os hyoides, but the surface is not discoloured. Nothing unusual is discovered in the fauces, and the epiglottis, examined by the finger, seems of natural size and form. Pulse 120, feeble and thready; skin cold; countenance pale and haggard; strength much reduced, sleeps little. Complaint began six weeks ago, without obvious cause, with swelling around the thyroid cartilage, followed by throbbing pain in the part. Pain subsuded in a week, but the swelling has continued. Seven days after the complaint began, first felt some difficulty in breathing and swallowing. These

symptoms have been gradually increasing, and during the last eight days, the dyspnœa has been urgent. Leeches, and after them a blister, were immediately directed to be applied over the larynx, and a grain of calomel, with the same quantity of opium, was ordered every third hour. About nine o'clock in the evening he was suddenly seized with a violent paroxysm of dyspnœa, threatening immediate suffocation. Nearly an hour afterwards, when Dr. Couper reached the hospital, the dyspnœa had abated a little, but was still so urgent, that, with the concurrence of his colleagues, he immediately proceeded to open the windpipe. On account of the swollen state of the parts covering the larynx, the opening was made below the cricoid cartilage, and produced immediate relief from the dyspnœa. The wound was kept open by a bit of curved wire. The patient passed a comfortable night, breathing easily through the wound, and swallowing occasionally some wine and water, a little of which escaped once or twice by the wound, producing a sense of suffocation. On the two following days, November 9th and 10th, he continued free from dyspnœa, and swallowed easily, excepting that once a little milk escaped by the wound, and caused a severe fit of coughing, an accident which never afterwards recurred. On November 11th, the following is the report entered in the Journal:—'Continues to breathe by the wound without difficulty. Has taken a sufficient quantity of food, which he has swallowed with ease. Slept well. Pulse 72, of good strength.' From this time he experienced no further dyspnœa, excepting on one occasion, when he had a slight paroxysm, in consequence of the accidental derangement of the wire, by which the wound was kept open. After a few weeks the wire was exchanged for a curved silver tube, about two and a half inches long, and one quarter of an inch in diameter, and provided with two small rings, through which a piece of tape was passed, and tied round the neck, to retain the tube in its place. On the supposition that the contraction of the cavity of the larynx depended on thickening of its lining membrane, a mercurial course was prescribed, but apparently without benefit; for, although the patient continued to breathe easily, so long as the wound was kept open, yet all attempts to make him breathe through the mouth alone proved ineffectual. On various occasions the wound was closed with adhesive plaster, to ascertain if any improvement had taken place, but it was invariably found necessary, at the end of a few minutes, to open the wound, and replace the tube, on account of increasing dyspnœa. At one time Dr. Couper entertained hopes of being able to dilate the contracted larynx, by bougies passed upwards through it from the wound; but the extreme irritability of the parts rendered this proposal impracticable. The introduction of even a probe through the wound into the larynx, was found to excite such a paroxysm of cough, that it was absolutely necessary to desist.

This patient remained above five months in the hospital. During this time he was cured of a large hydrocele, with which he had long been afflicted. He had also several slight feverish attacks resembling ague, which he had had many years ago, while abroad

with the army. With these exceptions he enjoyed good health, and on May 1st he left the hospital, suffering no inconvenience, excepting the necessity of breathing through the tube; a circumstance which five months' custom had almost made him cease to regard as an inconvenience. By stopping up the tube with the point of his finger, he could speak in a hoarse, but sufficiently audible tone of voice. Since his dismissal, he has repeatedly returned to the hospital to show himself. His last appearance was in the month of August last, when he continued perfectly free from all complaint.

7. *Acute Laryngitis—Tracheotomy* *.—Samuel Henderson, aged twenty-eight, tobacco-pipe maker, admitted March 6th, 1828. Thirteen days ago, after exposure to cold, while in a state of perspiration, with his neck and breast uncovered, was seized with slight symptoms of laryngitis, and some pain during deglutition. On the third day, the symptoms having increased, he was bled with considerable relief. On the sixth day he was again bled with good effect, but the symptoms continuing urgent, he was, five days ago, on the seventh day of the disease, admitted into the medical department of this house. He was there again bled, blistered, and had diaphoretics; but the symptoms, with an occasional remission, have been, on the whole, on the increase, until this morning, when he had a severe attack of orthopnœa, which threatened instant suffocation. He was therefore transferred to the surgical wards under Dr. Couper's care.

During the paroxysm, his face had become livid, and his pulse imperceptible at the wrist. When Dr. Couper examined him, his breathing was somewhat relieved, but he could not resume the horizontal posture. Inspiration was laborious and wheezing; fauces were red and swollen; and the epiglottis felt enlarged, tense, and shaped like a glans penis during erection. He was quite decided in referring all his uneasiness to the larynx. Laryngotomy was immediately agreed upon. In making the incision through the integuments, a small artery was cut, and bled very freely. At the same instant the dyspnœa became greatly increased; the patient's face became livid, his limbs quivered, and his urine was ejected involuntarily. Without waiting to secure the artery, Dr. Couper immediately perforated the thyro-cricoid membrane, and the transition from the state now described to easy respiration was nearly instantaneous. The patient's body being inclined forward, no inconvenience was felt from the bleeding, which was speedily stopt by the pressure of the wire employed to dilate the aperture. From this time he continued to breathe easily, partly by the wound and partly by the mouth, and swallowed without difficulty. On the 10th current, four days after the operation, the wire was withdrawn, when it was found that very little air passed by the wound. He slept well in the horizontal posture, and the epiglottis was felt of natural size and shape. On the 21st current, the wound had so nearly healed, that no air escaped by

* Glasgow Infirmary.

it, even during coughing, and in three days more the wound was completely cicatrized.

He continued well till the morning of the 30th, when he had a rigor, followed by most urgent orthopnœa, impediment being referred to the right side of the larynx, which part was slightly swollen, and painful on pressure. The fauces and epiglottis appeared natural. A full dose of laudanum and antimonial wine having failed to procure relief, Dr. Couper again opened the larynx with immediate relief to the breathing. From this time he had no return of dyspnœa; the pain and swelling over the right side of the larynx soon disappeared. On the 10th April, the wire was exchanged for a silver tube, with which, after a few days, he wished to dispense, but was not allowed. He therefore retained it in the wound, but generally kept it plugged up, finding it most comfortable to breathe by the mouth alone. At this time the left cervical and submaxillary glands became affected with swelling, which proved tedious, and ultimately terminated in partial suppuration, but never in the slightest degree affected either deglutition or respiration. It was thought prudent to maintain the aperture in the larynx until the middle of May, when the tube was withdrawn, and, by the 27th of that month, the wound had cicatrized. On the 4th June he was dismissed, enjoying perfect health, except that a considerable firm glandular swelling occupied the left side of the neck. This state of the parts was probably kept up by his long continuance in the hospital, for, by the beginning of July, a month after his dismissal, the swelling was gone, and he continued, in all respects, perfectly well.

Both this case and the preceding one are highly important, as showing the absolute necessity of forming an artificial opening into the trachea in certain affections of the larynx. They also prove that the dyspnœa, in these affections, is liable to exacerbations, owing, probably, to spasm of the laryngeal muscles, caused by the passage of the air over the irritable and inflamed parts; and that the patient may die of suffocation, produced by this cause, as, in all probability, would have happened in the present instance, had the trachea not been opened the instant the paroxysm came on.

8. *Cases of Synovitis proving fatal—Post-mortem Examinations*.*—That peculiar phenomenon, commonly called *Sympathy*, has been endeavoured to be accounted for in various ways, but we believe that the causes upon which it depends are still as much hidden as ever. Its morbid effects are sufficiently evident in the examination of bodies after death; but to what known property of living parts are we to attribute the sympathy itself? Anatomy, combined with the little knowledge which we possess of the functions of the nerves, is not sufficient to lead to a legitimate inference, that disease of one seat may be transferred to another, by means of nervous connexions. To treat of this subject in all its bearings would occupy a volume. The following cases afford

* Glasgow Infirmary.

another example of this fellow-feeling of different parts of the system :—

Case 1. December 26, 1827, James Connel, sailor, æt. 56, was admitted for a moderate-sized hydrocele of the right side, which was treated on the following day by evacuating the fluid with a lancet, and cutting off a minute portion of the tunica vaginalis with scissors. On January 12th, he was dismissed cured. Three days afterwards he returned, a very small quantity of matter having collected under the integuments at the seat of puncture. The part was laid open and dressed, and by the 27th January the wound had almost cicatrized. On that day he was employed, when lightly dressed, in applying leeches to another patient ; and in the evening he had a rigor. On the morning of the 28th, he complained of occasional obtuse pain in the calf of the left leg, and in the left knee. In the evening the pain had shifted to the right calf and right knee. On the 29th the pains were felt in both legs alternately, but without constitutional disturbance. In the evening he had another rigor, after which the pain attacked the right shoulder joint. On the 30th the pain was most severe in the right shoulder, but neither there, nor in any of the parts already mentioned, was either swelling or discoloration to be discovered. His pulse was now quick, his tongue brownish, and he complained of oppression at præcordia. In the evening he had a severe rigor, hiccoughed occasionally, and complained much of pain in the right shoulder, left knee, and left calf, in the last of which there was now considerable tense swelling, but no discoloration. Notwithstanding the free use of purgatives, antimonials, leeches, and evaporating lotions, from the first appearance of the symptoms, he sank under the disease, and died on the morning of the 31st.

On examination after death, the integuments of the calves of the legs, particularly of the left leg, were found distended with brownish serum ; and the cellular connexions of the muscles of the calf contained a similar fluid. In the left-knee joint there were a few drachms of thick pus, but no vascularity or swelling of the lining membrane. Integuments on the inner side of the right shoulder were similarly affected ; there was a very small quantity of thick pus in the bursa under the deltoid muscle, and a very small quantity within the joint. Thoracic and abdominal viscera healthy.

Case 2. James M'Cormick, æt. 43, porter, was admitted, October 13th, 1827, for retention of urine from chronic enlargement of the prostate gland. With some difficulty a good-sized elastic catheter was passed into the bladder ; and on the 17th, four days after admission, he had recovered the power of voiding his urine. On that day he complained of pains in both shoulders, for which vinum colchici was prescribed. After two days the pains removed to the left knee and left elbow ; they were very severe, and accompanied with swelling in both joints. On the 24th, some external redness was perceptible, and on the 27th, fluctuation being distinct near the elbow, a puncture was made, and about an ounce of pus discharged. The affection of the left knee followed the

same course. On November 2d, although the patient was evidently sinking, the abscess was opened, and eight ounces of pus evacuated. On the following night he died. The fever in this case was considerable, and, during the last seven days of the disease, was accompanied with delirium, and a deep yellow colour of the whole skin. Leeches, purgatives, opiates, and cataplasms were employed freely with very partial advantage.

After death, the left elbow-joint was found to contain a large quantity of thick pus, which communicated with the external opening by a sinus behind the external condyle. The external condyle within the joint was denuded of its cartilage, and rough. The head of the radius was similarly affected. The left knee-joint was full of pus, and the pus passed upwards to the extent of five inches betwixt the vastus externus muscle and the femur. There was a false passage connected with the urethra. The prostate gland was about twice the natural size. The viscera of the thorax and abdomen were natural.

9. *Case of Softening of the Uterus after Delivery* *.—G. Thiebaut, aged twenty-seven, of a good constitution, and enjoying, habitually, very good health, became pregnant, for the second time. Her labour came on on the 4th of April, 1827; was natural, and she was delivered, at the expiration of seven hours, of a living child, at the full time. The patient continued to do well until the third day, when a pain came on in her side, for which she was bled and leeched. The chest remained slightly affected, with remissions and exacerbations. There was no sign of abdominal affection observed. The lochia, though small in quantity, continued to flow naturally. On the 7th of April the patient complained of ardent heat of the mouth, accompanied with pricking and smarting in the throat. The night was passed in restlessness and agitation; on the morrow the tongue was swollen, but still moist; erysipelas had made its appearance on the nucha, shoulders, and back, to a large extent. As there were also symptoms of gastric disorder, an emetic was prescribed. This procured some relief. On the 19th, a slight oily purgative was administered, but the saburral symptoms continued. The patient complained of no pain, her morbid feelings being merely those of general weakness. In consequence of her neglecting to cover herself properly, and the atmosphere being cold, the erysipelas disappeared. On the 20th, diarrhœa came on, attended with intense thirst, cough, and expectoration. Blisters were applied to the ankles on the 21st, but without success. 22d. She continued in the same state of general debility; cephalalgia. 23d. Pallor of the countenance; burning heat of the skin; small frequent pulse; diarrhœa; tongue foul in the middle, and of a purple-red colour round the edges; general sinking. The 24th, pulse slow and irregular; abdomen soft and without pain; alvine evacuations involuntary; thirst moderate; pupils dilated; delirium; weakness so great that the patient could scarcely speak. 26th. The

* Hospice de la Maternité.

face livid; skin burning; pulse quick and regular; respiration accelerated and stertorous; thirst very intense. The patient did not complain of any pain. She died in the course of the day.

Sectio Cadaveris.—Head: Arachnoid membrane was opaque and whitish over the two cerebral hemispheres; substance of the brain firm and injected; the vessels of the surface loaded with blood. *Thorax:* Numerous recent adhesions between the lungs and pleura; fluid in the left thoracic cavity; lungs in a good state, but void of blood. Heart flabby, containing a little blood, partly fluid and partly coagulated; no effusion in the pericardium. *Abdomen:* A small quantity of lemon-coloured serosity in the peritoneal cavity; peritoneum healthy throughout; mucous membrane of the stomach injected with blood; small intestine healthy; mucous lining of the cæcum and of the colon in a state of intense inflammation, but no ulcerations were observable; ovaries engorged, softened, and more voluminous than ordinary. The uterus was of the size usually observed at that period after delivery, but its texture was softened to such a degree that the slightest attempt to move it was enough to make it give way; the finger could be easily pushed through its substance. Its anterior wall was much thinner than natural. The uterine cavity contained some viscid, brownish, inodorous matter. The neck of the organ was of a more natural consistence. The colour of the softened parts was darker than natural. No trace of inflammation could be discovered in the neighbourhood of the uterus.

10. *Cases of Tetanus cured by the external application of Morphine.*—The following cases were treated according to the endermic method recommended by M. Lambert:—

Case 1.—*Traumatic Tetanus.*—Maria Ursin, aged twenty-eight years, scrofulous, was received into the Salpétrière for an ulcer situated on the left external malleolus, and which exposed the tendon of the long peroneal muscle. The *élève* who dressed the wound injured the tendon, which gave rise to excessive pain, which lasted for ten minutes, accompanied with sickness and vomiting. An hour after the accident, there was a pricking sensation all along the left leg; loss of recollection; jaws firmly closed; muscles of the neck in a state of considerable rigidity; abdomen stretched, and as hard as a stone; legs convulsively bent, without a possibility of extending them; eyes fixed; cheeks drawn backward; pulse quick and hard. *(Bleeding; thirty leeches to the anus.)* Two hours after, in the same state. *(Tepid bath for an hour.)* No change; mercurial frictions were unsuccessfully employed to the neck and legs; blistering the nape, and sudorific drinks also proved ineffectual. The endermic method was next put into practice. A quarter of a grain of acetate of morphine was mixed with a little cerate, and applied on the surface of a blistered spot at ten o'clock in the morning, the second day of the disease. The trismus completely ceased; but the rigidity of the neck still continuing, the dose of acetate of morphine was doubled

at eight o'clock in the evening. Three hours after, all the tetanic symptoms had disappeared; the patient passed a quiet night, and, on the following morning, only a little lassitude remained.

Case 2.—*Spontaneous Tetanus.*—Marguirite Broin, of a nervous temperament, of a slim and delicate constitution, placed during five years in the ward of incurables at the Salpétrière, for dartres which occupied the internal parts of the thoracic and abdominal members, was walking, the 23rd of July, with an epileptic patient who fell in her arms in a fit. At this sight Marguirite Broin fainted. On her return to the ward, she attempted to relate what had happened, but in this attempt she failed, as she was instantly seized with a convulsive affection; the face was drawn upwards and backwards; the jaws became fixed; the fore-arms were strongly bent upon the upper arms; the head drawn back and fixed, with general rigidity of the whole body. At eleven o'clock in the morning, a small blister was applied to the nape, which was removed at three in the afternoon, and substituted by a quarter of a grain of acetate of morphine. At six in the evening, the trismus no longer existed, but the other affections still continued. A quarter of a grain more of the acetate of morphine was applied. At ten o'clock, the patient was able to extend her fore-arms. In the course of the night the face, the eyes, and the muscles of the neck resumed their mobility; on the 25th, the patient was well and able to follow her usual occupation.

11. *Successive Abolition of the Senses in four Children of the same Family* *.—Dr. Stengel relates a curious circumstance which occurred in four children, born of strong and healthy parents, and who were affected successively with a malady, which manifested itself by the following symptoms: they all continued to thrive, both physically and mentally, until they attained their sixth year; but in their seventh year, they all, one after the other, began to feel a particular weakness of the sight, which went on progressively increasing. The intellectual powers at the same time diminished; all those things which interested them before, became now indifferent to them; they by degrees lost the use of speech. In the ninth year, vision became almost abolished, together with the use of the organs of sense. Cold and heat were hardly felt by them; they showed no inclination for food; the sense of hearing was the last to leave them. From the ninth to the fourteenth year, epileptic affections came on, which continued to increase until the fifteenth year. At this period a species of mania declared itself. The eldest of these unfortunate children was a boy, who died in this state, in his twenty-first year; the second was a girl who died in her twentieth year; of the other two, who are still living, the one is a boy, aged seventeen years, and the other a girl, aged nine. The same symptoms are present in them, and it is supposed that they will meet with the same end as the two first. The youngest child was sent, at four years of age, by its parents, to a great distance from home, with the hope

* Eyr. fer, Vol. 4.

of averting the melancholy catastrophe with which the others met; it continued to enjoy a good state of health until the sixth year, when the malady declared itself, which obliged the parents to send for the child home. All the therapeutic means employed in these cases proved quite unavailing, and had no influence whatever on the march of the disease. It is to be regretted that the bodies of the two who died were not submitted to an inspection.

12. *Inoculation of the Measles* *.—This practice—which was adopted with success by Horne and Horste, and recommended by many celebrated physicians, such as Vogel, Percival, Brown, Tissot, &c.; afterwards condemned by Cullen, Girtanner, Vaidy and Montialcon—has been renewed with much success by Professor Speranza, during an epidemic of the measles which reigned at Milan in 1822. He inoculated at first six children belonging to the Maison de Travail, afterwards himself; the disease was evidently communicated in this manner, and it, in every case, followed a regular and benign course. This interesting experiment was repeated by other practitioners as well as by M. Speranza himself in several more cases, and with complete success. The inoculation was performed in the following manner: a slight incision was made with a lancet in one of the largest and most inflamed spots, so that the point of the instrument might become tinted with blood; with this lancet a small puncture was made in the arm of the healthy child, which was then covered with a slight bandage. The effects of this inoculation became manifest generally in a few days.

13. *Discharge of Lumbrici through the Parietes of the Abdomen.*—The following cases are related by Dr. Young, in the *Glasgow Journal*:—

Case 1.—J. L., aged seven years, had frequently passed lumbrici. About the beginning of March, 1817, he was attacked with severe pain in the right side of the abdomen, between the crest of the ileum and last false rib, but from which he had occasional slight intermissions, and for several weeks seemed easiest when sitting with his trunk bent forward, and his elbows resting upon his knees.

A tumour, about the size of a goose's egg, gradually formed in the right lumbar region, which remained a considerable time without any discoloration of the integuments; but disappeared suddenly after a copious discharge of grumous fœtid matter from the bowels, occasioned, it was supposed, by its bursting internally. This occurred in May, and the patient's general health improved during the summer: in August it again became worse, and a swelling appeared on the right side, extending from the sacro-iliac junction to the twelfth rib. The medical gentleman in attendance declined to open the tumour, but ordered onion poultices, to accelerate its suppuration. The abscess burst spontaneously while the patient was in bed, but the fœtid smell that arose

* Bibliotheca Italiana.

from it gave the family intimation of the occurrence. The child was literally drenched in the contents of the abscess, in the orifice of which was found a white substance, which proved to be a lumbricus, alive and active, measuring eighteen inches in length. The poultices were still applied to the abscess, and in the course of a few weeks a second and a third worm of the same kind made their way through the opening. No fæces were ever observed to pass through this aperture; although purulent matter was abundantly discharged from it for several months, the wound ultimately cicatrized.

This boy enjoyed good health from May, 1818, till the spring of 1819, when, in common with the rest of his family, he had an attack of fever: during his convalescence, a swelling again appeared on the right side of the abdomen, about three inches nearer the linea alba than the former one. This swelling suppurated, and towards the beginning of June, a considerable time after it had burst, a worm of ten inches in length was found on the poultice. During the months of June and July a great improvement took place in his general health, the discharge diminished, and he ran about and amused himself. On the third Tuesday of August he came home from play, complaining of intense itching and uneasiness in the abscess, and exclaiming that he could bear it no longer. From this state of suffering he was relieved by removal of the dressings, when a large worm was found hanging from the abscess in his side; its extraction was effected with some difficulty, and was followed by a stream of blood. This was the last of five worms which passed through the parietes of this boy's abdomen. In October, 1819, he appeared to be in good health, and the abscess through which the last worm had passed was closed, and covered with a scab. In August, 1820, he was in perfect health and attending school.—In concluding this case, it may be observed, that about twelve months before the formation of the last abscess, a pin encrusted with verdigris had come through the same part of the abdomen by suppuration; it may, therefore, be a question whether the worms insinuated themselves into the track of the pin, or formed a new one by erosion.

Case 2.—R. F., eleven years of age, of a sallow complexion, had enjoyed tolerably good health till 21st of October, 1819. His complaint commenced with feelings of contraction in the abdomen, accompanied with symptoms usually characterizing typhus mitior. These symptoms, under usual treatment, disappeared towards the end of the month; and on the 2d of November, he appeared likely to do extremely well, there being no unfavourable symptoms present. About three o'clock of the morning of the 3d he felt an inclination to go to stool, where he voided some clotted blood, and a worm. A little before four, *a. m.*, he had a profuse discharge of blood from the anus, so profuse, that his father, who is a most intelligent man, said he could compare it to nothing but the gush of blood from a sheep's neck while throbbing under the butcher's knife; syncope was the immediate consequence of this hemorrhage. Cloths dipped in cold water were applied to

the anus, which appeared to check the bleeding externally, and the patient recovered from the syncope. About seven o'clock the hemorrhage returned; on lifting the bedclothes every thing was found drenched in blood; a little behind him was a large lumbricus, and another was making its way through the anus. He calmly expired soon after; but on the supposition that he might only be in a state of syncope, the body was wrapped in warm flannel, and kept in that state for a few hours. At eleven, *a. m.*, a little blood was found to have oozed from the anus, and two large lumbrici were in the act of passing it; but there was not the slightest hope of resuscitation.

Dissection.—On laying open the abdomen, the viscera, in general, appeared uncommonly pale and flaccid, and contained no flatus throughout their whole extent. The ileum, a few inches above the caput coli, was of a dark-brown colour; the blood vessels were distended, and the mesenteric glands in the vicinity enormously enlarged. The ileum was opened about three feet above its termination in the colon, and every portion of it carefully examined; several small lumbrici were found high up in this portion of the intestinal canal, and three measuring from six to ten inches in length. In tracing the intestine downwards, a considerable quantity of greenish flocculent semi-organized matter was found, containing a great number of small lumbrici; several large ones were also found near this matter, with several ulcerated patches of the gut. The mesenteric glands were enlarged, and the blood-vessels much more wasted where the worms and ulcerations were situated than in the portions of the intestinal canal which were not similarly affected. The discoloration of the termination of the ileum was discovered to arise, not from any change in its structure, but from the flocculent substance above-mentioned. At the termination of the ileum and valve of colon, a vast number of worms, of different sizes, were found: these parts were deeply ulcerated, and the valve was considerably thickened. In the caput coli were found several clots of blood.

Immediately over the valve of the colon, there is an eroded vessel, from which the hemorrhage seems to have taken place. In the ascending colon many ascarides were observed, but there were not the slightest appearances of either blood or fæces. The transverse and descending colon had a blanched appearance, and contained here and there a few ascarides and small lumbrici, but neither blood nor feculent matter. In the rectum four large worms were lodged, its internal coat seemed suffused with blood, but no ulceration was observable. The spleen was nearly double the usual size. The stomach contained a considerable quantity of water, and two pieces of curd, about the size of a hen's egg. The upper part of the intestinal canal was quite empty.

Case 3.—M. F., aged fifteen, sister of R. F., whose case has just been given, is a tall thin girl, with a pale sallow complexion. In the beginning of June, 1818, she was attacked with severe bowel complaint; the pain was often excruciating, and though not absolutely fixed to a particular spot, was generally in the lower part

of the right side of the abdomen. During the paroxysms of the disease the belly was retracted, and the knees folded up upon the breast; in this state she would frequently scream out in the greatest agony. As the pulse was moderate, the complaint was at first supposed to be colic, induced by cold applied to the extremities, or something in the ingesta that had deranged the functions of the alimentary canal. Warm fomentations were applied to the abdomen, and a dose of castor-oil, with thirty drops of laudanum, was administered. As little advantage was obtained from this practice, salts, senna, and several doses of calomel and jalap were prescribed. Although these medicines brought away four large lumbrici, the patient's sufferings continued with very little abatement: even from the commencement of the complaint, she had intervals of comparative ease, from a state of the most acute distress. This circumstance, along with the evacuation of the lumbrici, induced Dr. Young to refer the whole complaint to the irritation of worms on the coats of the intestines. About the 11th of June the paroxysms became both more severe and frequent; as the pulse was small, and considerably accelerated, ten ounces of blood were taken from the arm. This detraction of blood seemed to have little effect on the local complaint, and the constitutional symptoms of enteritis not being strongly marked, purgatives, topical blood-letting, frictions with camphorated mercurial ointment, and blisters, were the means employed for her relief. The practice pursued in this case seemed to be indicated, not only from the severity of the pain, but also from a large deep-seated tumour in the right side of the abdomen, situated about midway between the umbilicus and crest of the ileum. Some doubts were entertained respecting the cause of this tumour, as it might either proceed from the operation of some unknown cause between the peritoneum and abdominal muscles, or from the irritation of worms penetrating the coats of the intestines in contact with the internal surface of the abdominal muscles.

At length fluctuation became distinctly perceptible, the abscess burst, and discharged a large quantity of purulent matter. On the supposition that the complaint had originated from the irritation of worms, an expectation was entertained that some of these might possibly make their escape with the contents of the abscess. Nothing unusual, however, was observed in the matter discharged. By July 30th, the discharge had become so inconsiderable, that the poultices were laid aside, and a piece of adhesive plaster was applied over the sore. The health very much improved during the winter and spring of 1819. In June she went to the country, where there is every reason to believe she exerted herself much more than was proper for her, in the debilitated state in which she was at that time. After her return she had severe pain in the bowels and in the site of the abscess, and the discharge of pus was occasionally mixed with the contents of the intestines. She went to the sea-coast for the benefit of the air, and, contrary to the instructions given her, went several times into the water. She

returned home in a very lamentable condition, often harassed with excruciating pain, and the discharge of the contents of the intestinal canal through the abscess evidently increasing. About the end of September a white shining substance was observed obstructing the orifice of the abscess; the patient extracted it herself, and it proved to be a dead lumbricus in a semi-dissolved state. A few days after this worm was extracted, another of the same species made its escape alive. The tormina were frequently agonizing, and attended with flatus, and a copious discharge of liquid fæces through the abscess, so that for several weeks she was unable to keep herself dry an hour at a time. January 3d, 1820, she was able to walk through the house, and was much better. This poor girl's health continued variable till the 4th of March, when a considerable hemorrhage took place from the abscess, which threw her into great alarm, as she conceived her case to be, in many respects, analogous to that of her deceased brother, whose history and dissection have been given in the preceding pages. On the evening of the 4th she had a stool, which contained a considerable quantity of fluid blood, and on the day following she passed ten or twelve ounces more. Her countenance was pale, her eyes dull, and her pulse scarcely perceptible at the wrist. Although she recruited a little from this state of debility, she remained several days in a very languid condition, without any evacuation from the bowels; her extreme weakness appeared to preclude the propriety of even an enema being administered. During the course of her tedious illness, her natural faculties, which were of a very superior order, were often employed, in the moments of relaxation from pain, in flights of poetical composition and devotional exercise, which rendered her peculiarly interesting to those who knew her intimately. She languished till the morning of the 12th March, when she expired without a struggle.

Dissection.—In different parts of the abdomen several glands were found in a state of suppuration, but the matter they contained was of a concrete nature. The omentum was almost entirely absorbed, and what remained of it had the appearance of dirty blue woollen thread. The jejunum, about two feet and a half from the duodenum, was greatly narrowed, and adhered to the abdominal muscles; at the adhesion thus formed, there was an aperture in the intestine, communicating freely with the external opening of the abscess. The next portion of the intestinal canal involved in the disease was the termination of the ileum, and commencement of the colon, both of which were connected with the diseased portion of the jejunum, and communicated with the aperture of the parietes of the abdomen. The last portion of the intestine implicated in the diseased adhesion was the ascending colon, where it bends round in its course to the left side, and which also communicated with the common aperture. The portion of the colon situated between the two points adhering to the parietes of the abdomen was much ulcerated, and from it, most probably, the hemorrhage proceeded.

14. *Remarkable Case of Fracture of the Skull, with Depression* *.— On the evening of July 17, 1825, Charles Easton, seaman of his Majesty's ship *Ocean*, being on shore at Lisbon, got into a quarrel with some Portuguese soldiers, and received a wound on the head. The fray took place at seven o'clock, but the man was not brought to the ship until half-past ten. Mr. Wallace was unable to learn with what instrument the injury had been inflicted, or what were the symptoms which immediately followed the accident. But when the man was seen at half-past ten, he was quite sensible, and able to answer questions distinctly. The pupils, the pulse, and the respiration were perfectly natural. The wound in the scalp was about half an inch in length, and situated immediately over the junction of the superior angle of the left parietal bone with the occipital. There was a great deal of puffiness around the wound, with a hardening around the puffiness, which communicated the feeling as if a portion of the bone were depressed; but as this is often a deceptive feeling, and there was no symptom indicating compressed brain, Mr. Wallace did not think himself warranted to cut down and examine the bone. He introduced the point of his little finger into the wound, in the hope that thus he should ascertain whether there was depression; and on making pressure with the finger at that time, the man winced and complained a little. But as it appeared that the pain he complained of was more from irritation in the scalp than from pressure on the brain, and as all other circumstances were favourable, Mr. Wallace made no further examination, and simply dressed the wound. That night the patient slept soundly. At six the next morning he arose with the rest of the convalescing patients, went down to his birth on the lower deck to change his clothes, and at eight was in the sick birth, seemingly as well as if nothing had happened to him. All Monday he kept equally well till towards the evening, when severe headach came on, which was completely removed, however, by a copious blood-letting; and on Monday night he slept again soundly. On Tuesday he was up at the usual hour, (six) but as he had still slight headach, he was sent to bed again, and had some saline purgatives. Through the day he was easy, and at night slept well. On Wednesday he had not any particular complaint; he was in the birth with the rest of the patients; on Thursday morning, although by all accounts he had slept well enough, he was heard moaning; and on being spoken to, he was found in a state of stupor, and delirious, with the eyes suffused and irritable, the pupils contracted, and the respiration much hurried. The wound had been looked at on Tuesday, and presented then rather an unfavourable aspect; now it was in the same state, without any disposition to heal, discharging a thin ichor, and retaining all its surrounding hardness and puffiness. It now occurred to the surgeons, that there was separation of the pericranium and dura mater from the bone; and to ascertain this, and consequently to apply the trephine, they cut freely down upon the part. On

* Mr. Wallace, Ed. Med. and Surg. Journ.

laying bare the bone, they found that it was indeed depressed to a very considerable degree. A portion of it immediately under the wound, in size about the circumference of a crown, was bent in upon the brain full half-an inch, and broken into four pieces. The pieces of bone had their points thrust down upon the brain, while the other ends were still attached to the sound bone, the whole forming outwardly a cup-like cavity. Instead, therefore, of trephining merely to give exit to matter pent up between the cranium and dura mater, they trephined to raise the depressed bone. Mr. Bell, the surgeon of the ship, performed the operation; and on removing the portions of bone the brain again bounded into its place. The dura mater was found injured, and slightly sloughy at a point. The brain itself might be slightly lacerated.

It would be needless to detail particularly the treatment which was pursued from the performance of the operation up to the time of the man's death. It is enough to say, that, by strictly putting in force the necessary measures, all immediate danger was warded off. Three days after the operation he was perfectly in his senses again; the pulse moderate; the heat of skin natural; and the wound of the scalp had healed to about an inch. For three or four days more he did as well as could have been wished; and Mr. Wallace was beginning to entertain great hopes of his recovery. But at the end of that time a small sloughy fungus-like substance appeared at the bottom of the wound. At the next dressing it had increased, and speedily it began to tear up the wound. Now too a second substance of the same kind appeared, which increased like the first, while the discharge from the wound became exceedingly fœtid. By and by the greater part of the fungus dropped off, but immediately it was replaced by a new portion, which, again falling off, was as speedily replaced by another. At every dressing there was a portion to come away, and a new portion to supply its place. Under all this the patient retained his senses; but he gradually sunk, in spite of all support; and on Sunday the 7th of August, exactly three weeks after the receipt of the injury, and seventeen days after the performance of the operation, he expired.

15. *On the Relief of Strangury from Cantharides.*—Dr. Davy *, speaking of strangury from cantharides, observes, that 'the experienced practioner can have little faith in the means commonly recommended for relieving this painful affection; such as the camphor mixture, *spiritus ætheris nitrici*, &c. Those who have tried these medicines most, if I may draw an inference from the result of my own observation, must place least confidence in their efficacy. The only means of relief which I have found almost constantly to succeed is the introduction of the catheter, used not with the idea of drawing off urine, but for the purpose expressly in question. It should be employed with delicacy and caution, just slipped into the neck of the bladder, and kept in only a few

* Dr. Davy, Edinburgh Medical and Surgical Journal.

seconds. The process is seldom very painful, and the relief is almost immediate.

'The rationale of the effect I shall not attempt to explain, as I have nothing but conjecture founded on analogy to offer on the subject.'

16. *Experiments on Digestion* *.—Alexis St. Martin, aged eighteen, was wounded by a ball, which penetrated his left side, and entered the stomach. After a suppuration, which lasted a year, the patient recovered, but with a fistulous opening into the stomach, between the fifth and sixth ribs: this circumstance excited the idea of making some experiments upon digestion. The following is the result:—

Experiment 1.—On the 1st August, 1825, about noon, Dr. Beaumont introduced into the man's stomach, through the fistulous opening, the following substances, attached, at a certain distance, from each other, to a silken thread: a piece of à-la-mode beef, highly seasoned; a piece of lean salt beef; a piece of raw and salted lard; a piece of raw lean beef; a piece of *bouilli* of beef; some bread; and lastly, a portion of raw cabbage: the quantity of each of these substances was about forty grains. The young man then resumed his usual occupations. About an hour afterwards these substances were removed from the stomach; and it was found that the cabbage and bread were more than half digested, but the meat did not appear to be even changed. The whole was replaced in the stomach, and, at the termination of another hour, the cabbage, bread, lard and *bouilli* were completely digested and separated from the silk; the other pieces of meat were scarcely altered at all: these were again returned into the stomach. Another hour having elapsed, it was found that the beef à-la-mode was in part digested; but the raw beef, though a little softened upon the surface, was untouched in the interior, and preserved its cellular texture. The fluids of the stomach had a disagreeable smell, and rather a rancid taste. The young man complained of uneasiness and some pain in the epigastrium; nevertheless, the substances were replaced. At the end of the fifth hour he complained of great oppression; of general weakness, nausea, and slight headach; the pieces of meat did not appear more changed than they had been two hours before; and the fluids in the stomach were more rancid, and had a sharp taste. The experiment was discontinued.

The following day Alexis complained of nausea, headach, and constipation; his pulse was feeble, his skin dry, and his tongue loaded; the internal surface of the stomach was sprinkled over with little white points, which appeared to be composed of effused lymph. Dr. Beaumont introduced through the fistulous opening half a dozen pills, containing four or five grains of calomel each. Three hours after they produced several abundant stools; after which all the symptoms disappeared very quickly, as well as the peculiar appearance of the mucous membrane of the stomach. The

* La Clinique.

pills acted exactly in the same manner as if they had been taken by the mouth.

Experiment 2.—On the 7th August, at eleven o'clock, Alexis having fasted for seventeen hours, the bulb of a Fahrenheit's thermometer was introduced into the stomach with great precaution. In five minutes the mercury rose to 100 degrees, and remained there. By means of a gum elastic tube, an ounce of pure gastric juice was obtained; it was poured into a glass vessel capable of holding three ounces, and a piece of salt beef, about the size of the little finger, was put into it. This glass was then placed in an earthen vessel, containing water, heated to 100 degrees; and this temperature was kept up by means of a sand bath. At the end of forty minutes the surface of the beef had begun to be acted upon: ten minutes afterwards the liquid became turbid, and the texture of the meat appeared to be evidently softened and relaxed. An hour after the commencement of the experiment it had the appearance of a bouilli, and in another hour the cellular tissue seemed to be entirely destroyed; and the muscular fibres, detached from each other, floated in the liquid like fine, white, soft, flexible filaments. At three o'clock they were half dissolved, and two hours later they were almost entirely decomposed, with the exception of some few, which were still to be perceived. At length, at seven o'clock, they had totally disappeared, and at nine the solution had completely taken place. The gastric juice, which at the moment it was taken from the stomach was clear, and almost as fluid as water, was glairy, turbid, and when left at rest for a few minutes, deposited a sediment the colour of flesh.

Experiment 3.—At the same time that the last experiment commenced, a piece of meat, exactly similar to that which had been placed in the gastric juice, was introduced into the stomach by the fistulous opening. At the termination of an hour it was about as much altered as the piece in the gastric juice, and had the same appearance; after the lapse of another hour it was dissolved, and detached from the silk. The action of the gastric juice in both situations had been the same, but in the stomach it had been more rapid; in both instances the alteration had begun upon the surface, and was propagated through successive layers. Agitation in the glass facilitated the solution, by detaching the part reduced to a pulp, and thus facilitating the action of the fluid upon the subjacent texture.

Experiment 4.—On the 8th August, at six o'clock in the morning, the second experiment was repeated with an ounce and a half of gastric juice, in which two pieces of boiled chicken were placed. The experiment proceeded as before, only more slowly; the flesh appearing, on account of its firmer texture, to resist the solvent power of the juice more than the beef. Nevertheless, the solution was complete: the colour was a greyish white, and it appeared more milky and less flaky than in the former instance. With the beef, the sediment was also more clear, though offering no other difference. The fluids produced by both these experiments were preserved in phials, hermetically closed, from the 7th and 8th of

August to the 6th of September; they then afforded no bad taste or smell; they were not acid. Some days after, the fluid containing the solution of the beef began to be decomposed; the other remained untouched. The author laments that he could not pursue these experiments, which were interrupted by the flight of the young man—at which we do not at all wonder.

17. *Operation for Congenital Cataract in both Eyes*, by M. Dupuytren *.—A girl, about eight years of age, of very limited intellectual faculties, and a feeble constitution, being affected with congenital cataract in both eyes, was operated on both eyes by depression, and the little patient had, for nearly a twelvemonth, recovered the use of her eyes, when the lenses rose up, and again deprived her of vision. M. Dupuytren then depressed the lens of the left eye, and the patient perfectly recovered the sight of it; but having, during her blindness, contracted the habit of directing the eye upwards, or of keeping it in constant motion, vision was so indistinct that she was unable to walk without assistance, and could not even fix the eye voluntarily on the objects which were pointed out to her. She gradually learned to recognise objects; it seemed, however, that the muscles of the eye had become so accustomed to a vacillating motion, that she was unable to look steadily, and in a certain direction, without considerable effort; she could very easily distinguish colours, but it was only after long practice that she could judge correctly of form and distance. The hands were constantly stretched out towards the objects she wished to see, as if to assist sight by touch. When the patient had recovered the complete use of the left eye, M. Dupuytren performed the same operation on the right one; very soon after it, she could see with the latter, but the same defect in its movements, and the same difficulty of fixing the objects, occurred, so that only after a continued practice it became equal to the left eye. Another difficulty then arose, viz. that of associating the motions of both eyes, which is of much more importance in this case, than in squinting, where one of the eyes is often in a state of complete inactivity, from amaurosis, ulcers, or spots on the cornea, &c., while, in the instance before us, both eyes are equally healthy, and thus must necessarily cause a considerable confusion in vision, as long as they are not brought to converge.

18. *Erysipelas of the Subcutaneous Cellular Tissue of the Leg* †. —T. M., aged fifty-three, was admitted under the care of Mr. Lawrence, on the 14th of October, with a considerable degree of erysipelatous inflammation, pain and swelling of the left leg, also inflammation of the absorbents extending up the inner side of the same thigh. He could not put his foot to the ground. He stated that, about two months ago, he bruised his left shin bone, and the skin having been rubbed off, there was formed in its place a small irritable, and extremely painful wound, about the size of a sixpence. He applied a poultice to it, but being unable to give his leg that rest which it demanded, he found it become more inflamed,

* La Clinique. † St. Bartholomew's Hospital.

and two days before he came in he first observed some red marks proceeding up the thigh. He was suddenly attacked with cold chills, which remained upon him for several days, when he lost his appetite, and became constitutionally disturbed. Ordered to keep cold wet rags to the limb constantly, and to apply sixteen leeches directly around the inflamed sore. 15th. The swelling and inflammation had not abated in any part of the limb. Skin hot; tongue covered with a dirty white fur; pulse irritable. Ordered to have the leeches repeated, and to take Hyd. Sub. gr. iv. Pulv. Jalap. gr. xv. statim. Mist. salina. 16th. Had a restless night. No improvement in the appearance of the limb, still very much inflamed. Ordered to have the leeches repeated to twenty-four. Pergat in usu salinæ. 17th. Leg still very painful and red; the redness has not at all subsided; has not been free from pain since yesterday, when the leeches were applied. There was a tumid feel about the lower part of the leg, which indicated that suppuration had taken place in the cellular tissue beneath the skin. The limb was very tense and swelled. Mr. Lawrence to-day made an incision down the outside of the leg, to the extent of about six inches. The incision extended down to the fascia; the appearance of the cellular membrane was of a grey colour, and pus was deposited in all directions. In some parts it had a sloughy appearance; the wound bled a little, but not more than to relieve the part; a poultice was then applied to the wound. Ordered to continue the medicine. 18th. The alteration in the appearance of the whole limb was now very manifest; it had lost much of its swelling, and the blush upon the surface was very considerably abated. He was better altogether; he had had a tolerable night's rest. The tongue was less furred and the pulse was quiet; wound looked a little sloughy at the bottom. 20th. Wound rapidly improving; the swelling and inflammation had almost entirely subsided. Tongue quite clean; appetite returned; the pulse natural; sleeps well. From this time the patient continued to recover.

19. *Fracture of the Sternum and nearly all the Ribs.—Post-mortem Examination* *.—Mary Miles, aged twenty-nine, a short, fat woman, was admitted, in a state of intoxication, on the 3d of October, under the care of Mr. Vincent. Crossing the street, as a coach was passing, she fell beneath the horses' feet, and the front wheel went over her chest. She complained of pain across the chest when she was admitted, and her breathing was short and difficult. Upon examining the thorax the sternum was found to be fractured, as well as several of the ribs on both sides; the pulse was quick, and she was bled to ℥xviij. directly, but was not relieved; the difficulty of breathing increased every hour. A bandage was placed round her chest; she did not close her eyes during the night. Next morning the countenance was very anxious, the breathing more hurried, and the face was blown up with emphysema. The emphysema was extending up the neck and sides of the face, and downwards, over the chest. She vomited four or five

* St. Bartholomew's Hosp.

ounces of blood, and brought up a little by coughing. The bowels having been open very freely the day previous to the accident, no injection was given. She lay upon her right side all day, refusing to alter her position. The lips were livid, and the dyspnœa increased through the night. She died early the following morning.

Post-mortem Examination eight hours after death.—On laying bare the muscles of the chest, some of the ribs of the left side were seen projecting through the muscular fibres. The muscles covering the chest were very much lacerated and bruised; and there was an extravasation of blood mixed with air, in the cellular tissue. The muscles being removed, all the ribs on the left side were found to be fractured, some of them in two places; others were much comminuted about their angles. On the right side the ribs were also nearly all fractured, but they were not so much comminuted. The sternum was fractured in two places, transversely; and the left clavicle was fractured also near its acromial end. The lungs on the left side were pierced in several places, and pressed upon by the broken portions of the ribs; they were collapsed, and there was a large quantity of blood in the pleura. The structure of the lung was inflamed, and turgid with blood. On the left side the lungs showed marks of old inflammation; they were adherent to the under surface of the sternum, and throughout their substance looked inflamed and turgid with blood; they were not wounded. The heart was not injured. The emphysema had extended down nearly as low as the navel.

20. *Effects of Croton Oil absorbed by the hand.*—The sister and nurse of one of the wards of Guy's hospital were one day employed in rubbing the oil of croton upon the abdomen of a patient obstinately constipated. About three hours afterwards the sister, who had most freely used it, found herself smartly purged, at the same time feeling a peculiar sensation through her whole frame, and a nauseous taste in her mouth. Shortly after the nurse also was seized with purging, though with less severity than the sister, and unaccompanied by the other symptoms. On the patient himself it did not act, which was explained by the disclosure, on the inspection post-mortem, of a complete mechanical obstruction.

21. *Diffuse Inflammation of the Leg supervening on Compound Fracture, and terminating in Gangrene**.—Henry Rose, aged twenty-five, was admitted on the 1st of October, under the care of Mr. Brodie. He was a coal porter, and while in a state of intoxication fell beneath the wheels of a coal van, both of which passed over the limb, a little above the internal malleolus. The accident happened at the distance of three or four miles from the hospital, to which he was immediately brought in the waggon. On admission, both bones were found to be broken, attended with a wound of the soft parts, opposite the fracture, and apparently caused by the protrusion of the tibia, which was greatly comminuted. There

* St. George's Hospital.

was not, and had not been, much hemorrhage, nor was there any considerable ecchymosis. The patient was of a robust and plethoric habit of body, addicted to the use, or rather the abuse, of malt liquors. The wound was dressed lightly; the limb placed in junks, and wetted with cold lotion. On the 2d considerable swelling had occurred in the leg, where he suffered much pain. The pulse was 120, full and compressible; tongue furred but moist; skin hot; face flushed in a remarkable degree. *Venesectio ad* ℥xij. The blood was much buffed and cupped, and the pulse getting up in the evening, again the bleeding was repeated to sixteen ounces. The second batch of blood was also buffed and cupped, and the patient experienced relief from its abstraction. On the 3d the swelling of the limb had increased, and extended above the knee; the tongue was white; the pulse 130, full, but compressible. The bleeding was not had recourse to a third time; but salines, with epsom salts, and antimonial wine, exhibited instead. On the morning of the 4th the leg was attacked with inflammation of a dusky or brownish hue, and having no defined margin, extended up the thigh in the course of the day, deepening its dye and acquiring a gangrenous character. On the night of this day an emphysematous crackling was felt on the inside of the leg and just above the knee. There was little pain on pressure, and the symptoms of depression were becoming established, marked by the weakness of the pulse, coated tongue, and expression of the features. A symptom was at this time observed which continued ever after, and daily acquired additional intensity; we allude to an earthy or cadaverous odour in the breath, a symptom always formidable—very often fatal. He passed a bad night, and presented on the 5th the following appearances: The limb was much swollen, and the inflammation extended from the ankle to the groin on the inside of the thigh; from the same point as high as the trochanter on the out, the front of the thigh being little affected. The emphysematous crackling noticed on the 4th was now more distinct, and on pressing below the knee an offensive discharge was seen to issue from the wound. On visiting the patient, Mr. Brodie made incisions on the inside and outside of the leg, exposing the cellular membrane in a state of slough, with putrid pus deposited around it, and disengaging a quantity of sulphuretted hydrogen gas. A short incision was made with the same result on each side of the thigh, above the knee, dividing the fascia, and exposing the leaden coloured, sloughing cellular membrane. Some vessels were divided and bled pretty smartly; but pressure was sufficient to arrest the hemorrhage, after which a poultice was applied. The limb on the preceding day had been transferred from the junk to Mr. Amesbury's apparatus, omitting the side splints, and merely keeping up a moderate extension, by means of the boot and strap, around the thigh.

℞ Liq. Ammon. Acetat. ℥iij.; Ammon. Subcarb. gr.v.; Liq. Opii Sedativ. gutt. v.; Mist Æth. c. ℥j; hâc nocte. Pint of porter and four ounces of red wine daily.

The relief which was obtained by these incisions was decided

the pain disappearing, and the cutaneous inflammation perceptibly fading. The emphysema, however, being felt, on the 6th in the thigh, fresh incisions were practised through the fascia, and the cellular membrane found, as before, to be sloughing. The limb now presented a curious spectacle, the incisions extending from the foot to the summit of the thigh on each side, and paved throughout with that dark and disorganized cellular tissue which has not inaptly been compared in its appearance to brawn. The chlorate of soda was applied in solution to the wounds, and the limb kept moistened with linen rags dipped in the same. On the 7th he was considered to be doing very well, but close observation detected a trifling hurriedness of manner.

℞ Quin. Sulph. gr. j.; T. Opii gutt. v.; Acid. Sulph. Dil. gutt. ij.; Aq. ℥j.

On the 8th there was little alteration, save that the conjunctiva had acquired a degree of muddiness, whilst the previous high flush on the cheek was dimmed by a slight yellowness of the skin. The condition of the thigh was remarkably improved, the wounds being comparatively clean; the inflammation decidedly abated. The leg, however, remained *in statu quo*. 9th. To-day a new and fatal train of symptoms have set in; symptoms apparently indicative of purulent deposits in the liver or the lungs. The yellowness of the skin increased; there is pain in the right side of the chest and hypochondrium, increased upon pressure, inspiration, or coughing; the pulse is rapid, and its beats not distinct; the tongue dry and brownish in the centre, red at the edges and tip; the countenance anxious; the manner hurried. Suspecting that the pain in the side and disturbance of the system might depend upon matter confined in the leg, Mr. Brodie made one or two incisions, exposing putrid matter, and sloughy cellular membrane. The patient expressed some relief, but this, as will afterwards be seen, was fallacious. The quinine was omitted, and the wounds well washed with the chlorate, which seemed not to possess the slightest effect. In the evening he was seized with a severe fit of coughing, followed by very profuse perspiration, and increase of the pain in the side. This pain was not relieved on the morning of the 10th, and the symptoms altogether bore a very unfavourable cast. The leg had assumed a more dusky colour; the cellular texture was uncommonly black and sloughy; the discharge, which, indeed, had been more or less the case for some days, was exceedingly scanty.

Haust. Salin. c., Tinct. Opii gutt. v., 6tis horis. Emplast. Lyttæ hypochond. dextro.

The strength of the solution of the chlorate, was increased from one part of Fincham's liquor in 16 of water, to one in seven. That semi-delirium noticed in cases of internal abscesses was now quite established, consisting in a peculiar hurriedness of manner, and desire to assure the inquirer that all was doing well. No rigors had hitherto occurred, but at 2 A.M. of the 11th, a very severe one came on, followed by heat and perspiration. In eight or nine hours another succeeded, even more severe than the first. The

pulse was 120, and small; the tongue rather furred. He was ordered a purge of blue pill, and the compound extract of colocynth at bed-time; but on the 12th, when we saw him, he was apparently hastening fast to the grave. He continued to live, however, until one o'clock in the morning of the 16th.

Latterly the teeth became encrusted, and a film overspread the corneæ of the eyes: yet still he asserted he was better—that he was well; a marked characteristic of the hallucination or delirium attending the formation of purulent depôts in the thoracic or abdominal viscera.

Sectio Cadaveris.—The leg was in a dreadful condition, the parts about the fracture being putrid and gangrenous; the cellular membrane beneath the skin, and between the muscles, almost universally disorganized. On the inside and outside of the thigh, where Mr. Brodie had employed the scarifications, the subcutaneous and subfascial cellular tissue had completely recovered itself, and illustrated well the value of incisions when early employed. At the back of the thigh the cellular texture was in a very bad state; and the skin and integuments could be separated, without the least dissection, from the deeper seated parts, from the heel to a third, or even two thirds, up the thigh. The femoral vessels were perfectly healthy. Much curiosity was excited as to the actual condition of the viscera of the thorax and abdomen, as purulent deposits in the liver or the lungs had been fully expected for nearly a week before death. The abdomen was opened, and the liver discovered to be as healthy as a liver could be. It was sliced in all possible ways, but not a single abscess or speck of disease could be detected. The gall-bladder was remarkably pale and contracted, and contained some curious matter, which had more the appearance of fluid honey than bile. On exposing the cavity of the chest marks of recent pleuritic inflammation were found in both sides, especially below. Towards the upper part of the middle lobe of the right lung was a small deposition of lymph; but the rest of that lung was sound. At the lower margin of the left lung there were several larger depôts, the contents of which were almost analogous in appearance to the sloughs in the leg; at any rate the depositions of lymph were infinitely darker and more dirty than usual. The head was not examined.

22. *Closure of the Vagina.—Operation.*—Ann Smith, 26 years of age, was admitted on the 3d of September last, with stricture of the vagina, succeeding protracted parturition. On examination it was found that an aperture existed, barely admitting the smallest bougie, and apparently owing to a very large cicatrix, the contraction of which had narrowed the opening. From this small opening there issued much discharge, of brownish colour and offensive odour. The urethra had become so widely dilated as readily to allow the little finger to pass into the bladder. She stated, that two years before her admission, being some months gone with child, she was suddenly taken in labour, which lasted two days

and a night; after which it was dicovered that a portion of the vaginal membrane protruded through the os externum, and in the course of a few days it sloughed away. Bearing-down pains were felt for some time, and the urine occasionally came away in a very large stream.

The bowels having been previously emptied by aperients and an enema, Mr. Keate, on the 11th, divided the stricture by means of the bistoure cachèe, the incisions being carried upwards towards the arch of the pubes. The forefinger was then introduced into the opening, and the os uteri found unaffected. The discharge on breaking down the barrier of membrane was horribly fœtid. Three hours after the operation the patient experienced a rigor. The vagina was then syringed out: two or three coagula removed; a piece of oiled lint introduced; and five grains of calomel ordered immediately, followed soon afterwards by a dose of castor oil. Salines, with the sulphate of magnesia every six hours. From this time no febrile affection or other constitutional disturbance was experienced, an occasional purgative only being needed. On the 17th the discharge was become purulent and healthy; and on the 22d, a bougie, three quarters of an inch in diameter, was introduced into the vagina, after which she commenced the use of the dilator. A little pyrexia and headache took place on the 2d of the present month, but were readily removed by salines, with antimony and a senna draught. On the 5th she was well enough in health, and could bear the introduction of a good sized uterus bougie into the vagina.

23. *Cases illustrative of the use of Emetic Tartar in large doses in Rheumatism.*—M. Lafosse, Chef de Clinique Chirurgicale of the Faculty of Medicine of Montpellier, reports the following cases of rheumatism treated with emetic tartar, by Professor Lallemand, at the Hospital St. Eloi.

Case 1.—Pierre Coronet, aged twenty-three years, soldier, of a weakly constitution, felt, in 1823, rheumatic pains in the right inferior extremity, and principally in the tibio-tarsal articulation. This affection left him soon after, and there remained only slight pains occasionally in the heel of the same side. About four years afterwards, in the night of the 14th of August, 1827, the patient felt all of a sudden an excruciating pain in the right coxo-femoral articulation, which deprived him of the power of walking; he was taken into an infirmary, where he remained for two days without being subjected to any treatment. On the third day the part was rubbed with liniment of ammonia, by which the pain was much relieved, but the patient exposed himself on the 23d, during a wet day, on the ramparts of the citadel, which brought on a return of the pain; it was now so severe as to deprive him of his rest, and he was obliged to enter the hospital on the 24th. He had a good deal of fever, accompanied with cough, and profuse expectoration of mucous matter. Several leeches, followed by cataplasms and an antiphlogistic regimen, were tried, from his entrance, until the 28th, but without any amelioration of the

symptoms. Professor Lallemand now prescribed four gains of emetic tartar in orange flower water, which the patient was ordered to take in four doses in the course of the day. This mixture produced a slight diarrhœa. After the first dose the patient had an inclination to vomit ; but this soon ceased. 29th. He was rather better ; the pain was diminished in some degree, and his general aspect was improved. The same mixture was repeated. 30th. Still better. Six grains of the antimony were now ordered in the mixture, to be divided into six doses. This treatment was continued until the 5th of September, by which time the patient was quite recovered ; but he felt himself beginning to be incommoded by the medicine, which was therefore discontinued. He was dismissed cured on the 11th.

Case 2.—A man, named Rauzy, aged twenty-one years, sapper of the 2d regiment du Genie, entered the hospital on the 22d of August, 1827, having been affected for some time with acute rhumatism of the right knee. The pain was very severe, and the patient could with difficulty move the joint. He was bled the same day, and fifteen leeches were applied to the knee, followed by a blister both above and below the articulation. On the 23d he was much the same. The leeches were repeated, and the joint was enveloped in an emollient cataplasm. These means producing no favourable effects, an emetic mixture, containing four grains of antimony, was prescribed on the 27th ; this was to be taken in four doses during the day. The patient felt nausea after each dose, but did not vomit. The medicine produced no pain in the stomach or bowels ; the temperature of the body was sensibly reduced by it, and the pulse became slow and weak. 28th. The rheumatic pains were less, and the patient had slept many hours. The same medicine was continued from this time till the 6th of September, when the emetic was reduced to two grains, the patient continuing to improve daily. By the 10th, the rheumatic pains were entirely gone, and he felt himself quite recovered. The medicine now began to disagree with him, and was therefore discontinued. He was dismissed on the 12th, cured.

24. *Aneurism successfully treated by tying tha Artery on the distal side of the Tumour.*—A highly interesting case of this nature, of which the following is an abridgement, is related in the *Lancet* by Mr. Evans, of Belper, Derbyshire. William Hall, aged thirty, a butcher and horse-dealer, an athletic and spirited young man, about five feet six inches high, has been accustomed to laborious exercise, frequently riding from 70 to 100 miles a-day, and has always enjoyed excellent health, until the appearance of the following symptoms : About fourteen months ago he was seized with shortness of breath, troublesome cough, and tightness over the chest, after much exertion, especially in walking fast up a hill. These symptoms continued until the 6th of March, when he had an attack of bronchitis, which he attributed to cold. His expectoration was copious, consisting of mucus, slightly streaked with blood, and his cough came on in violent paroxysms, which were followed by a sense of suffocation. On the 10th of March,

after a fit of coughing, a soft pulsating tumour, about the size of a walnut, suddenly made its appearance behind, and extending a little above the right sterno-clavicular articulation, and covered, externally, by the sternal portion of the sterno-mastoid muscle. The tumour was greatly diminished by firm pressure, but could not be made to disappear entirely. The pulsation of the tumour, which was synchronous with that of the heart, was increased in force by pressure upon the right subclavian artery, and was diminished, and sometimes completely arrested, by pressure upon the right carotid, above the tumour. The pulsations of the right carotid and subclavian arteries were stronger than those of the left; but there was no apparent difference in the pulsations of the radial arteries. As soon as the tumour made its appearance, the cough and dyspnœa ceased to be troublesome, and his health was soon re-established. His chest sounded well upon percussion, and the respiratory murmur was distinctly heard all over it. No unnatural pulsation could be detected by the use of the stethoscope, between the tumour and the heart. A loud and powerful pulsation was heard over the tumour, unattended with any unusual sound. In taking into consideration the situation of the tumour —its sudden appearance after a violent paroxysm of coughing,and its soft pulsating character, together with the symptoms above enumerated—little doubt could be entertained of its nature, and Mr. Evans concluded that the root of the carotid artery was the seat of the disease.

Considering this a favourable case for the operation lately revived, and so ably advocated by Mr. Wardrop, he was induced to obtain the opinion of two eminent surgeons in London respecting its propriety. Both, however, disapproving of the operation, it was therefore determined, with the approbation of his friends, Mr. Bennet and Mr. Brown, of Derby, that a fair trial should be made of Valsalva's plan of treating aneurisms. The nature of the disease was fully explained to the patient, who, fortunately, was a man of strong sense and most determined resolution, and, from his employment leading him to study the diseases of horses, there was no difficulty in making him comprehend the dangerous tendency of the disease. He therefore submitted, with perfect confidence, to the proposed plan of treatment.

On the 3rd of April Valsalva's plan was commenced, and continued until the 13th of July. He was bled to the amount of eight ounces every third day; kept upon a very low diet, and had small doses of digitalis given him. At first he appeared to derive some benefit from this treatment; but about the period last mentioned, the tumour began to increase again, which it continued to do until it attained a great size, and nothing but an operation appeared likely to afford any chance of success. On the morning of the 22nd of July, the day proposed for the operation, the patient began to be agitated, and the pulsation of the tumour of the heart, and the large arteries, especially the abdominal aorta, was perceptible to the eye. The operation was performed in the presence of Messrs. Bennet and Brown, of Derby; Mr. Ingle, of Ashby-de-

la-Zouch; and Mr. Walne, of Chancery-lane, surgeons. In consequence of the tumour extending so high up the neck, there was some difficulty in getting down to the sheath of the artery, which was opened to the extent of half an inch. The artery appeared healthy, and was easily secured by a single ligature of strong silk. Immediately after tightening the ligature, the pulsation in the different branches of the external carotid artery ceased, except a slight fluttering in the extreme branches of the temporal. The pulsation of the tumour continued without diminution. 23d and 24th. He went on well. The pulsation in the tumour was stronger than it was before the operation, and the pulsation of the right radial artery was observed to be more forcible than that of the left. 25th. He became feverish; pulse 120, and full; the right lip of the wound swollen and painful. Six ounces of blood were taken from the arm, and some saline medicine administered. The blood was much buffed, 26th. Morning; much better; pulse 92, stronger in the right radial artery than in the left; pulsation in the tumour still very forcible. Evening; the fever and pain in the tumour returned. He was again bled; blood still buffed. 27th. Better again this morning. He was taken worse at nine o'clock in the evening. Pulse 100; delirious; anxious countenance, and sickness. No diminution in the size of the tumour. 28th. Much better, and continued so all day. 29th. At seven A.M. he was taken suddenly worse, and appeared to be dying; his countenance ghastly and covered with perspiration; tracheal rattle, and inability to swallow. He appeared conscious, but could only speak in a whisper; pulsation in the tumour still forcible; *the pulse in the right radial artery scarcely perceptible,* whilst the left pulsated as strongly as it did the previous day. These symptoms were accompanied with a profuse ptyalism. He remained in this state for several hours, at the expiration of which time he rallied, and by the evening (with the exception of the salivation, which continued,) he appeared quite as well as on the preceding day.

As the patient continued to improve from this time Mr. E. does not think it necessary to enter into a daily report of the case. The following are the most prominent symptoms which occurred. One of the most remarkable was the obliteration of the arteries of the right arm and forearm, which was first observed in the arteries of the forearm on the 29th of July, the eighth day after the operation, for until that day the arteries of the right arm pulsated with greater force than those of the left. The process of obliteration was attended with severe intermittent paroxysms of pain, chiefly felt in the course of the brachial and axillary arteries. The brachial artery, after its obliteration, was hard and painful to the touch, and felt very like an inflamed absorbent vessel. The right arm wasted, and became partially paralysed, and continued to diminish for three weeks, at the expiration of which time several arterial anastomosing branches were observed pulsating on the back part of the arm. As these vessels enlarged, the limb improved very

slowly, not having yet (Oct. 19) perfectly acquired sensation, nor its muscles the power of obeying volition. On the 11th day after the operation, he was attacked with intermitting paroxysms of pain in the right side of the head and face, of the same character as the pain in the right arm, though not so violent: this pain ceased within a fortnight. The right side of the head and face became emaciated, and any one looking at him would immediately discover that the right half of the face was much smaller than the left. The blood having since found its way into the temporal and facial arteries, the right side of the face is now nearly as plump as the left. The ptyalism, which began on the 29th of July, continued until the middle of September, during which time he spat daily about a pint of saliva; a more generous diet, and a small quantity of ale, were then allowed, and the salivation subsided. Three weeks after the operation he was able to sit up to his meals. The first time that he got out of bed, he perceived that the whole of the right side was numbed, and weaker than the left. The pulsation in the tumour, which had hitherto been more powerful than it was before the artery was tied, now (Aug. 15) began to diminish rapidly, and by the 23d of August, the thirty-third day after the operation, had so much subsided, that it was doubtful whether it arose from the passage of blood into the tumour, or from the impulse given to it by the subclavian artery beneath. In five weeks after the operation, he was sufficiently recovered to be able to take daily exercise in a gig, or on horse-back, and from this time he has continued to improve in health, without interruption. The obliteration of the right brachial artery is now complete, and above the insertion of the latissimus dorsi the pulsation of the axillary artery can be easily felt. The pulse in the radial artery is scarcely perceptible in the right arm, increases daily, but is yet far from being of the size of the left. Sensation and susceptibility of the influence of volition are more perfect on the whole of the right side of the body, but still that side is more feeble than the left. The tumour is hard and firm, and has diminished about one-third since the operation. By pressing it from above downwards, a feeble, deep-seated pulsation is felt, but in grasping the tumour and using lateral pressure no pulsation can be perceived. On the 13th of October the wound was nearly healed; the ligature had not come away, and as it acted as a source of irritation to the small wound, it was cut off level with the skin. Mr. E. further remarks, that, since the operation, the patient has become more irritable in temper, and that his memory is evidently weaker. At the time the report was drawn up, it was five weeks since the patient had resumed his usual avocations, and he regularly attended the markets and fairs of Derby, a distance of seven miles.

GENERAL MISCELLANY

OF THE ACCESSORY SCIENCES.

1. *Botany useful in London.*—Some of our readers may have observed, during the last month, a published assertion, that "***Botany is not wanted in Town.***" It appears strange that any metropolitan practitioner of common observation could be so egregiously mistaken; he may not have detected the utility of the science; this is no proof against it. The only reason for our noticing the remark, is the possibility of its injurious influence upon the minds of students intended for town practice. To them we wish to show, that the science in question is highly important in London; and that every student should consider it his bounden duty to acquire a respectable knowledge of it, whether he be intended for private or public practice, in the metropolis, provinces, or on foreign stations: and so far from the study being *useless in town*, it appears in fact to be *more* needed here than in any place in the kingdom, for on no spot of equal extent are so many kinds of vegetable productions used—we refer to that mart of vegetables, Covent Garden market. Mr. Butler informed us, a few weeks ago, that it would be impossible for him to furnish us with a list of all the different herbs that he sells in the year: every indigenous herb of reputed medicinal power, and the most poisonous, are amongst them; the various esculent cryptogumous plants are found here. How many itinerent simplers, as they are termed, and sellers of mushrooms, water-cresses, &c., are to be found in town. Let it be considered, that life may depend on the decision that is made in the selection of several articles of food procured from the vegetable world. Although, generally, the agaricus campestris may be eaten with impunity, yet there are six species of that genus known to be poisonous. The æthusu cynapium, a deadly poison, has been sold amongst parsley; and also with conium maculatum. Digitalis leaves, and those of some species of verbaseum, have been sold for each other. In one parcel of roots, purchased for taraxacum, we have detected (*in town*) those of a rumex, and of solanum dulcamara. No fresh, and much less dried, indigenous leaves can be depended upon, by a person ignorant of botanical distinctions.

In a therapeutical point of view, botany is *every where* highly valuable; many of our very active vegetable agents are indigenous: how absurd then is it to form an opinion upon the action of a medicine, without any sufficient evidence that the article in question has been fairly employed! It may not have been given at all; it may have been gathered out of season.

In reference to toxicology, a correct knowledge of plants is also highly important; and to whom are the public to look, with confidence, for a guide to what is wholesome, if not to the medical attendants? They receive the support of the public, on the supposition that they do possess that knowledge; and if they fail to furnish themselves with it, they are guilty of a great dereliction of duty.

2. *On the Fluid in the Ascidia of the Nepenthes Distillatoria.*—We ascertained, sometime since, that the fluid formed in the ascidia of the nepenthes distillatoria is a secretion of the plant, being found in the ascidium before the lid opens, and that it is of an acid nature. This observation has been lately confirmed by Dr. Turner, by an analysis of an unopened ascidium of this plant, grown in a stove in the botanic garden of Edinburgh. The quantity of fluid procured was sixty-six grains; it was limpid, of a sub-acid taste; it emitted, when boiling, an odour resembling that of roasting apples; and when slowly evaporated, yielded minute crystals of super oxalate of potash.—*Vegetable Physiology (Baldwin).*

3. *On the Torpidity of the common Tortoise.*—During their cessation of action in the winter months, it has been proved that the temperature of sleepers is diminished; the circulation of their blood is slower; respiration less frequent,

and sometimes entirely suspended; the action of their stomachs and digestive organs is also suspended; and the irritability and sensibility of the muscular and nervous powers are diminished. Heat and air are the only agencies which rouse them from their death-like lethargy. This paper contains historical accounts of individual tortoises, which have been kept by some of the English bishops at their palaces. In the library of Lambeth Palace is the shell of one brought there in 1623; it lived until 1730, and was killed by being carelessly exposed to the inclemency of the weather. Another at the espiscopal palace at Fulham, procured by Bishop Laud, in 1628, died in 1753. One at Peterborough was known to have lived 220 years! This animal was seen by the author in 1813, and of which he gives an interesting account.

On the torpidity of animals, the author takes occasion to remark, that the lethargy of the toad and lizard may continue without the extinction of life for ages. Both these animals have been found alive, imbedded in stone; "a toad was found under the coal seam, in the iron-stone over which it rested, in a coal-mine at Auchincruive, in Ayrshire." This circumstance, in the author's opinion, completely invalidates the Huttonian theory of the primitive formation of the earth; and of course, shows his belief in that which is called Neptunian. —*Murray's Researches in Nat. Hist.*

4. *Ancient Opinions on the Origin of Organized Beings.*—They believed that when the earth issued from the hands of its Maker, it immediately began clothing itself in a green down, similar to that on young birds, which, strengthened by the light of the sun, and the earth's own juices, gradually expanded into herbs and trees; these were intended to sustain the animals it afterwards produced. Not content with this, it aspired to become the acknowledged mother of man; and, soon after, men began to bud forth upon the face of the earth, as we now see mushrooms. Some, indeed, believed this to be confined to particular parts of the world; and the Ethiopians, Egyptians, and Phrygians, all claim this honour for their native countries. Besides these, the Arcadians, the Phœnicians, and Atticans boast of the same glory for their lands, but more particularly the Athenians, who, it is well known, wore a golden cicada in their hair, to denote that their forefathers sprang from the earth, as those insects are still supposed to do. Meantime, the earth, says Redi, *non ancora ben esperta in questo mestiere*, as yet, produced but imperfect animals; so that sometimes they were seen, this wanting a feature, that a limb, while others again presented a monstrous mixture of different beasts, or even of man and beast. But, still aspiring, she at length succeeded in producing perfect animals, and perfect men. The men were at first little worms, which, by degrees, assumed the human figure. At length, old and worn out, she became sterile; but although she no longer retained the power of generating men and other large animals, she was still able to bring forth insects and such small creatures, as well as plants, supposed to spring up spontaneously and without seed, which power she has ever since retained, and ever will.—*Mag. of Nat. Hist.*

5. *Method of Preserving Milk.*—Put a spoonful of wild horse-radish into a dish of milk; the milk may then be preserved sweet, either in the open air or cellar, for several days.—*Journal of Science.*

6. *Method of collecting Air for Analysis.*—Chemists frequently have occasion to collect air from particular situations, for the purpose of analyzing it. When the air contains no substance soluble in water, a bottle filled with water being opened in the place, and the liquid poured out, becomes filled with the air, and may then be closed. If there be gases or vapours present, which act on, or are dissolved in water, as sulphuretted hydrogen or carbonic acid, then mercury is usually employed in place of water. M. Gaultier de Claubry thought that some saline solution might be found, which having little or no solvent power over these substances, might be used for the purpose, and ultimately found such a one in a saturated solution of sulphate of magnesia, made by dissolving in one part of water, one part of the crystallized salt, or half a part of the anhydrous salt, using a slight elevation of temperature for the purpose, and then allowing the liquid to cool. Experiments were made on the solvent power of this solution, and also of water and saturated solutions of sulphate of soda and nitrate of potash; the two latter were scarcely better than water, for being mixed with their bulk of carbonic acid, they dissolved nearly eight-tenths of it, whilst the sulphate of

magnesia solution dissolved only two-tenths; and when tried with sulphuretted hydrogen, they dissolved above nine-tenths, and the sulphate little more than five-tenths.

Mixtures of air, with a few hundredths of these two gases, when agitated with the solution of sulphate of magnesia, lost very little of the gases, and only with difficulty. A bottle filled with the solution, and then opened in such mixtures of air, was filled with the mixture without any sensible change being produced on it by the solution. In experiments made at certain sewers at Paris, where air had to be obtained from depths and situations to which men could not pass, the use of the solution was found to give the same results as the use of mercury.

Sulphate of magnesia is a cheap salt, and may, therefore, be very useful in these and similar circumstances.—*Ann. de Chimie.*

7. *Sugar of Liquorice.*—The peculiar principle in the root Glycyrrhiza has been long known. Doberaner and Robiquet have given processes for its separation. The following is by M. Berzelius:—The cut root is to be infused in boiling water; the cold filtered infusion is to have sulphuric acid added in small quantities, until no further precipitate is formed. The precipitate is a compound of the acid with the saccharine matter, and is to be washed at first with acidulated cold water, and then with pure water, until no free acid appears. The precipitate is to be digested with alcohol, which leaves certain impurities, and then pulverized carbonate of potash or soda is to be added to the solution, until it is neutral; the clear liquor is to be decanted and evaporated. It is desirable to have a small excess of acid present, for which purpose put a little of the alcoholic liquor on one side, to be added at last to the neutral portion, and then leave the whole at rest, that the sulphate of potash may separate before the evaporation is effected.

The saccharine principle is a transparent yellow mass breaking like amber. Being heated it melts, and burns with a bright flame and much smoke. In powder it burns like resin or lycopodium. It does not change in the air. Its aqueous solution is precipitated by *all the acids*, and the more completely the stronger is the solution. The precipitates have no acid taste, but are sweet; they dissolve in water, and gelatinize upon cooling, if the solutions are strong.

This substance also combines readily with bases forming soluble neutral solutions; those with baryta and lime are not precipitated by carbonic acid. This principle forms insoluble compounds with metallic acids and many metallic oxides. It combines also with many salts, causing their precipitation in some cases.

The saccharine principle of the root of the wild liquorice *(polypodium vulgare)* is altogether different in its qualities from the above substance.—*Journal of Science.*

8. *Substitute for the Sulphate of Quinia.*—Bartholomea Rigatelli, a chemist of Verona, says he has discovered a substance which may be used instead of the sulphate of quinia; but the notice given of it is so imperfect, that it would not be worth attention except that it comes from a Committee appointed by the Academy of Verona, and may therefore be supposed to have some foundation. The committee report that the saline substance spoken of is obtained from an indigenous plant common to all Europe; that it is obtained in considerable quantities by a simple process; that it consists of an acid in union with a vegetable alkali; and that it contains nothing which can injure the health. The salt is friable, of an earthy appearance, and brick-red colour, having a more astringent and bitter taste than the sulphate of quinia; its odour is slightly vegetable, but scarcely perceptible. When pulverized, the powder is white and very soluble in water. Multiplied observations have proved that it may be successfully used in place of sulphate of quinia, in every case where the latter has been found advantageous.—*Bull. Univ.*

9. *Citric Acid from Gooseberries.*—Mr. Tilloy has obtained citric acid from this fruit, at an expense less than half the usual price of the acid in France. The gooseberries are to be bruised and fermented: the alcohol formed, distilled off, and the residue pressed to extract the liquid. The latter is to be heated, and carbonate of lime added as long as effervescence is occasioned; the citrate of lime is then to be collected, drained repeatedly, washed, and then pressed;

it is still coloured and mixed with malate of lime: it is to be mixed with water until of the consistence of thin syrup, heated, decomposed by sulphuric acid, and the whole diluted with twice its weight of water. The fluid separated from the precipitate is to be again treated with carbonate of lime; and now the precipitate, when collected on a filter, is to be well washed, pressed, and a third time decomposed by sulphuric acid. The clear liquor now obtained is to be boiled with animal charcoal, filtered and evaporated. When sufficiently concentrated, it must be allowed to deposit, and the fluid, when poured off, be put into stoves heated to between 68° and 77° Fahr. Crude crystals of the citric acid will be thus obtained; they are to be drained, slightly washed, and recrystallized.—*Jour. de Phar.*

10. *How to commence the Study of Botany.*—The best book to commence with in the study of botany, is Drummond's *First Steps to Botany*, London, 12mo. 200 figs. 9*s.*; next, Smith's *Introduction*, and Hooker's *Flora Scotica*; or, perhaps, the forthcoming edition of Hall's *Flora Anglica*, may be resorted to. While these books are studied, as many specimens of plants should be gathered and dried as possible, and their names ascertained from the nearest gardener. There is but little to be done in the study of botany, without first storing the memory with the names and images of a number of plants of common occurrence. By gathering specimens (if only a single leaf of each plant) laying them between the leaves of a book of any sort, one on each page, and writing their names beside them, and afterwards turning them over two or three times a-day, the names and images of all the plants of a garden or neighbourhood may be fixed in the memory in the course of a week or two. When this has been done, the student may turn to Hooker or Hall, and compare the descriptions there with the specimens. This will teach him the application of technical terms; and he may afterwards be able to discover the name of any plant by finding out its class and order, generic and specific distinctions.—*Mag. of Nat. Hist.*

11. *Effects of the Tincture of Colchicum Autumnale on the System.*—Struck by the powerful and beneficial effects produced by this medicine in cases of gout and rheumatism, M. Chelius was led to search particularly for circumstances which might either give a reason for its good action or accompany it, and soon noticed a remarkable change in the urine, which he thinks sufficient to explain the whole. This change consists in a striking increase in the quantity of uric acid contained in that secretion. A person afflicted with gouty concretions at many of the joints, and especially at the knees, so as to be unable to move, took the colchicum wine; before its use, the uric acid, either free or combined in the urine, was 0.069; on the fourth day after the first employment of the medicine it had increased to 0.076; on the eighth day to 0.091; and on the twelfth day to 0.112: so that the quantity was nearly doubled in the short space of twelve days. Similar results were obtained in many other cases of the same nature, in which the analyses of the urine had been made.

M. Chelius thinks the English physicians give too large a dose of this medicine; he thinks it preferable to begin with 20 or 30 drops in half a glass of water, and to increase the quantity gradually, until gastric irritation is indicated. So used, he has never observed it to produce bad effects.—*Bull. Univ.*

12. *German Method of procuring Flowers in Winter.*—According to the 'Recueil Industrielle,' the following method of expediting vegetation at will is practised in Germany. A branch, proportioned to the size of the object required, is sawn off the tree, the flowers of which are to be produced, and is plunged into a spring, if one can be found, where it is left for an hour or two, to give time for such ice as may adhere to the bark to melt, and to soften the buds; it is then carried into a chamber heated by a stove, and placed in a wooden vessel, containing water; quick-lime is to be added to the water, and left for twelve hours. The branch is then to be removed into another vessel, containing fresh water, with a small quantity of vitriol, to prevent its becoming putrid. In a few hours the flowers will begin to appear, and afterwards the leaves. If more quick-lime be used, the flowers will appear quicker; if, on the contrary, none be used, the branch will vegetate more slowly, and the leaves will precede the flower.—*Journal of Science.*

(Continued from Page 500.)

13. *Formulary of the* HOTEL-DIEU, *at Paris.*—The quantities are expressed in Troy weight and English fluid measure.

Cordial Potion.—Take of Hyacinth Confection (a preparation similar to our Conf. Aromat) ʒj. Mint Water and Baulm Water of each f. ʒj. Cinnamon Water and Orange Flower water of each f. ʒss. Simple Syrup f. ʒj. Mix.

Tonic Potion.—Take of Red Wine f. ʒvj. Spirit of Cinnamon f. ʒss. Simple Syrup f. ʒij. Mix.

Tonic Potion.—(M. Dupuytren.)—Take of Extract of Cinchona ʒij. Extract of Opium ʒss. Vinous Syrup of Cinchona f. ʒijss. Mint Water and Cinnamon Water of each f. ʒiv. Mix.

Tonic Potion.—(M. Récamier.)—Take of Angustina Bark ʒss.; boil it in Water f. ʒxx.; to the strained decoction f. ʒvj. add Cinnamon Water f. ʒss. Tincture of Opium gr. xx.

Compound Linctus.—Take of Almond Linctus ʒiv. Extract of Opium gr. j. Extract of Cinchona gr. iv. Camphor gr. vj. Mix.

Gum Linctus.—Take of Bechic Infusion f. ʒiv. Gum Arabic ʒss. Simple Syrup ʒj. Mix.

Composing Potion.—(M. Récamier.)—Take of Orange Flower Water f. ʒj. Baulm Water f. ʒiij. Simple Syrup f. ʒj. Syrup of White Poppies f. ʒss.

Purgative Potion.—(M. Récamier.)—Take of Compound Tincture of Jalap f. ʒj. Syrup of Buckthorn f. ʒss. Succory Water f. ʒiv. Used in dropsical cases.

Potion with Powdered Cinchona.—Take of Cinchona in Powder ʒss. Muriate of Ammonia gr. x ij. Red Wine f. ʒiv. Mix.

This is used in intermittent fevers, and is commonly given at a dose previously to the paroxysm. *

Antiseptic Potion.—Take of Decoction of Cinchona f. ʒiv. Tincture of Cinnamon f. ʒj. Acetated Liquor of Ammonia f. ʒj. Simple Syrup f. ʒj. Camphor. gr. x. Mix.

Antiscrophulous Potion.—Take of Tincture of Gentian f. ʒj. Carbonate of Ammonia or of Soda f. ʒss. Mix.

Oily Potion.—Take of Bechic Infusion f. ʒij. Oil of Sweet Almonds f. ʒij Simple Syrup f. ʒj. Mix.

Dieuretic Potion.—Take of Decoction of the five Roots f. ʒiij. Orange Flower Water f. ʒss. Oxymel of Squills f. ʒij. Simple Syrup f. ʒj. Laudanum, Tincture of Castor, Tincture of Musk, of each gr. vj. Nitric Æther, Sulphuric Æther, of each gr. x. Mix.

ANOTHER.

Dieuretic Potion.—Take of White Wine f. ʒxvj. Liquid Accetate of Potass f. ʒj. Mix.

Purgative Potion.—Take of Senna Leaves ʒij. Sulphate of Soda ʒss. Syrup of Buckthorn f. ʒj. Water f. ʒiv.

ANOTHER.

Purgative Potion.—Take of Senna Leaves ʒij. Sulphate of Soda ʒij. Water f. ʒiv. Powdered Jalap gr. xxv.

These two Purgative Potions are very much used.

Purgative Potion with Castor Oil.—Castor Oil f. ʒj. Simple Syrup f. ʒj. Succory Water f. ʒij. Mix.

ANOTHER.

Take of Castor Oil f. ʒvj. Oxymel of Squills f. ʒss. Syrup of Buckthorn f. ʒj. Mix.

Emetic Potion called Eau Benite.—Take of Tartarized Antimony gr. vj. Water f. ʒviij. Mix. Employed in the treatment of Colica Pictonum.

Emetic Potion called Eau Minerale.—Take of Sulphate of Soda ʒiij. Tartarized Antimony gr. iij. Warm Water ʒx. Given in three or four doses with intervals of a quarter of an hour.

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* We have frequently seen Muriate of Ammonia given in Essex with success in the intermittents of that county. Mr. Brand states, in his *Manual of Pharmacy*, that this article is now never used internally. ED.

(To be continued.)

14. *Nature of Aloetic Acid.*—M. Liebeg finds this substance to be a combination of carbazotic acid, and a particular substance having many of the properties of resins. The bitter of aloes may be formed in large quantity, by acting upon aloes with nitric acid of the specific gravity of 1.25. The substance obtained forms a purple salt with potash, but little soluble, and precipitating the salts of baryta, lead, and peroxide of iron, of a deep purple colour. When a solution of this salt was precipitated by acetate of lead, the water employed to wash the precipitate had a yellow colour, and deposited small crystals of the same colour. These crystals heated in water with sulphate of potash, gave carbazotate of potash, and from that carbazotic acid was obtained.

When aloes are treated with nitric acid of specific gravity 1.432, until the liberation of nitrous vapour ceases, and the liquid be mixed with a little water to separate a small quantity of bitter principle, then by neutralization with potash and evaporation, a large quantity of carbazotate of potash in fine crystals is obtained.

Wool, morphia, narcotine, and myrrh, did not give carbazotic acid by treatment with nitric acid.—*Ann. de Chimie.*

15. *On Poisonous and Esculent Fungi.*—The liability of poisonous fungi being used for the wholesome has brought discredit upon the whole tribe, and this has not been without reason, for by mere superficial observation they cannot be distinguished; in fact, the only method of identifying the different species, is by studying their peculiar characters in a scientific manner; nevertheless, the senses of smell and taste will be of considerable assistance in distinguishing the pernicious from the safe. Whenever a fungus is pleasant in flavour and odour, it may be considered wholesome; if, on the contrary, it have an offensive smell, a bitter, astringent, or styptic taste, or even it leave an unpleasant flavour in the mouth, it should not be considered fit for food. Those persons who are able to identify, with accuracy, the different species, may eat, with impunity, when cooked, some, whose flavour, when fresh, is unpleasant, such as merulius cantharellus; hydnum repandum; agaricus acris, a. vaginatus, a. rubescens; boletus aurantiacus, b. scaber, and b. hepaticus. The colour, figure, and texture of these vegetables do not afford any characters on which we can safely rely; yet, it may be remarked, that in colour, the pure yellow, gold colour, bluish pale, dark or bistre brown, wine-red, or the violet, belong to many that are esculent; whilst the pale or sulphur-yellow, bright or blood-red, and the greenish, belong to few but the poisonous.

As respects texture, the safe kinds have most frequently a compact brittle texture; the flesh is white; they grow more readily in open places, such as dry pastures and waste lands, than in places humid or shaded by wood. In general, those should be suspected which grow in caverns and subterraneous passages, on animal matter undergoing putrefaction, as well as those whose flesh is soft and watery.—*Cordier.*

16. *The Largest Flower known.*—The splendid blossom of a parasitic plant growing in Sumatra, the rafflesia arnoldi, measures above a yard in diameter. It was first seen by Dr. Arnold, when in company with Sir S. and Lady Raffles. The petals are from one-fourth to three-fourths of an inch in thickness; the general colour is of a brick-red or salmon tint.

17. *Longevity of Trees.*—The ficus indica, growing on the banks of the Nerbudda, covers an extent of ground two thousand feet in circumference. It is supposed to be the identical tree described by Nearchus, and if so, it cannot be less than two thousand five hundred years old. This tree is remarkable also for its having, in the march of an army, sheltered seven thousand men.

The old oak near which Magdalen College, Oxford, was ordered to be built, fell in 1789. It is supposed to have been planted about the time of the Norman Conquest.

Strutt, in his elegant work, Sylva Britannica, states, "the Tortworth chesnut (called, by Camden, the great chesnut of Tamworth) is probably the largest and oldest tree in England. In the reign of Stephen, who ascended the throne in 1135, it was deemed so remarkable for its size, that it was well known as a signal boundary to the Manor of Tortworth, in Gloucestershire."

The chesnut is said to be three hundred years in coming to perfection, so that one thousand years have probably rolled over its green head.

The same author observes, " the yew-trees at Fountain's Abbey are recorded to have sheltered the monks, in 1132: they are probably more than nine hundred years old.

18. *Ricinus Communis, plant of, grown near Town.*—In the delightful garden of Wm. Atkinson, Esq., of St. John's Wood, there grew, this summer, a remarkably fine plant of the ricinus communis, in the open air; it reached the height of near eight feet, throwing out many branches of six feet in length. The plant remained in full vigour until late in the season, and was a most picturesque and interesting object.

19. *A Trine distribution of Nature.*—Nature may be distributed into three realms, metorganic, organic, and inorganic; organic again into three reigns, rationalia, animalia, vegetalia; animalia again into three regions, pulmonata, branchiata, spiraculata; pulmonata into three classes, bestia, aves, reptilia; branchiata into three classes, pisces, mollusca, crustacea; spiraculata into three classes, insecta, vermes, zoophyta.—*Journal of Science.*

20. *University of London.*—The total number of students at this institution, is said to be 394; of which, 120 are medical; 70, natural philosophy; and 70, chemistry.

21. *Phrenological Society.*—The Phrenological Society commenced its Session on Monday, Nov. 3, and will continue its sittings every alternate Monday; the intermediate Mondays being devoted to Conversations, to which the public are admitted by tickets, to be obtained of the Secretary, or of individual Members. Some interesting remarks were made by Dr. Elliotson on the Life, Death, and Writings of the late Dr. Gall.

Dr. Epps's Paper, read at the above Society, " On the gradual Development of the Nervous System, from the ZOOPHYTE up to MAN," will be published in our January Number, illustrated by *wood cuts.*

BOOKS RECEIVED DURING THE MONTH.

1. Magazine of Natural History, and Journal of Zoology, &c., Number 4; conducted by J. C. Loudon, F.L.S. Longman and Co.

2. Compendium of Phrenology. By W. H. Crook, of the Phrenological Society of London; corresponding Member of the Phrenological Society of Edinburgh; and Lecturer on the Science. Samuel Leigh, 18, Strand, p. 24.—This little pocket 18mo. presents a brief, well written, pithy account of the Phrenological Science. Those who delight in a *small* book, and who wish to obtain a knowledge of the science of Phrenology, are recommended to purchase this little work.

3. Medical Botany, Number 23. By John Stephenson, M.D. and James Morss Churchill, F.L.S. Churchill, Leicester Square.

4. A Manual on Midwifery; or, a Summary of the Science and Art of Obstetric Medicine; including the Anatomy, Physiology, Pathology, and Therapeutics, peculiar to Females; Treatment of Parturition, Puerperal, and Infantile, Diseases; and an Exposition of Obstetrico-Legal Medicine. By Micheal Ryan, M. D., M R. C. S. L. and E., &c. &c. &c. Longman, London, 1828.

5. A Pocket Compendium of Anatomy; containing a correct and accurate Description of the Human Body. By Edward William Tuson, Lecturer on Anatomy and Physiology, Member of the Royal College of Surgeons, &c. &c. Callow and Wilson: London, 1828.

6. Letters on the Study and Practice of Medicine and Surgery, and on topics connected with the Medical Profession; addressed to Students and Young Practitioners of Medicine, to Parents and Guardians, and the Public in general. By James Wallace, Assistant Surgeon, R. N. Author of a Voyage to India, &c. Glasgow, 18 28.

NOTICE TO CORRESPONDENTS.

No. 4 of Remarks on the Evidences against Phrenology came to late for insertion this month: it will appear in our next.

Communications have been received from Mr. Curtis and Dr. Ryan.

INDEX

TO

VOLUME THE FIRST.

A

Abscess, Chronic, Treated with Moxa - - - - 294
Académie Royale de Médicine, Memoirs de l' *(Reviewed)* - 31
Acid, Benzoic, in Grasses - - 497
Acid, Citric, from Gooseberries 586
——, Aloetic, Nature of - 589
——, Hydriotic, Preparation of 304
——, Nitric, Test for - - ib.
——, Gallic, Preparation of - 496
Actual Cautery, a Remedy for Erysipelas - - - - 283
Adipocire, Formation of - - 92
Address to the Readers - - 1
Advice to Medical Practitioners 53
Aërolites, Fall of - - - 94
Air, Method of Collecting for Analysis - - - - - 586
Alcohol, Purification of - - 93
———, Volatilization of - 496
Alkanet Root, Effects of Cold on the Colour of - - - 195
Almonds, Bitter, Effects of - 496
Aloes, Modus Operandi of - 299
Ammonia, Preparation of, in the Liquid Form - - - - 197
Anasarca, Cured by Tartar Emetic Ointment - - - 282
Anatomical Nomenclature, Improvement in - - - 454
———— Pursuits, Mode of Facilitating - - - - 39
———— Preparations, New Method of Preserving - - 405
Anemone Pulsatilla in Pertussis 191
Aneurism, Successful Cure of, by Tying the Distal Side of the Tumour - - 580
Aneurism of the Meningeal Artery 460
———- of the Aorta, Producing Paralysis - - - 379
———, Popliteal, Operation for 473
Anus, Extirpation of a Cancerous Excrescence from the - - 175
——, Preternatural, Case of Spontaneous - - - - 492
Apoplexy from Pressure on the Jugular Vein - - - 293
———- of the Spinal Marrow 465
Apothecaries' Company, New Regulations of the - - 498
Arsenic Acid, Action of, on Sugar 198
Arteries, Chronic Inflammation of the - - - - - 56
———, Condition of, the in Gangrene of the Toes - - 76
———, Spontaneous Obstruction of the. By Professor Turner. *(Reviewed)* - - - 123
Artery, External Iliac, Ligature of the - - - - - 86
———-, Femoral, Wound of the Ligature of the - - - 363
———-, Common Iliac, tied, by Mr. Crampton - - 382
Ascites, Case of Encysted, by Dr. Bailey - - - - 266
Atropa Belladonna, Poisoning by 501
Axilla, Extirpation of a Tumour from the - - - - 171

B

Bagnold, Capt., on the Mode of Preserving Lime-juice - 196
Bailey, Dr., Remarks on Dr. Lucas's Essay on the Circulation, by 344
———, Dr., Case of Encysted Ascites, by - - - 266
Ballingall, Dr., Remarks on the Flap Operation - - 384
————, *Dr.*, Ligature on the Iliac Artery, by - - 86
Bally, M., on the Therapeutic Properties of Morphine or Narceine, *(Reviewed.)* - - - 332
Belladonna a Preventive of Scarlatina - - - - - 192
————, Poisoning by - - 501
Benzoic Acid in Grasses - - 497
Betner, Mr., on the Morbid Conditions of the Intestines in Fever 61
Biliary Calculi, Case of - - 550
——— Ducts, Structure of the - 90
Birds, Method of Preserving - 196
Birth, Premature, Case of, by Mr. Cribb - - - - - 451
Black Draught, on the Mode of Preparing - - - 404
Bladder, Case of Absence of the 60
Blood, Experiments on the - 483
Bodies, Identical Active Molecules in - - - - - 495
Boggie, Dr., on Hospital Gangrene *(Reviewed)* - - 18
Bones, Fossil - - - 501
Bonnet, M., on Diseases of the Liver *(Reviewed)* - - 232

Books Received, Lists of, 97, 201, 305, 406, 502, and 590
Bostock, Dr., on the Summer Catarrh, *(Reviewed)* - - 328
———————, on Thames Water 195
Botanic Garden at the Havannah 405
Botany, Useful in London - 584
Botany, how to commence the Study of - - - 587
Botanical Specimens, Method of Preserving - - - 404
Brain, Mr. Brodie's Observations on Injuries of the *(Reviewed)* 307
———, Case of Abscess in the, by Mr. Jones - - - 543
———, Inflammation of the, Complicated with the Phthisis - 267
———, Appearances in the, a Remarkable Case - - - 71
———, Ramollissement of the, with Bronchitis - - 267
———, Tubercles of the - - 456
Bread Fruit - - - 502
British Ergot of Rye - - 495
Brodie, Mr., on Injuries of the Brain *(Reviewed)* - - 307
Buchanan, Mr., on the Treatment of Diseased Joints, and Non-Union of Fracture *(Reviewed)* 503
Burrows, Dr., on Insanity *(Reviewed)* - - - - 221, 427
Butterflies, Migration of - - 304

C

Calculi, Biliary, Remarkable Case 550
Cancer of the Uterus Cured by Prussic Acid - - - 462
Carotid Artery, Ligature on the 178
Cassia, Port Royal - - 404
Cataract Congenital, in both Eyes, Operation for - - - 573
Catarrhus Æstivus, of the, by Dr. Bostock *(Reviewed)* - - 328
Cats, white, with blue eyes, always deaf - - - - - 95, 300
Cerebellum, Tubercles of the, with Chronic Hydrocephalus - - 457
Cheek, Removal of a Tumour from 472
Cherrattah, of the Medicinal Properties of - - - 453
Chest, Penetrating Wounds of the, by Baron Larrey *(Reviewed)* 33
Chevalier and *Rayer* on Colica Pictonum - - - 55
Chirurgo-Medicus's Remarks on Mortification in a New-born Infant - - - - 538
Cholera, Dr. Christie on, *(Reviewed)* - - - 536
Chorea Cured by Iodine - - 90
Christie, Dr., on Cholera *(Reviewed)* - - - - 536
Cinchona, New - - - 501
Circulation, Remarks on the, by Dr. Lucas - - - 139
Circular System, the - - 94
Clavicle, Exsection of the - 480
Cæsarean Section, Case in which the, was performed - - 291
Colchicum Autumnale, on the Use 149
Colchicum Autumnale, Effects of the Tincture of, on the System 587
Colica Pictonum, Treatment of, by MM. Chevalier and Rayer - 55
———————, Severe Case of, by Dr. Copland - - - 147
College of Physicians, *v.* Harrison 201
Coma, Remarkable Case of - 367
Combination of Lime and Water 93
Compound Fracture of the Bones of the Face, Case of - - 554
Congenital Cataract in both Eyes, Operation for - - - 573
Conia, Preparation of - - 496
Constipation, Obstinate Case of, by Dr. Epps - - - 151
Convolvulus Sepium, Purgative Properties of - - - 497
Convulsions, Puerperal, Case of 384
Copaiba, new Mode Administering 92
Copland, Dr., on Colica Pictonum 147
Cornea, Spots on the, M. Dupuytren's Treatment of - - 74
Correspondents, Notices to, 98, 202, 306, 406, 502, and 590
Crampton, Mr., Case of Tying the Common Iliac Artery - - 382
Cranium, Fracture of the, with Depression, Cured - - 278
———————, Fracture of the, Trephining, &c. - - - - 469
Cribb, Mr., Remarkable Case of Hernia, by - - - 339
———————, Case of Premature Birth, by - - - 451
Croton Oil, Effects of, Absorbed by the Hand - - 575
Croup, M. Jadelot on the Treatment of - - - 75
———————, New Method of Treating 478
Crystalline State, Change of, in a Solid Body - - - 304
Cupping-Glasses, Effects of, on Vaccine Pustules - - 58

D

Davies, Mr., on the Principles of Physiology - - - 42
———————, on the Hepatic Circulation - - - - ib.
———————, on the Force of the Heart - - - - 45
Deafness; its Prevention, Causes, and Cure, by Mr. Stevenson *(Reviewed)* - - - 113
Death by Suspension - - 169
Dewhurst's, Mr., Improvement in Anatomical Nomenclature - 454
———————, on the Means of Anatomical Study - - 248
Digestion, Experiments on - 571
Digitalis, the Time for Gathering 199

Diseases Prevalent during the Month - - - - - 501
Dobson, Dr., on Erysipelas *(Reviewed)* - - - - 204
Ductus Communis Choledochus, Mr. Houlton's Anatomical Description of the - - 47
Dulcamara - - - - 497
Dupuytren's Treatment of Phagedenic Herpes - - 73
———————————, Spots of the Cornea - - - 74

E

Edinburgh, Transactions of the Medico-Chirurgical Society of, *(Reviewed)* - - - - 17
Electro-Attraction of Leaves - 404
Emetine, Proportion of, in Ipecacuanha - - - - 92
Emetic Tartar, Use of, in Large Doses, in Rheumatism - 579
Encephalitis—Ramollissement 270
Epilepsy, Cases of Traumatic, Cured by Trephining - - 466
Epps, Dr., Case of Inflamed Lymphatics, by - - - - 549
————, on the Use of Ipecacuanha - - - - - 450
————, Case of Obstinate Constipation, by - - - - 151
Ergot of Rye, on the Use of, by Mr. Michell, *(Reviewed)* - 99
————, Cases showing the use of - - - - 459
Erysipelas, Cured by the Actual Cautery - - - - - 283
————, Epidemic, Dr. Gibson on *(Reviewed)* - - - 26
————, New Method of Treating - - - - - 463
————, On the Nature and Treatment of. By Messrs. Lawrence, Dobson and Hutchison, *(Reviewed)* - - - - 204
————, Phlegmonous, Case of 79
————, Treated by Incision and Bandage - - - - 554
————, of the Subcutaneous Cellular Tissue - - 573
Enormous Spina Bifida - - 381
Euphorbia Lythiris - - 300
————————, Oil of - 495
Empyema, with Erosion of the Pleura - - - - - 167
Excrescences of an Anomalous Character - - - - 85
Exastosis of the Pelvis - - 296
Experiments on the Treatment of Putrid Affections, by MM. Leuret and Hamont, *(Reviewed)* - 526
———— on Digestion - 571
———— on the Blood - 483
Extra-Uterine Gestation, Case of 550
Extirpation of the Uterus - 77
Extraordinary Experiment - 96
Extremities, Peculiar Swelling of the Lower - - - - 485
Eye, on the Diseases of the, by Mr. Watson *(Reviewed)* - - 407
———————— by Mr. Stratford *(Reviewed)* - - 407
Eye, Curious Affection of the, Caused by Lightning - - 76
——, Cancer of the, Removal of the Organ - - - - 471

F

Fæces, Complete Retention of the for six Months - - - 175
Femoral Artery, Wound of the - 363
Flap Operation, Remarks on the, by Dr. Ballingall - - 384
Flowers, German Method of Procuring, in Winter - - 587
Flower, the Largest known - 589
Fœtation, Extra-Uterine - - 186
Fœtus, remaining 40 days in the Abdomen - - - - 186
Formulary of the Hôtel-Dieu, 200 303, 403, 500, 588
Fossil Bones - - - - 501
Fracture, Compound, of the Bones of the Face - - - - 554
————————, of the Leg, with Remarks - - - - 555
———— of the Sternum and Ribs, Case of - - - - 574
————, On the Treatment of Non-Union of, by Mr. Buchanan, *(Reviewed)* - - - - 503
———— of the Skull, with Lesion of the Brain - - - - 84
France, Human Life in - - 501
Fraudulent Imitation of Ipecacuanha - - - - - 406
Fulgarites, or Lightning Sand Tubes - - - - - 304
Fungus Hematodes, Case of - 271
Fungi, on Poisonous and Esculent 589

G

Gall-Bladder, Absence of the - 280
Gallic Acid, Preparation of - 496
Gangrene, Case of Cutaneous - 461
————, from Lacerated Wound 387
———— of the Toes, Condition of the Arteries in - - 76
Gare's Universal Family Ointment 300
Gendrin, M., on Malformations of the Heart - - - - 56
Gestation, Extra-Uterine, Case of 550
Gibson, Dr. on Epidemic Erysipelas *(Reviewed.)* - - 26
Gout, Pathology of - - 487
Gouty Inflammation cured by Vaccination - - - - 83
Gryllus Migratorius - - 199
Gum Arabic, Influence of, on the Precipitates of Lead - - 196
Gun-Shot Wound of the Chest, Spinal Marrow, &c. - - 281

H

Hair, Growth of - - - - 194
Hairs passing with the Urine - 292
Harrison, Dr., Defence of against the College of Physicians - 201
Head, Injury of the, with loss of Brain - - - - - - 183
Headache, Chronic, Treatment of 66
Heart, Disease of the, with an Anomaly of the Vascular System - - - - - 280
——, Force of the, Mr. Davies's Remarks on the - - - 45
——, Hypertrophy of the - 68-70
——, Malformations of the, by M. Gendrin - - - - 56
——, Case of Displacement of the 552
——, Organic Disease of the - 188
——, Polypus of the - - 284
——, state of the, in Pregnancy 283
Hemicrania, Case of Noctural - 463
Hemlock, on the Active Principle of - - - - - - - 93
Hemorrhage, Peculiar Predisposition to - - - - - - 177
Hepatic Circulation, Mr. Davies's Remarks on the - - - - 42
Herbarium, Instructions for Forming a - - - - - - 302
Hernia, Case of Ventral—Operation - - - - - - 81
——— of the Foramen Ovale - 458
———, Strangulated, Remarkable case of, by Mr. Cribb - - 339
——, Strangulated, Cured by the application of Belladonna - 394
——, Case of Strangulated - 377
——— Cerebri, Case of - - 378
Herpes, M. Dupuytren's Treatment of - - - - - 73
Herrings, A shower of - - 499
Hessian Fly - - - - 404
Hospital, New - - - - 305
——— — Gangrene, Dr. Boggie on *(Reviewed.)* - - - 18
——— Reports, 76—81; 165—175; 267—276; 294—297; 363—379; 386—388; 456—457; 468—473; 550—562; 573—582
Hôtel-Dieu, Formulary of the 200, 303, 403, 500, 588
Houlton, Mr. on the Properties of Taraxacum - - - - 243
———, *Mr.* Anatomical description of the Ductus Communis Choledochus - - - 47
Human Life in France - - 501
Humeral Artery, Ligature on the 295
Hunterian Society - - 498
Hutchinson, Mr., on Erysipelas *(Reviewed.)* - - - - 204
Hydr. c. Creta, liability of the Mercury to separate in - - 302
Hydatids of the Mamma—Operation - - - - - 279
Hydatids discharged from the Palm of the Hand - - 393
Hydriotic Acid, Preparation of - 304
Hydrophobia in a Pig - - 283
———, Medicines used in Russia, for the Cure of - - 299
———, Anatomical Characters of - - - - - 79
———, Case of, where Bleeding was of service - 192
Hydrocephalus, An Inquiry into the nature of, by Dr. Mills *(Reviewed.)* - - - - 3
——— cured by an Operation - - - - 39
Hymen, Case of Imperforate - 479
Hyoscyamus Niger - - 496
——— Picta - - 496
Hypertrophy of the Heart - 68-70
Hyppopotamus, the Head of the - 405
Hypospadias, Case of - - 372

I

Inflammation of the Leg Supervening on Compound Fracture, Terminating in Gangrene - 575
Indian Botanic Specimens - 405
Inoculation of the Measles - 564
Insanity, on the Treatment of, by *Dr. Burrows (Reviewed.)* - 224-427
Insects, Shower of, in Russia - 499
———, Rare - - - ib.
Intestine, Strangulation of a portion of the - - - - 169
Intestines, Ulcerations of the, Consequent on Fever - - 61
Iodine, Chorea cured by - - 90
Ipecacuanha, on the use of, by Dr. Epps - - - - 450
———, Fraudulent Imitation of - - - 406
———, Proportion of Emetine in - - - - 92
Iron, Properties of the Oxydes of 198
Itch, cured by Chloride of Lime - 499

J

Jadelot, M. on the Treatment of Croup - - - - - 75
Jaw, Amputation of a part of the Lower - - - - - 174
Joints, on the Treatment of Diseased, by Mr. Buchanan *(Reviewed.)* - - - - 503
Jones, Mr., Case of Abscess in the Brain by - - - 543

K

Kangaroo, on the Mammary Organs of the - - - - 300
Kidneys, Absence of the, Case of 60
Kino, Gum - - - - 496

L

Lac Varnish, Colourless - - 195
Larrey, Baron, on Wounds of the Chest *(Reviewed.)* - - 33
Laryngitis, Case of Chronic—Tracheotomy - - - - 556

Laryngitis, Case, Acute—Tracheotomy - - - - 558
Lawrence, Mr., on Erysipelas *(Reviewed.)* - - - 204
Leaves of Plants, Influence of Light on the - - - - 196
Leech, Medicinal, on the Reproduction of the - - - 91
Leeches, the Preservation of - 91
Leg, Fracture of the, followed by Gangrene - - - 388
——, Treatment of Old Ulcers of the - - - - 56
——, Compound Fracture of the, Cases of - - - 555
Leuret and *Hamont, MM.*, Experiments on the Treatment of Putrid Affections, by *(Reviewed.)* 526
Ligature of the External Iliac Artery - - - - 86
Lightning, Curious Effects of, on the Eye - - - 76
Lime Juice, Mode of Preserving - 196
Lime and Water, Combination of 93
Linnæan Society - - - 96
Lip, Cancer of the—Operation - 174
Lithotritie - - - 374
Liver, Treatise on the Diseases of the, by M. Bonnet *(Reviewed.)* 232
Liver, Suppuration of the, Cases of - - 371, 372, and 374
——, on the Functions of the - 48
Liquorice, Sugar of - - 586
London Medical Society - - 498
Lobelia Inflata, Effect of in Rheumatism - - - 191
Locust - - - - 199
Literary Intelligence 98, 202, and 306
——— University - - 590
Lower Jaw, Enormous Osteo—Sarcoma of the - - 489
————, Sarcoma of the - 276
Lucas, Dr., Remarks on the Paper of, on the Circulation, by Dr. Bailey - - - - 344
————, on the Circulation of the Blood - - - 139
Lumbrici Discharged through the Abdominal Parietes - - 564
Lungs, Atrophy of the - - 456
Luzenburg and *Maillard* on Venous Absorption - - - 89
Lymphatics, Case of Inflammation of the, Cured by a Blister, by Dr. Epps - - - 549

M

Magendie, on the Treatment of Ulcers of the Tongue and Pharynx - - - - 180
Magnets, Effects of on different Substances - - - 92
Magnesia, New Preparation of - 302
Malformation, Case of - - 60
Mamma, Hydatids of the - - 279
Mastodon, Fossil remains of the - 301
Matter, Spontaneous Organization of - - - - 94
Meadow Saffron, Eradication of - 498
Mean Height of the Inhabitants of Paris - - - - 497
Meat, loss of Weight during Cooking - - - ib.
Measles, Inoculation of the - 564
Medical Practitioners, Sage advice to - - - 53
Memoirs de l' Académie Royale de Médecine *(Reviewed.)* - - 31
Men, Secretion of Milk in - 75
Meningeal Artery, Aneurism of the - - - 460
Mercury found in the Metallic state in various parts of the Body - 61
Metacarpal Bones, Fracture of the 384
Method of obtaining the figure of a Plant - - - - 93
Midwifery, A Manual of, by Dr. Ryan *(Reviewed.)* - - 518
Milk, Means of Preserving - 585
Mitchell, Mr., on Difficult Parturition, and the Use of the Ergot of Rye *(Reviewed.)* - - 96
Mills, Dr., on Hydrocephalus *(Reviewed.)* - - - 3
Mineral Spring, discovery of a new - - - 92
Mitral Valve, Induration of the - 68
Monomania, Remarkable case of 289
Montesants, Dr., on Inflammation of the Arteries - - 56
Morphine, Proportion of, in Opium - - - - 92
————, Observations on the Properties of *(Reviewed)* - 332
Mortification in a New-born Infant, Remarks on, by Chirurgo-Medicus - - - 538

N

Nature, a Trine Distribution of 590
Neck, Removal of a Formidable Tumour from the - - 481
Nepenthes Distillatoria, Fluid in the Ascidia of - - - 584
New Vegetable Alkali - - 196
Nerves, Pneumo-gastric, Influence of on Digestion - - 64
Nitric Acid, Test for - - 304
Nux Vomica, Medicinal Properties of - - - - 198

O

Oiketicus, a Genus of Lepidoptera 198
Olive Trees, Singular Method of Rearing - - - 501
Opium, Injection of, into the Veins - - - 179
———, Proportion of Morphine in - - - - 92
Organized Beings, Ancient Opinions on the Origin of - 585
Osteo-Sarcoma of the Lower Jaw 489
Ourang Outang, a Gigantic - 199

Ovarian Dropsy, Method of Tapping in - - - 247
P
Panace, a new Esculent Vegetable 195
Paper, New Material for - - 93
Paracentesis Cerebri, Performed to Effect Delivery - - 189
Paralysis of the Lower Extremities caused by Aneurism - 379
Paris, Mean Height of the Inhabitants of - - - - 497
Pauper Lunatics in Middlesex - 299
Peculiar Swelling of the Lower Extremities - - - - 485
Pericardium, Inflammation of the 365
Peripneumony, Gangrenous, on, by M. Pigeotte, *(Reviewed)* 130
Peritonitis, Puerperal, successfully Treated - - - 476
————————, Case of - 545
Pertussis, Anemone Pulsatilla in 191
Phlegmonous Erysipelas, Case of 79
Phrenological Society - 590
Physiology, General Principles of, by Mr. Davies - - 42
Pigeotte, M., on Gangrenous Peripneumony *(Reviewed)* - - 130
Placenta, Putrefaction of the, in the Uterus - - - 170
Plant Living Entirely in the Air 497
Pleuritis, Case of - - 165
Pneumo-thorax, Case of - - 552
————————, Case of - - 165
Pneumogastric Nerves, Influence of, on the Functions of the Stomach - - - - - 64
Polypus of the Heart - 284
Polished Surfaces, Relation of Water with - - - 97
Popliteal Aneurism—Operation 473
Port Royal Cassia - - 404
Potatoes, how to Preserve - 300
Practical Queries, by Chirurgus 452
Pregnancy, State of the Heart in 283
Prospectus of a New Medical Journal - - - - 94
Puerperal Peritonitis, Case of - 545
——————- Convulsions - - 384
——————- Peritonitis, Successfully Treated - - - 476
Pulv. Hydr. Subm. Comp. - 305
Pulvis Acaciæ, Adulteration of 199
Purpura Hemorrhagica, Remarkable Case of - - - 468
Purgatives, Injurious Effects of, in Stomach Disorders - - 145
Pus and Lymph, on the Depositions of, by Mr. Rose *(Reviewed)* 322
Putrid Affections, Experiments on the Treatment of - - 526
Q
Quinine, Sulphate of, Means of Ascertaining the Purity of - 95
Quinia, Substitute for the Sulphate of - - - 586
R
Rain, Extraordinary Fall of - 97
Ray, Anniversary of - - 499
Recovery from Laceration of the Uterus and Vagina - - 67
Regulations of the Apothecaries' Company - - - 498
Report of the Select Committee, on the Mode of Procuring Subjects for Dissection - - 395
Reports, Hospital, 76—81; 165—175; 267—276; 294—297; 363—379; 386—388; 456, 457; 468—473; 550—562; and 573—582
Rheumatism, with Metastasis, &c. 473
————————, Cured by Lobelia Inflata - - - 191
Ribs, Case of Fracture of the - 574
Ricinus Communis, Properties of the Bark of the Roots of - 404
————————, plant of, grown near Town - - 590
Rose, Mr., on the Deposition of Pus and Lymph, in various Parts *(Reviewed)* - - 322
Rupture of the Stomach, Cases of 368-370
Ryan, Dr., on Obstetric Medicine *(Reviewed)* - - - 518
Rye, British Ergot of - 495
—— Ergot of, Cases showing the Use of - - - 459
Rupia Prominens, Case of - 78
S
Salivation by Tartar Emetic Externally Applied - - 189
Sarcoma of the Lower Jaw—Amputation - - - - 276
Scarlatina, Belladonna a Preventive of - - - - 192
Scrotal Tumour, Extirpated - 184
Secretion of Milk in Men - 75
Select Committee, Report of, on the Mode of Procuring Subjects for Dissection - - 395
Sensation and Motion, Remarkable Case of Absence of - 71
Senses, Remarkable Cases of Abolition of the - - - 563
Sewall, Professor, on Injuries of the Head - - - 183
Silk-Worms, Diseases of, and Cure - - - - 93
Silver, Fulminating, Method of Preparing - - - 198
Skull, Remarkable Case of Fracture of the, with Depression 569
————, Fracture of the, with Cerebral Lesion - - - 84
Society, London Medical - 498
——————- Hunterian - ib.
——————- Westminster Medical ib.
——————- Phrenological - 590
Solanum Dulcamara - - 497

Sound, the Velocity of, in Water 197
Spina Bifida, Case of Enormous, Obstructing Labour - - 381
Spinal Marrow, Apoplexy of the 465
Spine, Fracture of the, Reduced by Extension - - - 297
Spirits, Method of Preventing the Evaporation of - - 406
Spontaneous Organization of Matter - - - - - 94
Stafford, Mr., on Strictures of the Urethra *(Reviewed)* - 318
Sternum, Case of Fracture of the, and the Ribs - - - 574
Stevenson, Mr., on Deafness *(Reviewed)* - - - 113
Stomach Terminating in a Cul-de-sac - - - - 57
———, Cases of Rupture of the 368
———, Remarkable Case of Disease of the - - 368
Stone, Mr., Remarks on the Evidences of, Against Phrenology, 153, 249, 349 and 435
Strangulation of the Intestines 169
Strangury from Cantharides, Means of Curing - - 570
Stratford, Mr., on the Diseases of the Eye *(Reviewed)* - 407
Strepsiptera - - 299
Stump, Remarkable Effects of Remedies Applied to a - 62
Subfascial Inflammation, Case of 295
Sudden Death, Case of - 188
Super-Fœtation, Remarkable Case of - - - - 176
Sulphuric Acid, Solubility of Certain Substances in - - 197
Synopsis, Scope of the - 54
Synovitis, Fatal Cases of - 559
Syphilis, Note on the Origin of 177
———, Spontaneous Cure of, by Dr. Willson *(Reviewed)* - 23

T

Tapping, on the Method of, in Ovarian Dropsy - - 247
Taraxacum, on the Medicinal Properties of, by Mr. Houlton - 243
Testicle, Cancer of the, Complicated with Hernia - - 172
Tetanus following Gun-shot wound 284
———, Case of, Successfully treated - - - - 286
———, Cases of, Cured by the External Application of Morphine - - 562
Thames Water, Dr. Bostock's Report on the - - - 195
Tibia, Caries of the—Amputation, &c. - - 62
Tongue, Treatment of Ulcers of the - - - - 180
Tortoise, on the Torpidity of the 584
Trachea, Case where a Foreign Body remained in the, Six Years 190
Tracheotomy, Cases wherein Performed - - - - 556-558
Transactions of the Medico-Chirurgical Society of Edinburgh *(Reviewed)* - - 17
Trees, Longevity of - - 589
Transposition of the Viscera, Remarkable Case of - - 66
Tumour, Removal of a, from the Cheek - - - 472
Tuberculous Degenerescence of the Heart, Liver, &c - - 268
Turner, Professor, on Obstruction of the Arteries *(Reviewed)* - 123

U

Umbilical Vessels, Malformation of the - - - 279
University of London - 590
Urethra, Observations on Strictures of the *(Reviewed.)* - - 318
———, Structure of the, Cured by Mercury - - - 277
Urine, Case of Hairs passing along with the - - - 292
Uterus, Absence of the - - 392
———, Case of Softening of the, after Delivery - - 561
———, Cancer of the, Cured by Prussic Acid - - 462
———, Extirpation of the - 77
———, Laceration of the - 67

V

Vaccine Pustules, Effects of Cupping-glasses on - - 58
Vaccination in France - - 91
Vagina, Laceration of the - 67
———, Closure of the—Operation 578
Vagitus Uterinus, Case of - 298
Vascular System, a Rare Anomaly of the - - - 280
Vegetable Rouge, and Pink Saucers - - - - 302
Veins, Injection of Medicine into 178
Venous Absorption - - 89
Ventral Hernia, Case of—Operation - - - 81
Viper, Red, of Dorsetshire - 497
Viscera, Thoracic and Abdominal, Remarkable Case of Transposition of the - - - 66

W

Ware, Dr., Experiments on the Pneumo-gastric Nerves - 64
Wasp, Sting of a - - 497
Water, Relation of, with Polished Surfaces - - - 97
Watson, Mr., on Diseases of the Eye *(Reviewed.)* - - 407
Westminster Medical Society - 498
Whale, An Enormous - - 404
White Cats with blue eyes, Deaf - 95
Wilson, Dr., on the Spontaneous Cure of Syphilis *(Reviewed.)* - 23
Wound, Lacerated, Running rapidly into Gangrene - - 387

THE

LONDON

MEDICAL AND SURGICAL

JOURNAL;

EXHIBITING A VIEW OF THE IMPROVEMENTS AND DISCOVERIES IN THE VARIOUS BRANCHES OF MEDICAL SCIENCE.

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CRITICAL REVIEW.

I.—*Pathological and Practical Researches on Diseases of the Stomach, the Intestinal Canal, the Liver, and other Viscera of the Abdomen.* By John Abercrombie, M.D., Fellow of the Royal College of Physicians of Edinburgh, and First Physician to his Majesty in Scotland. 8vo. pp. 396. Edinburgh, 1828.

Since the commencement of our editorial career, we have had several opportunities of offering our opinions respecting works treating of diseases of the digestive organs. These organs are proverbially prone to mal-practice, and it often happens that even a pain in the finger is referred, before any attempt is made of tracing a chain of connexion, to disorder of the stomach. In order to afford full play for the imagination, affections of the abdominal viscera have been divided into functional and structural; the former being as numerous and as various as the fancy of the pathologist chooses to render them. But we have always had our doubts whether such a thing as functional disease can have any existence in reality. We confess that our mind is apt occasionally to wander a little beyond *palpable* facts; it thinks itself at liberty to draw a few inferences from such facts. We are told that true philosophy consists in ascertaining the 'universality of a fact:' be it so; and let us ask, are inferred facts not as universal as those which are cognizable by the senses? The fact, *ex nihilo nihil fit*, has never been proved by the senses to be *universal*, but we infer it to be so from the inability of the mind to consider a *thing* to spring from *nothing*. Another fact equally universal is, that a thing must remain in the same state to all eternity, unless something be added to, or taken from it; or, lastly, unless it be annihilated by the same power which created it. These may be considered as examples of universal principles, known to be so by the power which the mind possesses of drawing inferences from a certain number of cog-

nizable facts. We have only to follow up these principles to satisfy our minds that, with respect to what is called functional disease, it is nothing less than some disarrangement of the materials which compose the organ in question, but of so low a degree as to escape the scrutiny of the senses; for it would be as impossible for a perfectly healthy structure to perform unhealthy functions, as it would be for a thing to change its properties without something being added to, or taken from it.

But we can scarcely comprehend Dr. Abercrombie's disquisition in the preface to the work before us, respecting the application of the term 'universal facts' to the subjects of which the work treats, unless he mean to apply it to the almost universal *difference* in the appearances presented by diseased parts. Universal facts are, according to our view, certain principles subject to a great variety of modifications, such, for instance, as gravitation, motion, identity, which are by no means applicable, as *universal* or even as *general* facts or principles, to morbid anatomy. The science of pathology, if it may be called a science, has never yet been reduced or traced to a general principle, much less to a universal fact; and it never can be traced to that foundation by means of the study of morbid anatomy alone; in other words, by the collection of palpable facts, however numerous. The energies of the mind must be called into play, so as to grasp these facts and consider them in relation to the numerous circumstances of the absence of analogous facts in certain cases of disease or of death. This can only be done by induction or inference, and we suppose that the mind would not have been endowed with such a faculty or power, were it not for the purpose of being used. Let it not be supposed that we undervalue facts, or the knowledge derived directly by means of the external senses. What we maintain is, that there are numerous physical facts or truths, a knowledge of which it is impossible to acquire directly by means of the senses. The question then is, are we not justified, by the strictest rules of philosophy, to apply the other faculties of the mind to the acquisition of such facts in medicine, as well as in all the other sciences? The chief point to be attended to here is, to steer between a multitude of unarranged facts on the one side, and vague conjecture on the other, or, rather, to arrange such facts and infer other truths from them by means of the intellectual faculties of the mind. Some are inclined to consider every thing beyond the range of the external senses as mere conjecture, and unworthy of being considered as a part of science, whereas, indeed, human knowledge would be very limited were that the case.

It is true that all the rudiments of knowledge are acquired through the medium of the organs of sense, but the intellectual faculties are capable of subjecting these rudiments or elements to various processes of analysis and synthesis, and, in fact, form perfectly new entities of them.

The volume before us contains, truly, a vast number of facts, but we can discover nothing in these facts deserving the epithet universal. It is divided into five parts, 'in reference to the five organs to which it relates, namely, the stomach, the intestinal canal, the liver, the spleen, and the pancreas.' The author commences with the pathology of the stomach and intestinal canal. He first gives a view of the structures concerned in this inquiry, and the principal morbid conditions to which they are liable. The structures are three, namely, the peritoneal, the muscular, and the mucous coats of the canal. The first is a serous membrane, and we are informed that serous membranes are liable chiefly to three morbid conditions. 1. Simple thickening; 2, tubercular disease; 3, an affection characterized by the membrane being covered by nodules of various shapes and sizes, and supposed by Dr. Baron to be of the nature of hydatids.

The muscular coat is liable, 1, to morbidly increased but uniform and harmonious action; 2, morbidly increased but partial and irregular action; 3, diminution, or loss of muscular action; 4, thickening of the muscular coat.

The diseases of the mucous coat are, 1, inflammation, and its consequences; 2, disease of the follicles, or simple glands of the membrane; 3, disease of a tubercular character; 4, disease of the parts concerned in the absorption of the elementary matter, so that although elaborated in the usual manner, it passes off without entering the circulation. As an example of this we have disease of the mesenteric glands.

Having laid down this outline, Dr. Abercrombie begins with the diseases of the stomach. These he arranges into three classes: 1. Affections of an inflammatory kind, including ulceration and its consequences; 2. Affections which more properly come under the class of organic; 3. Functional affections.

In the first section of this division, the author offers some remarks on acute and chronic gastritis. He is of opinion 'that the former very seldom, if ever, appears in an idiopathic form, and that the disease which we call gastritis is to be considered as seated chiefly or entirely in the mucous membrane, and even here it is extremely rare as an acute and idiopathic disease. Ulceration of the stomach appears under the following forms: 1, a small defined ulcer, of limited

extent, with evident loss of substance, and rounded and elevated edges, varying in extent from the size of a split pea to that of a shilling; 2, ulcers like the former, complicated with thickening and induration of the parietes of the stomach around each ulcer to a small extent, the rest of the organ being healthy; 3, extensive, irregular ulceration of the inner surface of the stomach, generally complicated with thickening and induration of the coats, and fungoid elevations. The disease may be fatal, 1, by gradual exhaustion; 2, by hemorrhage from the ulcer; 3, by perforating the stomach, and allowing the contents to escape into the peritoneal cavity. The author illustrates the preceding forms of the disease by twelve cases.

The treatment of these different affections may be summed up in very few words. The food must be in very small quantity, and of the mildest quality; repeated topical bleeding and counter-irritants are to be resorted to; the bowels to be regulated by some mild aperient. In addition to these means the author thinks that, in the advanced stage of the disease, when there is reason to suspect ulceration to have taken place, some good may be done by the administration of the oxide of bismuth, lime-water, nitric acid, substances of a mucilaginous property, and, in some cases, small quantities of mercury. He is satisfied that ulcers of the stomach sometimes heal, and that he has seen the cicatrization of them when patients have died of other diseases after having been for a considerable time free from any symptoms in the bowels.

Dr. Abercrombie offers some remarks upon that curious appearance of the stomach sometimes noticed after death, where portions of the coats of the organ are found destroyed as by the chemical properties of the gastric juice. He concludes that this affection takes place after death; 'that it has been in some cases preceded by disease of the stomach; but that in others, there has been no ground for believing the existence of any such disease.' We fully agree with him that 'this is a point of the utmost consequence, especially in reference to the judicial examination of bodies in cases of suspected poisoning.' The same observations are applicable to ramollissement of the mucous membrane of the organ, several cases of which affection are recorded, where this membrane was found of a soft, semi-glutinous consistence, without any marks of inflammation or any other disease than the softening itself.

The second section is devoted to 'organic diseases of the stomach.' These are, 1, induration and thickening of the coats of the organ; 2, diseases of the pylorus; 3, diseases

of the cardia. The two last are generally of a carcinomatous nature. Several cases are given in illustration of these subjects.

The last section of this chapter is headed 'pathology of dyspepsia.' We have first pointed out to us what the circumstances are which are necessary to the process of digestion in all its stages. We should answer this question in very few words, by stating that the necessary circumstances are, a healthy condition of all the tissues concerned, and of the blood. Such a condition would guarantee the healthiness of the action of the solids, as well as of the gastric, biliary, and the other fluids concerned. Dr. Abercrombie, however, wishes to arrive at the same point by a more round-about course. According to him they are, 1, a healthy state of the muscular action of the stomach; 2, a healthy, consecutive, and harmonious action of the muscular coat of the intestinal canal; 3, a healthy state of the fluids of the stomach, both as to quality and quantity; 4, a healthy state both as to quality and quantity of the other fluids, derived from the liver, pancreas, and intestinal membrane; 5, a healthy state of the mucous membrane itself, both in the stomach and intestines.

The above being the states necessary to the act of digestion, it will be evident that a deviation from one or more of them must derange the digestive process. But this is saying no more than what was known before by every one. Let those who attribute so much mischief to functional disorder inform us how any such deviation can take place as long as the tissues are healthy, and the blood, from which the gastric and the other fluids necessary to the process, is in a natural condition. It is true that in many cases of dyspepsia, no inflammation, no thickening, and no *visible* change has taken place in the structure, still we consider it as impossible for the natural function of any tissue to become deranged while that tissue itself is perfectly healthy, as it is for a thing to spring from nothing. However slight the disease may be, and whether it originate in the nervous tissue or in any other, some change of condition from the natural state must occur to produce a disorder of function; and when the healthy link is once broken, as the function of each tissue is dependent upon those of the rest, the natural action of the whole organ becomes necessarily more or less deranged.

The author lays down some good rules with regard to diet in dyspepsia, but as so much has been already said upon this subject, as well as upon the medical treatment of the affection, nothing new can be advanced respecting it.

There is an appendix to this part of the work, containing, 1, remarks on the derangement of the functions of the sto-

mach by tumours attached to it externally, without disease of its coats; 2, outline of the pathology of the œsophagus; 3, outline of the pathology of the duodenum. The first section contains merely a case where a small tumour was found attached to the external surface of the stomach near the pylorus. The second treats of diseases of the œsophagus. These are, besides inflammation, 1, enlargement of the epiglottis; 2, paralysis of the œsophagus; 3, simple stricture; 4, contraction, with a more extensive disease, as thickening and induration; 5, tumours external to the œsophagus; 6, polypous tumours growing from its internal surface; 7, collections of matter behind the œsophagus, or between its coats. In the pathology of dysphagia, Dr. Abercrombie mentions, besides the preceding causes, aneurism of the aorta, disease of the cardia, and morbid irritability of the mucous membrane of the œsophagus. The third and last section of the appendix contains a few remarks on diseases of the duodenum, but we find nothing in it requiring particular notice on our part.

Having given the preceding outline of the author's pathology of the stomach, we shall now proceed to do the same with his pathology of the intestinal canal. Our attention is here particularly called to the effect of disease on each of the three distinct structures, of which the tube is composed. 'Thus, from ample observation, we have reason to believe, that the most frequent result of inflammation, in a serous membrane, is deposition of false membrane—in a mucous membrane, ulceration—and in a muscular part, gangrene.' There is another important practical point to which our attention is particularly called, namely, the different states of the bowels according to the coat forming the principal seat of intestinal inflammation. We have reason to believe, 'that when it is seated in the mucous membrane, there is an irritable state of the bowels, assuming the characters of untractable diarrhœa or dysentery; that when the muscular coat is affected, there is obstruction of the bowels; and that inflammation may exist in the peritoneal coat alone, and go on to a fatal termination, while the functions of the bowels continue in a perfectly natural state through the whole course of the disease.'

Dr. Abercrombie, for the purpose of practical utility according to his veiw, divides this subject into, 1, ileus; 2, inflammatory affections of the more external parts, including peritonitis and enteritis; 3, diseases of the mucous membrane. Ileus he again divides into, 1, simple ileus without any previous disease; 2, ileus, with previous disease, of such a nature that it acts by deranging the muscular power without

mechanical obstruction; 3, ileus with mechanical obstruction. He states several cases in illustration of these varieties, and draws certain conclusions of a practical nature from them, the substance of which is the following: 1, the most uniform morbid appearance in ileus is a greater or less extent of the intestinal canal in a uniform state of distention; 2, this distention may prove fatal without passing into any further state of disease; 3, the usual progress of the disease is into inflammation and its consequences; 4, there is great variety in the period at which the inflammation takes place: 5, pain, increased upon pressure, does not appear to be a certain mark of inflammation of the bowels; 6, sudden cessation of the pain, and sinking of the vital powers, are not necessarily indications of internal gangrene; 7, on the other hand, extensive gangrene has been discovered after death where the pain had continued violent to the last; 8, the pulse is a very uncertain index of the condition of the parts in ileus; 9, ileus is not necessarily connected with feculent accumulation, or with any condition of the *contents* of the canal; 10, it is not necessarily connected with obstruction; 11, we must be cautious in forming a favourable prognosis in the disease, from the appearance of the feculent evacuations; 12, organic disease of great extent may exist in the intestinal canal, without sensibly interrupting its functions; 13, on the other hand, such organic disease may be fatal, by gradual exhaustion, without ileus.

In the fifth section of this chapter the author speaks of the treatment of ileus. Our attention is first called to the following varieties observed in the symptoms of the malady; '1, obstinate costiveness with distention of the abdomen, and considerable general uneasiness, but without tenderness, and without much acute suffering; 2, the same symptoms, combined with fixed pain and tenderness, referred to a defined space or some part of the abdomen, frequently about the head of the colon; 3, violent attacks of tormina, occurring in paroxysms, like the strong impulse downwards from the action of a drastic purgative, the action proceeding to a certain point, there stopping and becoming inverted, followed by vomiting, the vomiting often feculent.'

In the treatment of ileus, it should not be forgotten that the tendency of the disease is to inflammation; blood-letting is therefore placed in the first rank of remedies. The tobacco-injection, as far as the author's observation extends, is the remedy of most general utility in all forms and stages of the malady; while this is repeated at intervals, mild purgatives, such as aloes and hyoscyamus should be administered, and repeated in full doses every hour or two. The ap-

plication of cold to the abdomen is recommended. Opiates in a certain form of the disease will allay the paroxysms of tormina, and relieve the patient. Various other remedies are mentioned, but our limits will not permit us to offer any remarks on them.

We now come to the 'inflammatory affections of the more external parts of the intestinal canal, including peritonitis and enteritis.' The author considers it best, in a practical point of view, to treat of peritonitis and enteritis in common, not forgetting, however, that the symptoms, as well as the anatomical characters of the two are different. Pain, increased on pressure, is a symptom common to both, in general; but in simple peritonitis, the bowels may be natural throughout the complaint, whereas, when the muscular coat is inflamed, either alone or in common with its peritoneal covering, constipation of the bowels is a prominent symptom of the malady. Again, the anatomical characters of the two affections differ, as already noticed. Inflammation of the peritoneum leads to effusion, to the formation of the false membrane, adhesion, &c.; whereas, according to the author's observations, inflammation of the muscular coat of the intestine has a tendency to gangrene if allowed to proceed. These are the leading points connected with the two diseases. The general symptoms are numerous, and they vary according to whether the one or the other of the tissues is primarily or more intensely affected, according to the part of the intestine which forms the seat of the inflammation, the extent of the malady, and, in peritonitis, according to the organ or part subjacent to the inflamed portion. Hence, 1, extensive inflammation, may exist in the intestinal canal and may go on to a fatal termination, while the bowels are in a natural state; 2, no diagnosis can be founded in such cases on the appearance of the evacuations; 3, extensive and fatal inflammation may be going on with every variety of the pulse; 4, the same may be going on without vomiting, and without *constant* pain, which may be only in paroxysms; 5, our chief reliance for the diagnosis in this disease, must be on the *tenderness of the abdomen.*

In the author's 'outline of the treatment of intestinal inflammation,' we find one observation worthy of notice, namely, 'that the use of purgatives makes no part of the treatment of the early stages of enteritis; on the contrary, that they are rather likely to be hurtful until the inflammation has been subdued.' We are fully of opinion that much mischief is often done by them; that by their stimulating properties on the mucous membrane, the inflammation of

the other tunics is often aggravated by their use. It is sufficient to state that blood-letting is the remedy upon which Dr. Abercrombie places his chief reliance in the treatment of enteritis. But we think that the practice, as laid down by him, namely, that of repeated bleeding, at short intervals, would be found very often unsuccessful. We have frequently stated our own experience respecting this subject, and mentioned the benefit which may be expected to derive from the use of mercury and opium, after one or two full bleedings. It is unnecessary to repeat here what has been so often urged in this Journal.

There is a form of peritonitis which the author calls the erysipelatous.

'In a pathological point of view, the principal character of this affection is, that it terminates chiefly by effusion of fluid, without much, and often without any, of that inflammatory and adhesive exudation, which is so prominent a character of the disease in its more common form. The effused fluid is in some cases a bloody serum or sanies, or this mixed with a proportion of pus, which separates and subsides to the bottom of the vessel in which the fluid is left at rest; in other cases it is milky or whey-coloured, or contains shreds of flaky matter; and sometimes it is found with all the characters of pus. This effusion is, in some cases, combined with a degree of pseudo-membranous deposition; but it is in general slight, and is often entirely wanting. The appearance of the intestine varies considerably; in some cases, the surface is, for a considerable extent, of a uniform dark red colour; in others, there is only a slight increase of vascularity, and frequently little or no deviation can be discovered from the healthy structure. In some cases again, the peritoneal coat, or a portion of it, has a slightly thickened or softened appearance, like a part that has been boiled; and in some examples of this form of the disease, it appears that the omentum has been a principal seat of the inflammation.'

The malady described by the author under the term erysipelatous peritonitis, is easily recognized in that fatal inflammation which often takes place in child-bed women. We agree with him in the opinion that puerperal peritonitis shows itself under two different forms, namely, that just described, and the common or simple form of inflammation of serous membrane; and we, moreover, feel fully convinced that the former is of a contagious nature, and that it will not yield in one case out of ten to the simple antiphlogistic plan of treatment. In what respect the essential properties of the two maladies differ, we do not pretend to say. The difference in their anatomical characters has been already described; but we meet with cases partaking in some measure of the characters of both, as well in their symptoms, as in the

morbid appearances observable after death. This fact would make it appear either that the essential properties of the two are the same, or that two kinds of inflammation may go on at the same time in the peritoneum.

In the next section we have a series of cases in illustration of the symptoms and anatomical characters of chronic peritonitis. The most characteristic symptom of this disease is tenderness, on pressure, in some part of the abdomen. Pain is no sure indication, nor does the absence of it prove that no inflammation exists. There is generally some degree of distention of the abdomen. The bowels may be regular, but they are usually more or less confined. Sickness and vomiting sometimes occur; and the pulse and the tongue will generally shew signs of inflammation in some seat. These, coupled with the tenderness on pressure, and, generally, the pain of the abdomen, will direct us to the seat affected.

The morbid characters of chronic peritonitis are generally analogous to those of the acute form, namely, flaky or purulent effusions in the peritoneal cavity, depositions of false membranes, and adhesions of the intestines. The treatment of this affection may be summed up in the words of the author, within a small space: 'repeated and free topical bleeding, blistering, confinement, rest, antiphlogistic regimen, and the mildest possible diet.'

(To be continued.)

II. *Observations on the Nature and Treatment of Fractures of the Upper Third of the Thigh-Bone, and of Fractures of long Standing; shewing that Fractures of the Neck of the Femur and others which occur in the Upper Third of this Bone, admit of being united, so as to restore the natural Powers of the Limb, without Deformity or Lameness: also, that the principal Cause which prevents Fractures of the Long Bones from uniting is attributable to the inadequacy of the usual Modes of Treatment; and that Fractures which have existed many Months might generally be united by the proper employment of Mechanical Means alone, with almost as much facility as simple Fractures in the recent state. Illustrated by Cases obtained from Public and Private Practice.* By Joseph Amesbury, Consulting Surgeon to the Royal Union Association; Surgeon to the South London Dispensary; Lecturer on Surgery, &c.—pp. 316, 8vo. Underwoods, London.

The present work is divided into two parts, each of which is subdivided into two chapters. The first part treats of

fractures of the upper third of the thigh-bone. The first chapter of this part embraces the causes, symptoms and nature of fractures of this portion of the femur; and the second chapter relates to their treatment. The second part treats of fractures of long standing. The division of this part, like the first, is into, 1, the causes and nature of such fractures, and, 2, their treatment. In order to give a clear view of Mr. Amesbury's work, we shall follow him in a regular order through the different sections into which the chapters are reduced.

Chapter I. Sect. 1. *The classification of fractures of the cervix femoris.* Sir A. Cooper divides fractures of the femur into two kinds, viz. those which occur altogether within the capsular ligament of the hip-joint; and those which take place externally to that capsule. Mr. Amesbury considers it necessary to carry this division further, namely, the former into fractures attended with but an inconsiderable laceration of the close covering of the neck of the bone; and into those of an extensive laceration, or complete division of these coverings; the latter, in the same way, into fractures accompanied with little or no laceration of the investing soft parts, and those accompanied with great laceration, or complete division of them. The fracture may also be either complete or incomplete, the former dividing the bone into two distinct portions, and the latter extending only through a part of its thickness or diameter. Moreover, complete or incomplete fractures may be transverse, oblique, or comminuted.

Sect. 2. *Fractures of the cervix femoris within the synovial capsule, unaccompanied with any considerable laceration of the investing membranes.* Although some surgeons might be inclined to doubt the possibility of such fractures occurring, still Mr. Amesbury is of opinion that analogy, experiment, and fact, tend to prove their occurrence.

'From analogy we are led to believe, that fractures of the neck of the thigh-bone within the capsule, may take place without any considerable division of the periosteum and reflected membrane, because we find, that fractures occur in other situations with but little laceration of the periosteum. The only thing which is to be observed between fractures of the cervix and those which occur in other situations, as far as regards this question, is, that the reflected membrane and periosteum covering the neck of the bone, will probably, in general, allow of being more easily lacerated than the periosteum covering the middle of the bone, in consequence of being unsupported by the attachment of muscles.

'*From experiment*, we should conclude, that fractures of the cervix femoris might occur in the living without any considerable laceration of the close coverings of this part of the bone, because we can readily produce them in bones recently dead.

'*Facts*, also, derived from actual inspection of the parts after death, might be adduced, to show that such fractures do actually occur. I have had an opportunity of witnessing this myself, in one instance, where the patient died from organic disease, a short time after the accident which occasioned the fracture.'

These fractures, in common with those accompanied with laceration of the close covering, occur chiefly in elderly people.

'*The symptoms* which accompany these injuries, as far as I have been able to determine, are few, and these, I am sorry to say, are by no means prominent. Notwithstanding the existence of a fracture of this description, the patient might be able to exert considerable power in the limb. He might be able to bend it upon the pelvis, or to roll it inward immediately after the accident; not, however, without giving himself pain. There is but little or no shortening of the limb. The foot may or may not be everted. We may or may not be able to elicit crepitus. Hence it will appear, that the two most striking symptoms which accompany a fracture of the cervix femoris *with laceration* do not exist, or, at most, very slightly, while the close coverings remain entire, and the neck of the bone continues its natural length. The reason of this will immediately appear, when we consider, that the retentive power of the periosteum and reflected membrane being entire or nearly so, prevents the fractured ends from being much displaced, and, at the same time, in a very great measure, prevents eversion of the foot; and, in consequence of the great facility with which the head of the bone moves in the acetabulum, crepitus will seldom be produced. In order that the crepitus of fracture should be rendered evident, it is necessary that the broken surfaces should be made to rub upon each other. This cannot sometimes be done in these accidents, without much difficulty; for the head of the bone moves readily in the acetabulum, upon receiving the slightest impulse; and this motion of the head of the bone cannot always be restrained, especially when the investing membranes are but little torn; consequently, when the shaft of the bones is moved, the head of the bone commonly moves with it simultaneously; and when this is the case, in the same relative degree, crepitation is never felt.

'The symptoms of this accident, then, are confessedly obscure. We must depend in a great measure upon the history of the case, into which we should inquire most minutely. A great and sudden diminution of power in the limb, referred principally to its upper and inner part, and occurring immediately after the infliction of an injury, of that description which usually produces fracture of this part, must be regarded as a symptom of considerable importance. There is tenderness in the joint, and some pain experienced in the soft parts in the direction of the pectineus muscle and the tendon of the psoas magnus and iliacus internus, and sometimes in the hollow behind the trochanter. The patient may be able to turn the limb inward or outward; he may be able to bend it upon the pelvis, but not without pain, and a remarkable

sense of weakness in the joint. These coverings may yield so as to allow of slight eversion and slight shortening of the limb. The swelling in these accidents is not likely to be great, unless the surrounding parts are much injured by the blow, or other force, which occasioned the fracture. That which occurs is confined principally to the joint. When these symptoms exist, we might, I think, fairly suspect the existence of a fracture; but, in order to make ourselves more certain, we should examine the limb very attentively. This should be done, however, with the utmost caution.'

In examining the limb when a fracture is suspected to have occurred, care should be taken not to increase the mischief, by rough handling. By moving the bone about in a rough manner a slight laceration of the reflected synovial membrane may be considerably increased. Mr. Amesbury gives the following directions for the examination:—

'When a patient is placed upon his back in the horizontal position, and has the limb, in a natural state, bent upon the pelvis, the superincumbent weight of the limb is thrown upon the acetabulum; but when a fracture exists in the neck of the bone, the weight of the limb is not propagated along the bone to the acetabulum uninterruptedly, as when the bone is entire, but is received by the close coverings of the cervix at the breach of continuity, from which it passes to the pelvic portion of the bone, and is then received by the acetabulum. Here we see that, when there is a solution of continuity in the neck of the bone and the limb is bent upon the pelvis, the principal part of the weight of the limb is thrown upon the periosteum and reflected membrane, before it reaches the acetabulum. These coverings are, therefore, put upon the stretch, and, consequently, pain is experienced by the patient, if the limb be strongly bent upon the pelvis. Again, when a fracture exists in the neck of the bone, without any considerable laceration of the close coverings, it acts upon these coverings with the advantage of a long lever; and unless great care be taken, they are in danger of being completely divided. It is worthy of remark, that this stretching effect, experienced by the periosteum and reflected membrane, is produced quicker when the limb is bent upon the pelvis while it is inverted and adducted, than when it is everted and abducted. The reason of this is evident. In bending the limb, so as to make it form with the body an acute angle, it meets resistance quicker, or by moving through a smaller space in the first instance than in the second, because the upper and anterior part of the acetabulum forms a fulcrum to the femur, which does not happen when the limb is bent upon the body in the abducted and everted position; and, hence we find that a patient with a fracture of the neck of the thigh-bone, always experiences more pain when the limb is bent upon the pelvis, with the foot inverted and adducted, than when it is moved in any other direction. If the limb be forcibly extended, or the patient attempt

to bear upon it, the close coverings are also stretched, and the patient consequently, complains of an increased degree of pain at the upper and inner part of the thigh.'

It frequently happens that no crepitus is perceptible in fracture within the capsule, because, when the laceration of the reflected membrane is not considerable, the head of the bone readily moves in the socket when the femur is moved, so that the motion of the fractured surfaces on each other is very trifling.

The author next proceeds to show the manner in which the head of the femur is nourished. This part of the bone, as our readers must be aware, receives its chief nourishment by vessels which enter it through the neck of the femur, and by those of the portion of the synovial membrane enveloping the head of the bone. There is, however, another source by which a small quantity of blood is conveyed to this part of the bone, namely, by vessels which enter through the ligamentum teres. It is evident, when these sources are considered, that, when a transverse fracture of the neck of the femur takes place within the capsule, and when the reflected portion of this capsule is torn all round at the fractured point, the only way in which the head of the bone can receive any supply of blood will be by the few small vessels which enter through the round ligament. When a fracture of this part occurs without much laceration of the reflected membrane, the vessels of this membrane, in addition to those which the head of the bone receives by means of the round ligament, are generally admitted to be a sufficient source of nourishment to allow union to take place; but the possibility of such a union in cases where the periosteum and reflected membrane are torn across, has been doubted by surgeons of the first eminence. Mr. Amesbury is, however, of a different opinion; and in that we fully agree with him. That bony union seldom does take place in this kind of fracture is admitted on all hands, but we cannot help coinciding with the author, that this circumstance is mainly owing to the imperfect manner in which they are generally treated. Recorded facts, as well as analogy, tend to support this opinion.

Sect. 3. *Fractures of the cervix femoris within the synovial capsule, in which the close coverings of the bone are nearly or quite divided.* This is the kind of fracture in which the possibility of a bony union taking place has been doubted by Sir A. Cooper. Several cases, however, are recorded, which, there is every reason to believe, were fractures of this kind, and in which perfect union did take place. Mr. Amesbury mentions Mr. Langstaff's case, and that of Dr. Brulator's, which have been already so often called into notice. Besides these, and

several others which tend to confirm the opinion that a union may, and does, occur in fractures within the capsule, the author gives the following account of the examination of the case of a woman, aged 63, who fractured the neck of the *left* femur on the 21st of October, 1825, and who again fractured that of the *right* femur on the 21st of December, 1827. The patient died on the 19th of February, 1828. Mr. Amesbury saw the patient before she died, in company with Mr. Field, who, with Mr. Searle, was present at the examination of the parts after death.

'On cutting into the *right* hip-joint, a fracture of the neck of the femur was observed, with flakes of fibrin, coloured with the red particles of the blood, extending from one fractured extremity to the other. On opening the *left* capsule, it was thought that a similar injury had taken place in the neck of the left femur. The upper thirds of both thigh-bones were now taken out, connected with their acetabula, in order that the particular state of the parts on both sides might be minutely examined.

'Upon carefully inspecting the parts taken from the right side, I found several large flakes of fibrin loosely adhering to the sides of the opposing ends of the bone, so as to form a weak bond of connexion between them. In one part, this adventitious connecting medium had become strong, but was still somewhat coloured with the red particles of the blood. The fracture extended through the neck of the bone, in a direction downward and outward, commencing at the upper part, where the head joins the neck, and terminating at the lower part in a point, about an inch from the cartilaginous covering of the head. In one part, a portion of the reflected membrane, about half an inch wide, remained entire; but was separated from the neck of the bone in such a manner, as not to prevent retraction of the limb. The head of the bone was somewhat excavated; and that portion of the neck attached to the trochanter, was partially absorbed; especially where it was brought into contact with the internal surface of the upper part of the capsule. There was no soft substance between the fractured surfaces. When the two portions of the bone were placed together, it was observed, that the cervix assumed its natural oblique line with respect to the shaft; but, in consequence of the absorption which had taken place, the fractured surfaces could not be brought together at every point.

'The neck of the left thigh-bone appeared to have been fractured within the capsule, but was now firmly united. The cervix was nearly absorbed; and the head was depressed, so as to come within about two lines of the trochanter minor, to which it was united at its base by a small short crutch of bone. Strong broad bands of ligament were seen connecting the pelvic portion of the bone to the capsule, which had become thickened and much smaller than natural. There had been a longitudinal fracture of the trochanter major, but it was evident that this was quite independent of the fracture of the neck of the bone. The fracture of the trochanter was united without displacement, from which it

might be inferred that there was but little laceration of the contiguous textures; but the fracture of the cervix was united with the head, about two inches and a half below its natural situation; which renders it probable that the close coverings of the neck of the bone were nearly or quite divided at the time of the accident, or subsequently to its occurrence. The anterior part of the neck of the bone was rendered smooth by the action of the tendon of the psoas magnus and iliacus internus. A portion of the anterior part of the base of the neck had also the appearance of having been fractured, and was pushed backward by the mechanical action of this tendon upon it.

'A longitudinal section of the head and neck of the bone, showed that the fracture had taken place close up against the head. The head of the bone was excavated, and received the lower portion of the shell of the neck, which was firmly united to it, near the middle of the fractured surface. The shell of the neck of the bone, which was united to the cancellated structure of the head, maintained its natural appearance and direction. The upper part of that portion of the neck attached to the trochanter, also preserved its natural oblique line with respect to the shaft; and, when the distance between the shell of the upper and lower portion of the neck was measured, it was found to give the natural thickness of the neck of the bone; which was ascertained by comparing it with the thickness of the cervix of the other femur at the same part. The callus, which united the opposing surfaces, had become cancellated in every part; but the direction of the fracture could be seen by the situation of the shell of the trochanteral portion of the neck, when examined in different parts of its circumference.'

The author argues this subject at great length, and in a very able manner; and the conclusion to which he arrives is, that these fractures may readily unite if kept in apposition, and allowed to rest for a period sufficiently long for the uniting medium to become consolidated. He observes,

'From what I have myself observed, and from what I have been able to collect from the observations of others, I am led to believe that the causes of non-union, in fractures of the description above-mentioned, are four, three of which have been noticed by Sir A. Cooper: 1st. A diminution in the quantity of blood sent to the pelvic portion of the bone; 2d, absence of continued pressure; 3d, want of apposition; and, 4th, want of rest. The first of these is inseparable from the nature of these cases, but, in my opinion, is to be regarded as the *least important*; for, though this will have an influence in retarding the uniting process, as I have above stated, I believe that there is now sufficient proof to lead to the conclusion, that it is not in itself sufficient to prevent osseous union from being accomplished. The other three causes are referable to the treatment; and, if it can be shown that we are in possession of mechanical means, by the judicious employment of which, apposition, pressure, and rest might be maintained for any

length of time, these three causes, it is evident, will be at once removed; and, as union by bone now and then takes place, notwithstanding the operation of these three causes, we might, it seems to me, reasonably expect, that it will be very generally produced, where the treatment is such as to prevent their occurrence.'

Before leaving this section we shall give the symptoms of this variety of fracture as described by the author.

'The symptoms of this accident, when accompanied with a division of the close coverings, are much more strongly marked than in that where they remain nearly or quite entire; and, with few exceptions, are the same in all cases. When the fracture, of which we are now speaking, exists, the retraction of the limb is usually from three quarters of an inch to an inch and a half; commonly, however, in the recent state of the injury, it is not more than an inch. There is eversion of the foot, attended with great diminution of the powers of the limb; the patient, however, is still able to roll it inward, so far as to bring the foot from its everted position high enough to place the limb in that position which might be called supine, or in which the ball of the great toe and the superior anterior spinous process of the ilium are in a straight line with the long axis of the body. The patient can also bend the limb a little upon the pelvis, but not without great pain, when the fracture is in the recent state. He experiences pain opposite the insertion of the psoas magnus and iliacus internus, which is increased when the limb is bent upon the pelvis, especially when it is, at the same time, adducted and inverted. The limb might be readily drawn down to its proper length, but, as soon as the extension is discontinued, it becomes again retracted; and might be passively moved in every direction, but not without producing pain. When the limb is rotated, the trochanter, instead of moving in a circle, is observed to roll, as it were, upon a pivot. Crepitus may generally be felt when the limb is drawn down, and then rotated, while the head of the bone is fixed firmly in the acetabulum, by pressing upon it with the fingers over the front of the joint.'

The foot, in this accident, is sometimes inverted, and it is occasionally upright; and Mr. Amesbury remarks, that no one position of the limb can be considered as an invariable attendant on fracture of the neck of the bone, even when accompanied with laceration of the investing membranes.

Sect. 4. *Fractures of the neck of the thigh-bone external to the capsule, without any considerable laceration of the periosteum.* These are of two kinds, dependant upon the degree of injury sustained by the soft parts attached to this part of the bone. Mr. Amesbury remarks, that they most commonly occur in persons under fifty years of age; still they not unfrequently happen in old persons. The symptoms of this species of fracture are so similar to those of fracture within the cap-

sule, without much injury to the close coverings, that the author is not acquainted with any signs accompanying it, in every instance, sufficiently marked to enable the surgeon to distinguish the one from the other. The tumefaction of the limb is generally greater in the former than in the latter, and there is sometimes ecchymosis. In other respects the symptoms in both are very similar.

Mr. Amesbury observes, that ' sometimes the neck of the bone is broken off at its junction with the shaft, and driven a considerable way into the cancellated structure of the great trochanter, and remains firmly locked there for a considerable time. He thinks that it is in these cases, or in those which are unattended with laceration of the contiguous texture, or where the fracture is incomplete, that patients are able to walk immediately after the accident.

Sect. 5. *Fractures of the cervix femoris, external to the capsule, with great laceration of the surrounding parts.* In this variety of fracture, the eversion and retraction of the limb are more evident than when the fracture is within the capsule.

' In addition to the symptoms which attend a fracture *within the capsule* accompanied with laceration of the close coverings, viz. eversion of the foot—retraction of the limb, &c., we have, in this variety, generally, considerable tumefaction of the surrounding parts, accompanied with ecchymosis. This very rarely occurs when the fracture is entirely within the synovial membrane. Pain produced by rotating the limb is common to fractures within, and to those which are external to the capsule; but it is much more severe when the fracture is external to, than when it is within the joint. The reason of this is evident. When the fracture is external, the broken ends of the bone prick and lacerate the muscles with which they come into contact, and which are exceedingly sensible when they are inflamed; but when the fracture is within the ligament, the broken ends of the bone rub against the synovial membrane, which possesses much less sensibility than the muscles. The difference in the degree of swelling, too, might be easily accounted for upon scientific principles. The force which produces fractures within the ligament is often trifling, when compared to that which usually occasions fractures external to it. The swelling which comes on in the first variety, is confined, for the most part, *within the cavity of the joint*; but in the second, the swelling is diffused. Sometimes the whole of the thigh is much enlarged, in consequence of extravasation of blood, and in consequence of inflammation, accompanied with an effusion of fibrin and serum. These fractures, as I have said, occur most frequently in persons below fifty years of age, but they are not uncommonly met with in persons very far advanced in years; though, from the peculiar alteration in the structure of the neck of the bone, which frequently obtains in old people, and by which it is rendered

weaker, especially near the head, the fracture of the cervix in them is usually within the joint. Crepitus, might almost always be felt with facility, when the fracture is external to the capsular ligament and loose; but, when it is entirely within, it cannot be elicited, sometimes, even by the most judicious surgeon.'

Although the foot is commonly everted in this species of fracture, still a case now and then occurs in which an inversion of the limb is observed. These, however, are rare.

Often, fractures of the cervix of the femur are partly within and partly without the capsule. Mr. Amesbury thinks it probable that this variety, as well as that where the fracture is altogether external to the capsule, require less time to unite, than where the accident is altogether within the capsule. The validity of this opinion cannot, we should suppose, be doubted.

Sect. 6. *Fractures of the trochanter major.* The trochanter major may be broken off transversely at its junction with the body of the femur; or it may split down obliquely towards the outer side of the thigh. This variety of fracture may be complicated with fracture of the neck of the femur, the two fractures meeting at an acute angle at the junction of the root of the trochanter with the neck of the bone. Lastly, fracture of the trochanter may pass through the femur, so as to divide the neck of the bone and the trochanter from the shaft, these two parts remaining naturally connected.

The symptoms of these different varieties vary according to the nature of the fracture. In fracture of the trochanter simply, whatever may be its direction, there is no shortening of the limb; and the patient is able to support himself upon it. These circumstances, combined with that of crepitus being perceptible on moving the trochanter, are sufficient to lead us to form a correct diagnosis of the accident. When fracture of the trochanter is complicated with that of the neck of the bone, the symptoms are more obscure, and they vary in some degree according to the particular situation of the fracture. We shall, of course, find present the symptoms of fracture of the cervix femoris, attended with crepitus on moving the great trochanter; and the trochanter will, probably, have been driven, and will be remaining, out of its natural situation.

Sect. 7. *Fractures just below the trochanter minor.* These occur at all periods of life.

'When a fracture exists in this situation, the upper portion of the bone is commonly somewhat abducted; and is also drawn forwards, or, in other words, bent upon the pelvis; so much, so, often in loose fractures, as to form nearly a right angle with the lower portion. The cause of this position of the upper fragment,

is evidently the contraction of the flexors and abductors of the thigh. The lower portion of the bone is commonly drawn up beneath the upper, sometimes several inches, giving rise to the most distressing pain; and if the two portions are suffered to unite in these positions, the result is often one of the worst varieties of deformity that take place in consequence of fractures of the thigh. When the fracture passes through the bone downward and backward, the deformity is not commonly so great as when it takes any other direction. In these cases, which are seldom met with, the lower portion of the bone lies anterior to the upper portion. Preternatural motion might be easily felt, also crepitus, when the fractured surfaces are brought together, and made to rub upon each other.'

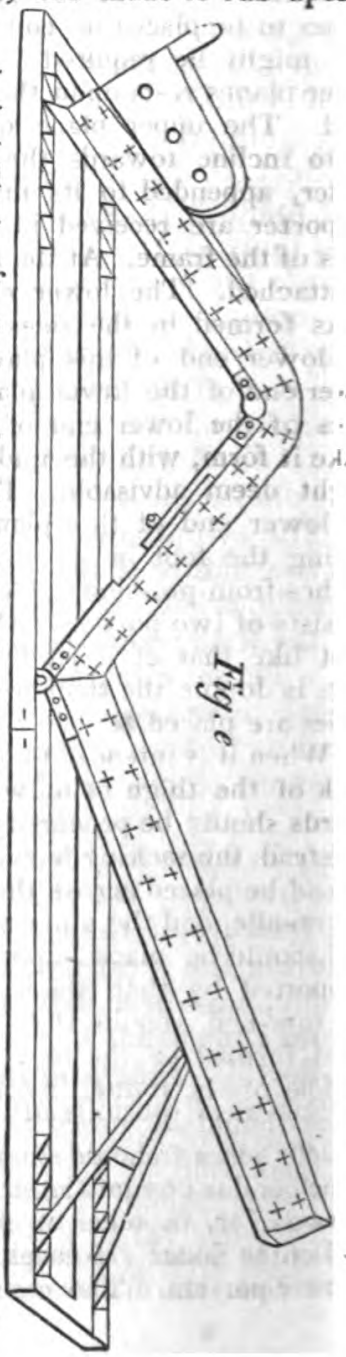


Fig. e

We now come to the second chapter of the first part of the work, wherein Mr. Amesbury speaks of the 'treatment of fractures of the upper third of the thigh-bone.' This is divided into three sections.

Sect. 1. *Treatment of fractures of the cervix femoris.* The indications here are, ' 1st, to keep the limb of its natural length; 2d, to keep the limb in the bent position; 3d, to prevent eversion or inversion of the foot; 4th, to keep the trochanter a little raised; 5th, to keep the fractured surface in close apposition; 6th, to prevent the fractured surfaces from moving upon each other.' The author offers some judicious remarks on the methods hitherto adopted with the view of fulfilling these indications. As these methods are very well known to our readers, and especially as they have been found generally unsuccessful, we shall pass over them, and give an abstract of the plan recommended by Mr. Amesbury.

' I have attempted to supply the deficiencies which I had observed in these modes of treatment, in the construction of an apparatus which I employ in the management of fractures of the upper part of the thigh-bone, and for various other purposes. This apparatus I call a fracture-bed, which, when properly fitted up, consists of a frame which has a joint near the middle and which is made to

support four pieces of board, long enough when connected, for an adult to rest upon in the extended position; of a foot-board, pelvis-strap, mattress, and a convenience to receive the fæces. The two pieces of board which form the middle plane, are made to slide upon each other, so that this plane might be adapted and fixed by screws attached to it, with the greatest accuracy to the natural length of the patient's thighs. In this plane there is an opening, of a form and size to receive the receptacle for the fæces. When the receptacle is in the hole, it is retained in its proper position by a shelf, which shuts up so as to close the opening when the receptacle is removed. This plane is connected to the upper and lower planes by rule joints; which allow the three planes to be placed in connexion upon the frame, at any angles that might be required. The joint formed by the middle and upper planes rests upon the middle of the frame when the bed is used. The upper plane may be kept raised from the frame, so as to incline towards the foot of the bed, by means of a supporter, appended to its under surface. The loose ends of this supporter are received in racks formed in the upper end of the sides of the frame. At the lower end of this plane the pelvis-strap is attached. The lower end of the lower plane is received in racks formed in the sides of the lower end of the frame. At the lower end of this plane the pelvis-strap is attached. The lower end of the lower plane is received in racks formed in the sides of the lower end of the frame which support it, so as to make it form, with the middle plane, any angle that the surgeon might deem advisable. The foot-board, which is connected to the lower end of this plane, answers the double purpose of retaining the foot in its proper position, and of keeping the bed-clothes from pressing unpleasantly upon the toes. The mattress consists of two portions, which are sewn together, so as to form a joint like that of a pailliasse. The part upon which the trunk rests is double the thickness of that upon which the lower extremities are placed.

'When it is intended to use this fracture-bed for fractures of the neck of the thigh-bone, within or external to the capsule, three boards should be procured, long enough to lie across a common bedstead, the sacking having been removed. One of these boards should be placed across the bedstead at the head, another about the middle, and the other at the foot. The frame of the fracture-bed should be placed upon these boards, so that the joint may be supported by that which lies in the middle. The planes of the fracture-bed should then be placed upon the frame, with the joint, formed by the middle and upper planes, resting upon the middle of the frame, in places made to support it. The upper plane should be raised to an easy position, and the lower and middle planes should be made to form a double-inclined plane; which is done by putting the lower end of the lower plane to rest in two of the notches of the rack, made at the sides of the lower end of the frame. I usually choose the second at each end. This being done, the mattress should be laid upon the planes, with the

thick part upon the upper plane, and the thin part upon the middle and lower planes. The joint of the mattress should lie over the joint formed by the upper and middle planes, with the edges, which are sewn together, placed downward. A blanket and sheet should now be thrown over the mattress and tacked to its edges, so that they may be prevented from getting into folds under the patient. A hole must be made in the blanket and sheet to correspond with the hole in the mattress. This might be done by making a cross cut in them. The four corners should be turned down, and tacked to the sides of the hole in the mattress, so that there may be no seams to hurt the patient. The foot-board should now be placed in the hole made in the lower plane corresponding to the injured side, and the pad placed in the hole in the mattress.

'These preliminaries being arranged, the fracture-bed might be considered ready for use. The patient should be placed upon it, so that the perineum might be opposite the hole in the mattress. As the patient lies upon the bed with the limbs over the middle and lower planes, and the nates resting in the angle formed by the middle and upper planes, the surgeon should measure both limbs from the anterior superior spinous process of the ilium to the base of the patella; and, if the injured limb be retracted, the middle plane should be elongated sufficiently to make this limb of exactly the same length as the other. This being done, this plane should be firmly fixed at its proper degree of elongation by the retaining screws which pass through the two portions of it. The limb, having a spiral bandage round it, neatly applied from the toes to the knee, should now be fixed upon the planes with the foot between the legs of the foot-board. This is done by means of another portion of bandage, which is carried twice round the ankle; the two ends are then crossed upon the instep, and passed under the legs of the foot-board, brought together, and tied at the bottom; so as to keep the leg and thigh firmly fixed upon the respective planes of the bed. While this is being done, the surgeon should take care that the patient does not shift the pelvis. Thin pads should be placed between the sides of the sole of the foot and the legs of the foot-board, to keep the foot upright. A thin pad should also be placed between the upper part of the back of the thigh and the mattress, to raise and support the trochanter major. The limb ought now to be of *exactly the same length as the sound one, and the foot perfectly upright.* This having been ascertained, the surgeon places a splint, padded on the outer side of the thigh, long enough to extend from the knee to the pelvis; and then buckles the pelvis-strap round the pelvis, just below the superior anterior spinous processes of the ilium; having previously carried the end of the strap on the injured side over the upper end of the thigh-splint. The degree of tightness of this strap should be regulated, at all times, by the particular state of the fracture. The splint should be fixed to the thigh, at the other end, by a bit of bandage passed lightly round the thigh over it. When the limb is thus secured, all the indications I have noticed are most fully answered.

The limb is supported in the bent position, which is the easiest position, and also prevents that long-continued stiffness of the knee which is observed to arise from keeping the limb for a long time straight. The limb is maintained of its natural length. The foot is kept upright, and fixed in such a manner as to prevent the limb from moving; and the pelvis being, at the same time, fixed by the pelvis-strap, the fractured ends of the bone are kept perfectly free from motion. The trochanter is supported, and the fractured surfaces having been brought together, are maintained in close apposition by the pelvis-strap; which, at the same time that it fixes the pelvis, passes over and acts upon the upper end of the splint; which is placed along the outer side of the thigh, so as to be the medium through which the pelvis-strap presses the trochanter major towards the pelvis; and with it, of course, the fractured surface of the trochanteral portion of the bone.'

Mr. Amesbury relates several cases in proof of the utility of the above method of treating fractures of the neck of the thigh-bone. These are highly satisfactory, and will be read with interest. These cases, and the remarks which accompany them, induce him to draw the following conclusions:

'1st. That fractures of the cervix femoris within the capsule, unattended with laceration of the close coverings, will unite by the intervention of callus, if apposition, pressure, and rest be maintained; but, perhaps, the process of union will not generally be so rapidly completed as when the fracture is in the middle of the bone.

'2d. That fractures of the cervix femoris within the capsule, attended with a division of the investing membranes, might, under proper treatment, probably arrive, in many instances, in the course of a short time after the accident, at a state nearly as favourable for the accomplishment of osseous union, as those in which these coverings remain nearly or quite entire; but it is likely that the union will be more or less rapid, according to the degree of injury, sustained by the periosteum and reflected membrane.

'3d. That we cannot insure accurate co-aptation of the fractured surfaces; and, consequently, if it should be found that union by bone can generally be effected within the capsule, we might expect the consolidation to be now and then followed by considerable inconvenience in the joint, for some time after its completion; but this will only occur when the irregularity is in the anterior part of the cervix, where the tendon of the psoas magnus and iliacus internus would press the front of the capsule against the projecting edges of the bone.

'4th. That though I have never yet failed to benefit the patient in any case of recent fracture of the neck of the thigh-bone, and to restore the functions of the limb, as in the cases I have related, whatever might turn out to be the bond of union; yet I think, in the present state of our knowledge upon this subject, it behoves us to give a guarded prognosis. I see, however, no sufficient reason to induce me to believe, that fractures of the neck of the

thigh-bone, within the capsule, might not generally be united by bone; and if osseous union be produced, it appears to me, that it ought to take place without any retraction or eversion of the limb which would be deserving of notice, whether the cervix be broken within or external to the capsule; except, perhaps, in those very rare cases where the fracture is comminuted, and, at the same time, complete.

'5th. That the practice I have recommended might be resorted to with perfect safety—that it is not likely that anchylosis of the joint, or a superabundance of callus will occur where union takes place by bone, so as to impede, in any considerable degree, the act of progression—that there is no danger whatever of sloughing of the soft parts, or other injury, from partial pressure, where the treatment I have advised is properly conducted; and that this treatment might be followed, not only with safety, but with a degree of ease and comfort to the patient, which, as far as I know, cannot be obtained by any other means hitherto introduced.'

Sect. 2. *Treatment of fractures of the trochanter major.* The treatment here must be modified in some measure according to the particular situation of the fracture. When it is above the cervix, little more is necessary than to secure the patient on the fracture bed in the same manner as for fractures of the neck of the bone, but with the planes fixed so as to form more obtuse angles. 'The trochanter is to be supported by means of a pad placed between the mattress and the limb, and the action of the glutei muscles resisted by a bandage, applied so as to keep the fractured surfaces in close apposition, and a splint should be placed along the outer side of the limb, in order to maintain the trochanter and the shafts of the bone in their relative position.' When the inflammation runs high, topical applications are to be employed.

The same treatment applies to fracture of the trochanter below the cervix, with the addition of a sufficient degree of extension to keep the limb of its proper length. The same is also recommended for fracture of the trochanter, complicated with fracture of the cervix.

Sect. 3. *Treatment of fractures of the femur just below the trochanter minor.* Fracture of this part of the bone is often followed by very great deformity. Mr. Amesbury attributes this circumstance altogether to the imperfect mode of treatment commonly employed.

'In these cases, there are seven indications to fulfil—1st. The pelvis should be fixed for the upper portion here, as in fractures of the cervix, or of the trochanter major, follows the motions of the pelvis; therefore, unless this part be fixed, we have no certain means of fixing the upper portion of the bone in the position in which we ought to place it. 2d. The thigh should be raised so

as to form an angle with the pelvis; so that the lower portion of the fractured bone shall be brought into a natural line with the pelvic portion. 3d. Extension must be kept up, so that the fractured ends may be prevented from overlapping. 4th. Inversion and eversion of the foot must be prevented. 5th. The fractured surfaces should be placed in close apposition. 6th. The fractured ends should be prevented from moving upon each other. 7th. The fractured ends should be supported, so as to guard against any displacement which might otherwise arise from the accidental action of the muscles of the limb.'

How are these indications to be fulfilled? Certainly not by means of short splints alone.

'The fracture-bed which I have recommended to be used in the treatment of fractures of the neck of the thigh-bone, and in the treatment of fractures of the trochanter, will also be found the best for those which occur just below the trochanter minor. When it is employed for these accidents, however, it is proper to fix the planes at more acute angles, in order to relax the iliacus internus and psoas magnus in a greater degree than is required for fractures of the cervix. The surgeon, having placed the patient upon the bed, should apply a roller neatly upon the foot and leg; and then extend the thigh and secure the foot in the same manner as for fractures of the cervix. While the surgeon is doing this, an assistant should prevent the pelvis from being drawn up upon the middle, or thigh-plane, from the angle which is destined to receive it. The assistant continuing to fix the pelvis, the surgeon should place a pad between the back of the thigh and the mattress, wide enough for the thigh to rest upon, and then apply three splints to the thigh; one on the inner side, of sufficient length to reach from the pelvis to the lower part of the inner condyle of the femur, another to reach from the superior anterior spinous process of the ilium to the base of the patella; and the third from the upper part of the trochanter major to the lower part of the outer condyle. These splints, which ought to be well made, should be neatly padded and confined to the thigh by three circular straps, passed round the limb, under the pad upon which it lies, and over the splints, so as to confine them to the limb. The pelvis should now be secured by buckling the pelvis-strap; which should pass over the upper ends of the outer and front splints, but not so as to make the latter press uncomfortably upon the superior anterior spinous of the ilium. If the fracture be very oblique, care should be taken to pad the splints, so that they might press the fractured surfaces together.'

There is one circumstance which requires particular attention in the treatment of fractures of the upper part of the thigh-bone, namely, that the patient should not be allowed to bear on the limb before the callus has become sufficiently strong to prevent the union from giving way. In cases of fracture external to the capsule, Mr. Amesbury recommends the patient to be confined for a month or six weeks. When

the solution of continuity has occurred within the capsule, a longer period is necessary for the bone to become consolidated. The period necessary for this to be accomplished will vary, in some measure, in particular cases, according to the age and constitution of the patient. The evil of confining the patient a week or two longer than absolutely necessary is not to be compared, in these cases, with that of allowing him to bear upon the limb before the callus has become sufficiently firm to resist a fresh separation.

We have now completed our review of the first part of Mr. Amesbury's very useful work. We shall take an early opportunity of noticing the second part. In the mean time we should not being doing our duty to the profession and to the public, did we not recommend every member of the former, professing to practise surgery, to peruse carefully the work itself.

III.—*Observations on the History, Use, and Construction of Obturateurs, or, Artificial Palates; illustrated by Cases of recent improvements. To which are added, Numerous Cases of Deficiency of the Lower Jaw, Lips, Nose, &c. &c., with the most efficient Means of Restoring the Parts Artificially.* By James Snell, Surgeon-Dentist, Member of the Royal College of Surgeons in London; and Lecturer on the Anatomy and Diseases of the Teeth. Second Edition. London, 1828. Callow and Wilson.

Until within the last few years, scarcely any attempt was made in this country to remedy defects, congenital or accidental, occurring about the mouth, lips and nose. Surgeons in general practice, seemed to consider these defects beyond the limits of their professional province, and those who called themselves dentists were, for the most part, totally destitute of the knowledge, anatomical and scientific, necessary to enable them to undertake, with any chance of success, the management of such cases. These subjects have, however, been treated of by various continental, and a few English, authors, who wrote at different periods between the middle of the sixteenth, and the end of the eighteenth, century; but during that period scarcely any improvement took place in the methods adopted for remedying the defects, especially of the palate.

Mr. Snell gives a succinct historical account of the construction of obturateurs, or artificial palates, from the time of Hollerius, whose work bears date 1552, down to the present period. This author proposes to stop apertures in the

palate with wax or sponge. A few years after, an improvement upon this method was proposed by Ambrose Paré, who recommended a plate of gold or of silver to be made, a little larger than the aperture in the palate; and this plate to be secured by having attached to its upper surface a piece of sponge, which was to be introduced into the aperture. For about two centuries scarcely any improvement was made in this instrument, until 1786, when M. Pierre Fouchard published a scientific treatise on the subject of dentistry. He gives a description of five obturateurs for supplying defects of the hard palate. These appear ingenious, compared with that which was before in use. The introduction of a piece of sponge, or other material which exerted a constant pressure on the edges of the aperture, must have necessarily tended to increase that aperture, by producing absorption. It was therefore of great importance that some other contrivance should be adopted for the purpose of fixing the gold or silver plate to the palate. M. Fouchard's obturateurs answered that purpose.

'The first was constructed as follows:—a convexo-concave plate covered the aperture, to the centre of the convex side of which was affixed a hollow stem, having two wings on its superior part, that were moved by means of a screw passing through the middle of the plate, the hollow stem having a kind of nut, which, when screwed down, kept the wings, each of which was covered with soft sponge, across the aperture.

'The next obturateur was composed of a similar plate and hollow stem, through which, from the concave side, passed a stem having a screw head, the other end being square, which passed through a square hole in a wing, which wing moved round by turning the screw; another wing was also soldered to the upper part of the hollow stem, remaining fixed and immoveable. The moveable wing in this obturateur differed from the last described by acting in a circular direction, while the former moved from a perpendicular to a horizontal position. When put into the aperture, the moveable wing was placed over the fixed one; the screw was then turned, and the wing being carried to the opposite side, secured the obturateur in its proper position. This instrument, although ingeniously constructed, soon fell into disuse; the fixed wing being found to possess many disadvantages.

'The third obturateur consisted of two substances, bone and metal; and I have reason to believe it was the first constructed in that manner. The plate was first fitted to the defective parts, and the bone was to supply any portion of the maxillary bone and teeth which might be deficient, and was fastened to the plate, the whole being held in its situation by wings turned down by a ball and screw.

'The fourth obturateur was composed of ivory, intended for the supply of four teeth, with a part of the palatine portion of

the maxillary bone, and retained in its situation partly by a sponge, and partly by ligatures round the canine teeth.

'The fifth obturateur was, in some respects, similar to the third, being composed partly of bone and partly of metal, but was retained in its situation differently, the wings being moved by a screw, which kept them at a greater or less distance from the principal plate.'

These instruments must vary, in some measure, according to the nature of the defects in different cases. Mr. Snell notices several more contrivances, proposed by various authors; but we must proceed to the next chapter, wherein he treats of congenital division of the palate.

Congenital divisions of the palate are of two kinds; first, where the velum and uvula alone are divided; second, where the division extends through these parts as well as through the palatine portion of the maxillary bone. There are several varieties of these kinds. Complicated with a double hare-lip, it is not uncommon to find a double division of the hard palate, the two fissures uniting and running on in the form of a single fissure through the velum and uvula. Children born with these defects are almost always incapacitated from sucking, and even, in a great measure, from swallowing when milk is introduced into the mouth. Should the child even survive these first difficulties, articulation, mastication and deglutition are always very imperfectly performed. When the soft palate alone is divided an attempt may be made to bring on a union between the two sides, by paring the edges, and bringing the sides into contact by suture. This operation has been several times performed by M. Roux, and, in some cases, with success. Mr. Snell mentions a case in which he operated with great facility by means of instruments which he invented for the purpose. 'The edges of the fissure were brought close together, and the parts assumed a most favourable appearance for union by the first intention, still, on the third day, the ligatures being removed, no union had taken place, and the case terminated unsuccessfully.' By far the majority of cases of this description, which have been operated upon by different surgeons, have given an unsuccessful result. Independently of the impediment to union produced by the insinuation of mucus between the pared edges, the velum is also undergoing almost constant motion in the act of swallowing the saliva and food, as well as in respiration, to a certain extent; besides the additional motion likely to be created by the irritation caused by the wound and the ligature for a few days after the operation.

What is to be done in these cases? As Mr. Snell observes,

'it is very distressing to see a fine born infant unable to swallow its natural food, and, in consequence, pining gradually away, and ultimately dying from inanition.'

'After constructing a variety of instruments, and adopting numerous methods but with little success, I at length found, that all the ends required might be accomplished by a very simple contrivance,—merely that a common heifer's teat should be attached to the usual shield for sucking. On one side of the teat, which is to be the upper side, sew a piece of leather sufficiently large to be introduced into the mouth without difficulty, of a length and shape suited to cover the fissure in the palate. The teat being introduced into the mouth, when the child sucks the leather will be pressed by the tongue against the roof of the mouth, so that the fissure will be covered, and the milk will flow easily into the pharynx, without passing out at the nose. Some little judgment will of course be requisite in the adaptation of this contrivance, as in some instances very thin Indian-rubber may be used in preference to leather; but this must be left to the discernment of the medical attendant, or to the artist who has to construct the apparatus. By the use of this instrument, many children that were wasting away from being unable to suck, have been rendered comfortable, and restored to health and strength.'

This instrument is only calculated to supply the defect while the child is sucking, and it ceases to afford any assistance as soon as the little patient is weaned. The child at this period, however, becomes capable of swallowing food of a more solid kind. 'The food, after mastication, is collected together, and permitted to go very far back upon the posterior body of the tongue, the anterior being turned up into the fissure, which acts as an obturateur whilst the food is being swallowed.' About this period, the child begins to make some effort to speak, but he is foiled in the attempt, and the unnatural sounds which he utiers become a fresh source of distress to every one around him. But little assistance can be rendered the little patient at this period. The defect cannot be supplied by an instrument, in a perfect manner, 'until after the first teeth are shed, and the second permanent molar teeth are through the gums.'

We believe that Mr. Snell was the first who attempted to supply congenital defects of the palate by mechanical means. His first case was published in the MEDICAL REPOSITORY, Vol. XX, with an engraving. As it appears to us a very interesting one, we shall transcribe it here.

'An interesting young lady, had laboured under this distressing malformation from her birth. When an infant it deprived her of the support of the breast,—the milk, when any could be drawn, having invariably escaped through the nose; and her articulation, from a later period to the time of my seeing her, was so defective

as to be understood by those only who were constantly about her. On her application to me, the appearances were as follow :—the fissure commenced immediately behind the two lateral incisors, extending backward through the palatal portion of the maxillary bone, through the os palati, and velum pendulum palati, dividing the uvula, and giving rise to an unlimited communication between the nose and mouth.

'When the case first came under my care, I was desirous of making an attempt to unite the edges of the soft palate, according to the suggestion of M. Roux; but this mode of proceeding being altogether objected to by the parents, I was induced to try how far relief might be afforded by mechanical means.

'I first obtained a correct model of the defective parts, from which a gold plate was formed to fit the roof of the mouth, reaching as far back as could be worn by the patient, to the posterior part of which two pieces or flaps of Indian rubber were attached, thus filling up the deficiency of the soft palate. A small moveable piece of the same material was also attached, by means of a gold hinge, to the centre of the lower piece, to imitate, as near as possible, the natural uvula. A piece of ivory was next fitted to the upper or back part of the gold plate, and carried upwards until it came in contact with the remaining part of the septum narium: this was of course firmly attached. The whole was held in its situation by means of two gold springs soldered to the plate, which were fixed round one of the molares on each side.

'It may readily be supposed, that the introduction of such an apparatus would, in the first instance, cause great inconvenience. This was, however, overcome by perseverance on the part of the patient, who soon experienced a most material improvement of her speech, as well as great increase of comfort while taking her meals; and the parents were most unexpectedly and agreeably surprised to find her possessed of considerable vocal power, a qualification which none could have presumed to hope for. As the apparatus required to be frequently removed, that it might be cleansed, she was provided with two, the exact counterpart of each other.'

Since the publication of the above case, Mr. Snell has had ample opportunities of making a variety of experiments, which have led to considerable improvement in the instrument. He now substitutes the bone piece by a gold plate, and the elastic gum velum and uvula are much improved, by a spring being affixed behind them, which admits of their partaking of the movements of the natural parts.

'My present method of constructing it, is, with a gold plate, accurately fitted to the roof of the mouth, extending backward to the os palati, or extremity of the hard palate,—a part of the plate, about an inch in length, being carried through the fissure. To that part of the plate which answers to the nasal fossæ, are soldered two plates, meeting in the centre, and carried upwards through the fissure to the top of the remaining portion of the vo-

mer, to which it should be exactly adapted, and made to the natural shape of the nasal palatine floor: thus the fluid of the nose will be carried directly backward into the fauces. A piece of prepared elastic gum is next attached to the posterior part of the plate, where the natural soft palate commences, extending downward on each side, as low as the remaining part of the uvula, and grooved at its lateral edges to receive the fissured portions of the velum. A moveable velum is placed in the posterior centre of the elastic gum. That these may partake of the natural movements of the parts during deglutition, a spring is affixed behind them, one end of which is fastened to the posterior and anterior surfaces of the principal plate, and the other end rests gently against the posterior face of the Indian rubber; this keeps it always in close apposition with the edges of the fissure during deglutition.'

Mr. Snell relates several very interesting cases, some of double, others of single, fissure of the palate, where the defects were happily supplied by obturateurs. As we before observed, the instrument must vary in some measure according to the nature of each particular case; so that a person devoid of mechanical talent—a mere imitator, would stand little chance of succeeding in this branch of the art.

Mr. Snell next treats of defects of the superior maxillary bone. Several cases are given in illustration of this subject. In one of these—a most complicated one—we had an opportunity of witnessing Mr. Snell's mechanical skill and ingenuity of contrivance. This was the case of a man upon whom we had performed the taliacotian operation, (see Med. Rep. vol. xxi). The nose was entirely gone, together with the greater part of the upper lip and anterior part of the superior maxillary bone. A piece of skin was brought down to supply a great part of the defect of the lip, which piece, as well as the flap of which the new nose was to consist, united by the first intention. The operation, considering the complicated nature of the case, succeeded beyond any one's expectation. The loss of the anterior part of the maxillary bone, however, still remained, to the extent of four teeth, with a deficiency of the upper lip, which the hare-lip operation could not remedy. A cleft commenced a little below the natural situation of the septum, and took a gradual slope towards the angles of the mouth. The consequence which resulted from this defect, added to the loss of the anterior part of the jaw-bone and teeth, was, that when the patient attempted to speak, the tongue protruded through the cleft, and owing to the air rushing into the pharynx through these defects, the speech was rendered thick, and, at times, almost unintelligible. Mr. Snell remedied these imperfections in the following manner:—

The loss of the anterior portion of the jaw-bone and alveolus, was supplied by a piece of the tooth of the hippopotamus. This piece being made to partake of the shape of the original parts, was accurately fitted into the deficiency. Upon this bed was fitted and secured four natural teeth, being the deficient number. The apparatus was held in its proper situation by gold clasps, which were made to attach themselves round the adjoining teeth.

Mr. Snell had next to supply the defect of the lip;—this he did in a manner altogether original.

A model having been taken of the part, a piece of ivory was formed and fitted with the greatest accuracy into the cleft. This piece of ivory was carved so as to imitate exactly what the parts were in their original state; it was then delicately coloured to the proper tint of the adjoining skin, and supplied with mustaches. The artificial lip was held in its situation by gold pivots, secured into the centre of its posterior surface, which pivots passed through the anterior face of the artificial jaw, so that the patient might remove the lip, without disturbing the apparatus to which it was affixed. The artificial mustaches, with which the lip was supplied, mixed with the natural ones, which were permitted to grow, and ingeniously hid the line of union between the natural and artificial parts.

This contrivance made a great improvement both in the comfort and appearance of the patient. At a short distance, no one unacquainted with the circumstance could discover that his nose was not original, or that his lip was artificial. It may not be improper to state that the defects in this case had been caused by syphilis, or, rather, as we suspected, by the mercury which he took for the cure of that disease under the direction of some empiric in the country.

In the next chapter, Mr. Snell treats of deficiencies of the lower jaw. He here mentions several cases which were successfully remedied, some of them being complicated with loss of the lower lip and chin. Some of the author's contrivances for supplying these defects are highly ingenious, and we believe, perfectly original.

Mr. Snell's attention has been also directed to the supply of deficiency of the nose. Artificial noses have generally been fixed by means either of spectacles or of head-springs. These methods have many disadvantages. Indeed, all the artificial noses of this kind which we have seen, have been extremely clumsy. We have had opportunities of seeing some of those fabricated by Mr. Snell and we certainly considered them remarkably neat, and the method of fixing them very ingenious. His plan is the following:—

'Three springs are attached to the inner surface of the artificial nose, and made to expand or contract at pleasure, through the medium of a circular band shaped like a heart, with the conical part upwards, through which each of the springs is made to traverse, and which is raised or depressed by means of a screw passing through its lower centre, and turned by passing a watch-key up one of the artificial nostrils. The springs in a collapsed state being passed up the nasal fossa, and the artificial supply properly adjusted, they are made to expand by turning the key, as you would wind up a watch, until they press against the sides of the nasal fossa and nasal palatine floor, each end of the springs being guarded by Indian rubber, to prevent the pressure from becoming troublesome. The nose may, by this means, be attached as strongly as the patient pleases, and cannot be displaced by any accident: and if the nose is well suited to the countenance, properly coloured, and the skin before mentioned neatly applied over it, few would discern it was artificial, unless they were previously made acquainted with the fact. It may be generally supposed, that anything introduced up the nostrils would occasion inconvenience; this, however, is not the case, which every day's experience fully proevs; indeed I have always found my patients better satisfied with this method than where an external attachment was used, however neatly executed.'

Mr. Snell deserves the thanks of the public for bringing into notice many useful and ingenious mechanical contrivances, by means of which these serious defects may be supplied. This subject was altogether neglected until he took it up. In the volume before us it is treated in a manner highly creditable to the author.

ORIGINAL COMMUNICATIONS.

I. *Essay on the Gradual Development of the Nervous System, from the* Zoophyte *to* Man; *read before the London Phrenological Society, December* 1*st*, 1828. By John Epps, M.D.

Creation is a wide volume, spread out before the view of man for his perusal. The highest pleasures and the greatest benefits are connected with the performance of his duty in this respect. He becomes acquainted with the productions of nature, all of them important; he attains to a knowledge of the general and particular relations established between these: he deduces the laws on which these relations are founded; he discovers the infinitely varied means by which these laws are put into force; and then, by a diligent and judicious application thereof, increases his own happiness and augments the sum of comfort possessed by mankind.

Such being some of the high objects which are attendant upon the diligent perusal of the great volume of nature, it is not wonderful that many have been its attentive students. No, the wonder is, that so few have turned over its leaves. Till within the last century, the study of creation has been almost wholly neglected. The causes of this neglect may be arranged under the obstacles in the way of the pursuit of his study; the difficulties of pursuing it rightly, the non-existence of minds suited for observation and reflection; and, finally, the want of some particularly influential circumstance in leading him generally to the pursuit.

Superstition has, for many ages, loaded the horizon of the intellect with clouds; and has interposed its dismal darkness before any enlightened spirit who would, in the dignity of the power of a mighty mind, walk forth into the wide field of nature. Roger Bacon was thrown into a prison because he told what the creation told him; and so was Galileo. But now the great truth has gone abroad, that, though revelation communicates to us the MORAL laws of the universe, the book of creation is to teach us the NATURAL laws; and now men have learned that nature and revelation are twin-sisters; both the product of the divine mind; both worthy of admiration, and both having their appropriate spheres, in which they shine with grace, beauty, and benefit. The non-existence of minds fitted for observation and reflection was a great impeding cause to the progress of the sciences. Many apples had fallen upon the heads of many men; but a Newton was wanted to discover the system of gravitation. Many have observed persons with prominent eyes; but a Gall was wanted to improve this fact so as to form the science of phrenology.

But perhaps one very powerful cause why our knowledge of nature, till of late years, was so limited, is to be found in the circumstance of the difficulty which exists in perusing the volume of creation in a proper spirit. Men have been too fond of the fancies of their own minds, and have delighted more in the activity of their wonder and ideality than in the sober and continual exercise of their perceptive and reflective powers. If they have made observations, they commenced to draw their general conclusions too speedily; they began, as Lord Bacon hints, to build a ship with materials not sufficient to make a boat. But allowing that some possessed many materials, yet because the collateral sciences were not in their possession, they saw the facts of nature but darkly, and not through the enlightened and expanded vision of a general knowledge.

The few, moreover, who studied nature were looked upon

as too wise to be useful; to be a kind of different creatures, who were wondered at but not imitated. Thus, no generally influential motive existed to the pursuit of the sciences; and it was not till some striking fact or discovery was made known, that mankind, generally, began to take an interest in scientific observations. Thus, the science of electricity remained in comparative obscurity till Franklin demonstrated the identity between the electric fluid and lightning. If this was the case with respect to electricity, we may boldly say that the science of the human mind never became an object of general interest till the important facts established by Gall were sent forth to the world; that the human mind has a material organ for its exhibition in this world; that the different parts of this material organ have different faculties or powers of mind attached to them; that the size of these parts is an indication of the powers of the faculties therewith connected; and that, by an examination of the HEAD, the mental disposition and powers of the individual may be ascertained.

Phrenology has been compared to alchemy. The point of comparison among the foes of the science is the following:— Alchemy is a lie; phrenology is a lie; but as alchemy led to chemistry, so phrenology may lead to something useful. Phrenologists allow an analogy, but not this. They allow that phrenology, like alchemy, will be useful by leading men to the most important truths; by inducing them to study parts of the wide field of nature, which they previously neglected, from not having any sufficiently powerful motives to urge them on. Phrenology has had such an effect in reference to the author of the following essay. It has taught him the dignity of the nervous system; it has induced him to spend some of the precious moments of life in endeavouring to scrutinize this part of the objects of creation; it has made valuable what formerly appeared of little value; or, if of value, to be surrounded with so many obstacles and difficulties, that the time lost and the trouble expended in the attainment, would by no means be equalled by the profit thereupon attendant. But phrenology has taught him to think differently; and the following essay is the produce of this scientific teaching.

On looking upon the nervous system, as exhibited in the highest of animated beings in this lower world, MAN, the mind is astonished and perplexed at its complexity. It appears as a Gordian knot, that none can untie: its ramifications are so varied, and numerous, and so intricate, that the student leaves the subject, and the words 'nervous system' are associated in his mind with something that is puzzling, yea, even mys-

terious. Still the nervous fabric is a system; it is one to which the practitioner continually refers, and which he uses in numerous cases to conceal his ignorance. As a system it must be composed of certain parts; and these parts must be possessed of certain offices or functions, for nothing is made in vain. Besides, the Creator is wise in all his proceedings, HE effects the grandest ends by the simplest means. HE is so economical that we find nothing created without its purpose, and though some creations may to us appear useless, this circumstance is dependent upon our ignorance of the grand system of Providence. If, then, so much complexity exists in the nervous system of man, this must be connected with the performance of some grand and important functions necessary to the existence and the happiness of him as an individual. To this conclusion we are led by the above reasoning, and analogy justifies its accuracy. Take the muscular system, and the number and the variety of muscles are found to be correspondent to the number and the variety of motions to be performed. So with the circulating system. Whence, then, are these analogies obtained? From the study of the structure of animals, and comparing their structure with that of man; in other words, from comparative physiological anatomy. Will not then this branch of science throw light upon the nervous system so as to unfold the nature of that complexity already noticed, so as to untie that Gordian knot, composed of nervous tissue? This science has unfolded many complexities formerly thought to exist in the muscular, circulating, and digestive systems, and therefore the probability is for us.

By the aid, then, of comparative anatomy, we shall proceed to investigate the subject of the nervous system, and if the investigation seem at all tedious, it is hoped, that the conviction that a capability of understanding the true offices of the nervous system in man is intimately connected with, and dependent upon, a knowledge of the nervous system in other animals, will cheer the mind to track its unwearied way over some few details which it may be necessary to make in the course of the following illustrations. And, in addition, be it remembered, that the true knowledge of the nervous system is highly important; not possessed, this system is a will-o'-wisp, to lead into the quagmires of error in doctrine and in practice; possessed, it is a light that will direct the practitioner to the most useful diagnostics in disease—that will instruct the metaphysician in the true nature, principles and powers of the human mind, and to the worshipper of God, will fill his soul with admiration of the divine wisdom in having so wisely adapted the means to the end.

Much has been done within the last twenty or twenty-five years to unravel the nervous system of man. Many of the noblest minds have directed their powers to this interesting branch of physical science, and in the following essay advantage will be taken of their labours. But did not labourers in this part of the great vineyard of science exist before the period noticed?' Numerous indeed, but their labours were, comparatively speaking, vain, because the nervous system was studied by them in relation simply to its *structure*. They had not learned the proper way of investigation, namely, that of studying *structure* and *function*, as united together. And when speaking to a phrenological society, can this opportunity be allowed to pass without testifying to this grand truth, that Gall, the indefatigable, the sincere, the acute, the philosophic Gall, and his follower, Dr. Spurzheim, were the first, who, in respect to the nervous system, showed, that, to study it successfully, STRUCTURE MUST BE STUDIED WITH FUNCTION. It is boldly averred, that Gall and Spurzheim were the first who pointed out this great truth. It is not said that others have not *hinted* at this mode of investigation; but that no others, before Gall and Spurzheim, *demonstrated* that this mode is the only one that is beneficial. All the superior light then that now exists with respect to the nervous system, must be attributed to the influence of this great truth, regulating the observations of those who have thrown the beams of illumination upon its horizon.

But to return to our subject.—The nervous system, viewed as existing in man, is at its acme of perfection. This point is gained by a series of successive steps. Its first development seems to communicate motion; the next progression in development of sensation; then further powers of motion and of sensation; then, different instincts, and then the volitions, motions, sensations, intellect and moral feelings of man. The following passage is quoted from the *Edinburgh Review* of May, 1828, as being expressive of the above facts, and also as showing either the repentance of Mr. Jeffrey, or that he was asleep at his post when the article, from which the quotation is taken, was inserted. 'It is the nervous system,' says the *Edinburgh Review*, 'which, by imparting the powers of sensation, volition and motion, and permitting some inlet of intelligence concerning the world about them, elevates all but the very lowest animals above the most highly finished vegetable. And, although, as we ascend the animal scale, and find a more perfect organization always accompanied by a corresponding provision in the nervous system, we often find these gifts unequally distributed, ac-

cording to the necessities of the different tribes of animals—strength of muscles, acuteness of one or more senses, or a larger endowment of intellect being given for the occasion—it is yet in the nervous system alone that we can trace a gradual progress in the provision for the subordination of one to another, and of all to man; and are enabled '*to associate every faculty which gives superiority with some addition to the nervous mass, even from the smallest indications of sensation and will, up to the highest degree of sensibility, judgment and expression**. If man has been enabled to get dominion over the lower world, controlling many animals to various uses, and banishing others from the places of his habitation; if the fear of him, and the dread of him are found, according to the covenant with Noah, 'on every beast of the earth, and upon every fowl of the air, upon all that moveth upon the earth, and upon all the fishes of the sea,' this has not been achieved by muscular strength, by superior swiftness or force, but by the *mere superiority of his finer and more elaborate nervous system; by the combinations, which, through it, he can effect* by the knowledge which his nature is capable of receiving and manifesting by means* of it, and which knowledge invests him with a power, against which the lower animals vainly oppose their capacities, either of escape or resistance.'

You thus see, Mr. President, with what interest our subject is invested; since we have to point out the ADDITIONS TO THE NERVOUS MASS, giving to man the superiority over other animals.

The nervous apparatus is intimately connected with that, which, by scientific physiologists, is called ANIMAL life; and the nervous system, a possession peculiar to animals, in order to be understood, must be considered in reference to some arrangement of the immense variety belonging to this important part of the animated creation. We shall take the animal chain, begining with, so far as we know, the lowest link, and ascend to the highest. This mode seems most beneficial. By gaining possession of the PRIMITIVE TYPE of the nervous system, and of the powers therewith connected, we become acquainted with its alphabet, and are, in reference to a successful study of its language, exactly in the same condition as the mathematical student, who has attained to the knowledge of the definitions, axioms and postulates of Euclid, is to geometry. We go on, link by link, up the animal chain; our minds gradually become habituated to the

** These passages are not in *italics* in the Review, but are put so because they embody truths so phrenological, that were Mr. Jeffrey the most decided phrenologist, he could not say more than he does above.

intricacy, so that the nervous system in man, equally complex as the spider's web of mathematicians, is easily understood, and the labyrinths of its ramifications are unfolded.

That there is a chain in nature is allowed almost by all. Many links have been found, and though some still remain invisible, they exist, and more acute vision shall find them out. The nervous system, so important a part in reference to animal life, is a chain beginning at the zoophyte and ending at man.

With respect to the nervous system in man, it may be proper to remind the society that it consists of the brain, cerebellum, spinal cord, the nerves of the external senses, those of voluntary and those of involuntary motion, and finally, those of sensation. The two former are contained in an osseous case, called the cranium; the third in another bony case, the spine; and the nerves are distributed among the soft parts of the body, occasionally running in bony grooves for protection. All these different parts of the nervous system consist essentially of two substances, a *pulpy* or *gelatinous* and a *fibrous;* the former being always formed prior to the latter, and the latter existing in a proportion correspondent to the former; and hence, Drs. Gall and Spurzheim, who first established this fact of the relative proportion between these two substances, consider the pulpy as the source of the fibrous.

With respect to the nerves, 'the whitish cords that pervade the bodies of the more perfect animals,' they consist of many distinct filaments, each of which, however minute, is a tube that holds in its interior a peculiar pulpy substance.

These filaments are separate, and a nerve contains, frequently, filaments having different functions; so that in one *nervous cord*, the term applied to a number of nerves so united, nerves of entirely different powers may be found. This is a discovery of Mr. Bell, who has established the interesting fact, that every individual filament remains distinct from its 'nearest extremity in the brain, to the extremity which ends in a muscle or in the skin;' so that if, to a nervous filament, the office of sensation be attached, it possesses that office, and that only throughout its whole extent. Nerves, moreover, are divided into two classes, namely, simple, where the threads or *funiculi*, forming its root, arise in a line from the brain or spinal marrow; and compound, 'where the threads forming the roots arise in double rows,' and each row from a different column or track of nervous matter.'

These general descriptions being premised, the gradual development of the nervous system may now be investigated.

The arrangement to be adopted is that of Dr. Carus. He

places animals under two great divisions; first, ANIMALS WITHOUT BRAIN AND SPINAL MARROW, AND WITHOUT A VERTEBRAL COLUMN; and second, ANIMALS WITH BRAIN AND SPINAL MARROW, AND WITH A VERTEBRAL COLUMN.

Some of those classed under the first division are now to be given; those under the second, in the second part of this essay.

DIVISION I.

ANIMALS WITHOUT BRAIN AND SPINAL MARROW, AND WITHOUT A VERTEBRAL COLUMN.

CLASS I.—ZOOPHYTA.—*Order* I. INFUSORIA, Monas, &c.—2. POLYPES, Hydra, &c.—3. CORALS and SPONGES, Floscularia, &c.—4. SEA NETTLES, Actinia.—5. ECHINODERMATA, Echinus, Asterias, Holothuria, Sepunculus.

CLASS II.—MOLLUSCA.—*Order* 1. ACEPHALA, WITHOUT CALCAREOUS SHELLS, *(a)* Ascidia, Salpa. WITH SHELLS, *(b)* Balanus, Mya, Ostrea.—2. GASTEROPODA, WITHOUT SHELLS, *(a)* Limax, Aplysia. WITH SHELLS, *(b)* Helix, &c.—3. CEPHALOPODA, Lepiæ.

CLASS III.—ARTICULATA.—*Order* 1. VERMES—*Sub-Order* 1. INTESTINA, Hydatigena, &c.—*Sub-Order* 2. WITHOUT EXTERNAL ORGANS OF RESPIRATION, *(a)* Hirudo medicinalis, Lumbricus terrestris.—*Sub-Order* 3. WITH EXTERNAL ORGANS OF RESPIRATION, *(b)* Aphrodita aculeata.—2. CRUSTACEA.—*Sub-Order* 1. MONOCULI, Apus.—*Sub-Order* 2. CRABS, Astacus, Cancer.—3. INSECTA.—*Sub-Order* 1. INSECTS WITH JAWS:—GNATHAPTERA: Oniscus, Aranea. *(a)*—NEUROPTERA. *(b)*—HYMENOPTERA. *(c)*—COLEOPTERA: Scarabeus. *(d)*—ORTHOPTERA: Locusta, &c. *(e)* *Sub-Order* 2. INSECTS WITHOUT JAWS:—OPTERA: Pediculus. *(a)*—HEMIPTERA: Cicada, &c. *(b)*—DIPTERA: Musca, &c. *(c)*—LEPIDOPTERA: Papilio. *(d)*

The first grand division comprises, as will be perceived, those animals having no brain or spinal marrow. It is hence evident that the nervous system does not, in this division, attain any very great height in development. Still it is not to be imagined that, in some of these animals, something analogous to a brain and spinal cord is not to be found: for a structure very similar is perceived: in fact, what may be, in some cases, justly named a brain and a spinal cord: but then that concentration and unity of the nervous system, exhibited in the animals of the second division, are not to be met with.

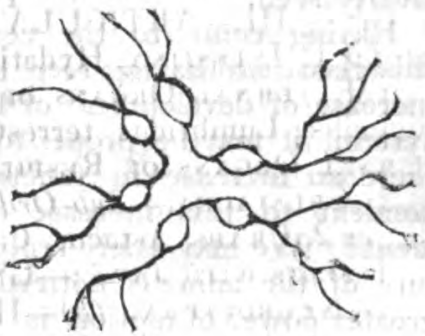
With respect to the ZOOPHYTES, it may be remarked, that 'a cavity existing in the middle of the body, and combining in itself the characters of stomach, heart, and sexual organs *,' is their principal part. This simplicity of struc-

* Carus, Sect. 64.

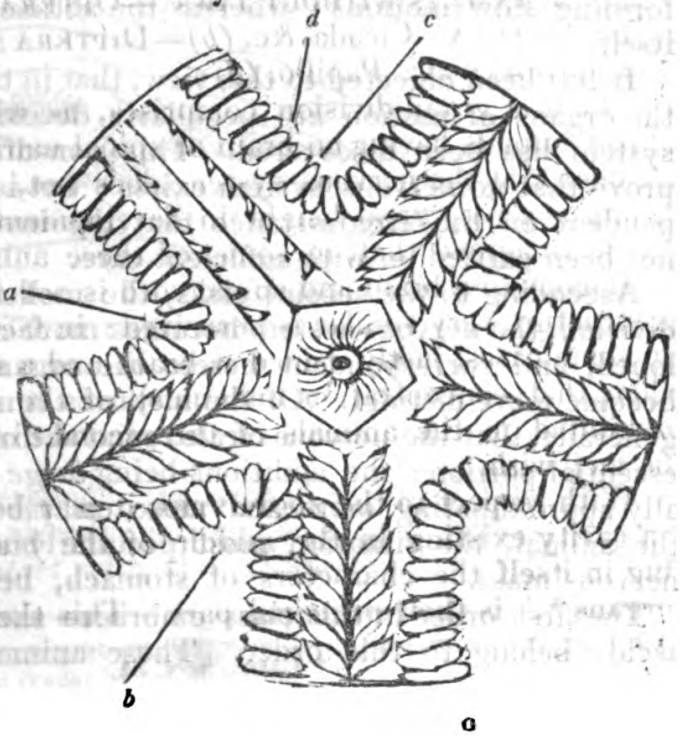
ture and first grade of animal life require simplicity of nervous system. What then is the primitive form under which this system exhibits itself? This is a most interesting question, and the answer is the following. The nervous system in its most simple state is in the form of a PERIPHERAL layer around the central cavity just described. This, namely, nervous matter surrounding the central part, may be said to be the primitive form; and this, thus afforded, will be found to be the type of the nervous system in the higher grades of its development.

Lamarck, in his *Philosophie Zoologique*, denies the existence of any nervous system in the animals of order infusoria and polypi: but this denial is founded upon a preconceived notion of this author, namely, that nothing can constitute a nerve unless there is a central point, or ganglion therewith connected. Hence his observation avails nothing.

In the 4th order, the sea nettles, in the genus actinæ, species coriace, distinct nervous *fibres with ganglia* are found: Fig. 1. The ganglia are arranged round the base of the stomach, and the nerves proceed out from the same. Here, then, is the second progression, consisting of *ganglia with nerves* thence issuing, and these ganglia, be it observed, conform to the original type, inasmuch as they surround the stomach.



In the 5th order, in the genus asterias, Fig. 2, the nervous system is presented under the form of a nervous circle, situated at the intersection of the lines *a* and *b*, embracing the mouth; nerves, issuing thence in the form of rays, shown at the intersections of the lines, *d*, and



c, and being distributed to the body. Here is presented a third progression, namely, a *nervous circle with nervous rays* thence issuing.

In the holothuriæ and the sipunculi of the same order the nervous system is still more marked. According to Cuvier, (*Leçons d'Anatomie Comp.*) in the sipunculi there is a single nervous cord, surrounding the œsophagus by its superior extremity, whereas in the holothuriæ, especially in the genera priapus and pentactes, there exist five cords, white and slightly serpentine, marked with striæ, and placed between each of the five pairs of longitudinal muscles, which, after *becoming larger towards the œsophagus, unite and form a nervous collar around it.* Here the primitive form is still kept up: additional parts being conferred.

In the small sea-urchin, Fig. 3, the nervous fibres proceeding from the ring to the arches of the jaws are very clearly seen.



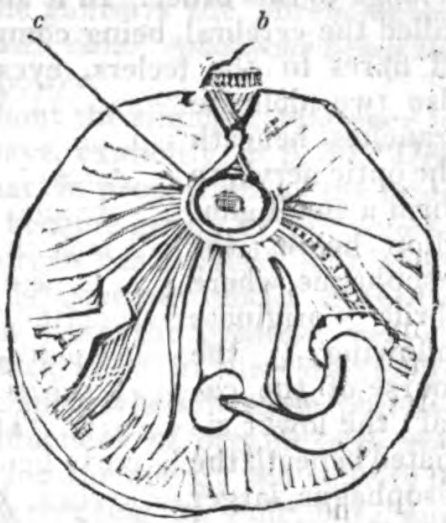
Having come to the conclusion of this class, and having seen this gradual increase of development of the nervous system, it may be proper to inquire, is there an increase in function correspondent to this increase of development? We may safely reply in the affirmative. The structure of the animals noticed is gradually more complex: a greater power of motion is possessed by those last enumerated than by the first. Thus the asterias is capable of performing slow motions; whereas the actinæ cannot move of itself.

It has been objected to this view, that in the echini, where the organs of motion are peculiarly developed, no nervous system has been discovered. This non-discovery does not prove that no nervous system exists; but is most likely dependent on the circumstance that the investigations have not been carried on with sufficient care.

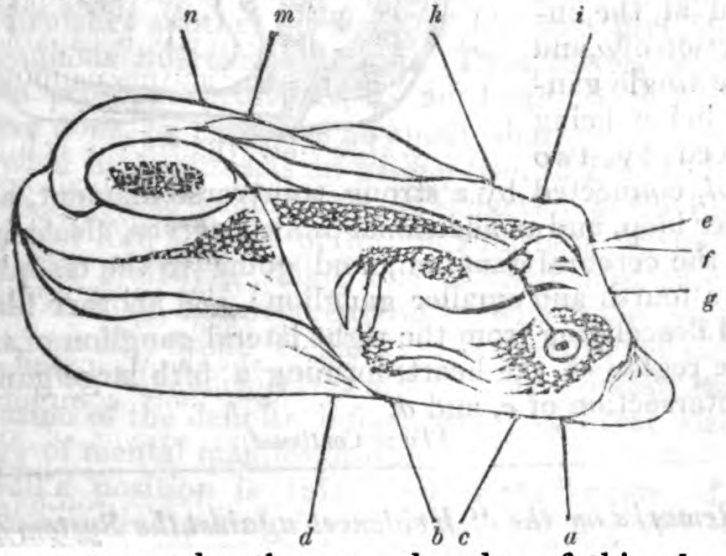
Ascending to the second class, the mollusca, of this first division, the nervous system becomes more completely developed, and correspondent hereto the organs of animal life become more distinct. Of the mollusca it may be remarked generally, that the nervous circle round the œsophagus is the essential portion; the additions being *large ganglia*, gradually approximating more and more on *the superior* side of the animal, the situation most peculiarly assigned to the nervous mass.

The first order in this class embraces the acephala. The ascidæ belong to this order. These animals have a body

with two openings, the viscera being inclosed within a muscular bag, covered by an external fibrous case. In these animals (see Fig. 4), we have a single ganglion *(a)* placed between the openings of the mouth *(b)* and the anus *(c)*, giving off branches to both extremities, and forming loops around them. In the ascidia *gelatinosa* one layer and two smaller ganglia between the stomach and the gill-bag have been found.



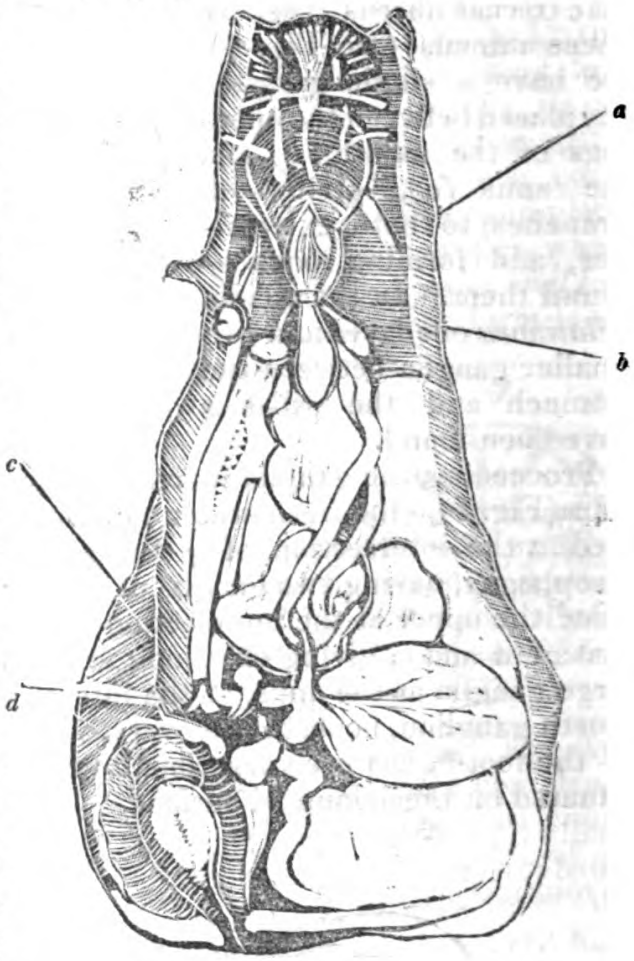
Proceeding, the ganglia increase. Thus, in the mya pictorum (Fig. 5), (the fresh-water muscle) a nervous ring (situated at the intersection of *g* and *f)* loosely surrounds the œsophagus, having two ganglia of aconsiderable size on each side; the upper at the intersection of *k*, and *i*, the inferior at that of *a* and *c*, giving off a long fibre on which is formed a large ganglia at the anus, at the intersection of *m* and *n*. A fourth ganglion, beneath the ovary, situated at the extremity of the foot *, has been described by Mangeli. All these are situated on theabdominal surface.



In the gasteropoda, the second order of this class, the nervous ring already noticed, is *larger*, *firmer*, and more *closely in contact* with the œsophagus. The genus limax,

* The foot is an important part, containing many of the viscera. This is mentioned that the reader be not deceived,

belongs to this order. In it are found two ganglia, the upper called the cerebral, being composed of two lobes, and giving off fibres to the feelers, eyes, mouth, and sexual organs, also two delicate branches beneath the optic nerve, to form a small ganglion below the œsophagus, where fibrils originate following the course of the canal: the lower situated beneath the œsophagus, larger than the upper and supplying the viscera, and distributing branches to the muscular fibres of the foot.



The genus aphysia (Fig. 6,) is somewhat different: the cerebral ganglion being situated at the intersection of *a*, and *b*, the single ganglion below being replaced by two *lateral*, connected by a strong transverse filament, also by a slender loop, and an additional pair of nerves, also originating from the cerebral ganglion, and going to the œsophagus to form a fourth and smaller ganglion: and another filament is found descending from the right lateral ganglion of the ring, to the region of the heart, forming a fifth large ganglion at the intersection of *c*, and *d*.

(*To be Continued*).

II. *Remarks on the "Evidences against the System of Phrenology.* By Thomas Stone, Esq."

(*Continued from Vol. I. page* 450.)

Having appreciated the character and importance of those 'Evidences against the system of Phrenology,' which Mr. Stone has laboured so disreputably to educe from certain vitiated instances of partial insanity, let us now consider the

manner and effect wherewith he gainsays the phrenological doctrine—that organic size, *all other conditions being the same,* is a measure of mental power.

At the outset then, and without the slightest reference to any part of their writings, he says, explicitly, at p. 30, 'Drs. Gall and Spurzheim assume that, in proportion as the brain increases in size, the faculties become gradually developed; and when, consequently, this organ has attained its highest degree of development, which is generally about maturity, then the mental manifestations have the *greatest energy.*' Now, this statement is both inexact and unfair; it exhibits a gross mutilation of the principles wherein these phrenologists define the re-active influences of organic size and organic constitution, in modifying the energy and activity of each cerebral instrument in executing its functions; and thus unjustly attributes to them a mischievous proposition, tending necessarily to depreciate the effects of education and moral discipline as means of mental improvement; and, in like manner, to imply the absence of difference in the mind's manifestations when the brain is healthy or suffers from disease. Neither Dr. Gall nor Dr. Spurzheim, however, inculcates a principle so exclusive; and, in making them say that energy of the mental manifestations depends on mere size of the brain, independently of organic constitution, as varying its susceptibilities, Mr. Stone deliberately traduces the phrenologists, and, at the same time, unintentionally furnishes another evidence of his own predilection for disingenuous misrepresentation. Thus, instead of citing their own proper expressions, as an honest controvertist would have done, he exercises no small share of subtilty in framing what he imputes,as an *assumption,* to Drs. Gall and Spurzheim, so as to adapt it to the seduction of the unsuspicious reader into a belief of his own fairness, at the very instant he is craftily garbling one of their most precisive doctrines. Let us, however, attend to what '*the calliper-gentlemen,*' as Mr. Stone elegantly denominates the objects of his calumny, have themselves always and expressly taught in illustration of the definite influences of cerebral size on the energy of mental manifestation.

Dr. Gall's position is this—'when the organs of the mind have acquired a high degree of development and *maturity (perfectionnement),* those organs acquire from this the capability *(possibilité)* of manifesting their functions with *much* energy*:' in another place he adds, in farther illustration of his doctrine, 'it is not the absolute mass of brain alone which determines genius or moral character, but each

* For this reference and two others see Note on next page.

cerebral part in particular, in as far as it has acquired a development more or less favourable, may modify the degree of the manifestation of such particular moral quality or intellectual faculty* :' and again he says, ' I have demonstrated that there is a disposition to the exercise of function in so much the more energetic, in as much as the healthy organ, *choses égales d'ailleurs,' cœteris paribus, all conditions being the same,* ' has acquired considerable development *.' Moreover, Dr. Spurzheim expounds the phrenological doctrine with a precision calculated to anticipate all misconstruction.' ' The size,' he says †, ' of the cerebral parts is compared with very energetic actions, and with determinate characters, in order to discover their functions as the organs of the mind. All functions, however, differ, not only in quality but also in quantity; and there are, undoubtedly, several organic conditions which contribute to bestow energy and to modify them individually. The size of the organs is only the most easily observed condition. The reader must therefore remember, that in endeavouring to discover the organs of the mind, in other words, to determine the *nature* of the functions of the cerebral masses, their size suffices. The organic constitution, or the temperament of the cerebral organs, is another very important condition to their natural energy, and Dr. Gall and I attend to it also as much as possible; but it is more difficult to observe modifications here, than in size and configuration. They are therefore mistaken who object that we neglect the organic constitution of the cerebral parts, since it is in fact a leading point with us, that every fundamental faculty must be compared with its appropriate organ, not in individuals of different kinds, not even in different individuals of the same species, but in the same individual. If we examine the different degrees of activity of the cerebral organs, it is necessary to consider not only their size and organic constitution, but also the exercise every faculty has undergone, and the mutual influence of the whole.—It is not generally admitted that the natural energy of the mental functions is in proportion to the *size* and *organic constitution* of the cerebral organs. We have merely to answer, that experience favours our proposition‡.' Again, he observes, ' we see that very small brains pro-

** Dr. GALL, *sur les Fonctions du Cerveau et sur celles de chacune de ses parties.* Paris 1822; tome I. p. 200—4; II. p. 322, 348—9; tome III. p. 3.

† *Phrenology, or the Doctrine of the Mind,* 1825, p. 98—9.

‡ On this subject the reader may also consult Dr. Spurzheim's *Phrenology,* p. 69—96; his *Physiognomical System,* 1815, p. 190, 241, where he remarks, ' In every function, we may distinguish the energy or quantity, and the modification or quality. It is very difficult to examine the modifications; it is more easy to consider the different energy of the functions. It is then to be examined on

duce the most surprising effects. If the absolute size of the cerebral mass were a sufficient measure of the affective and intellectual faculties, ought not all animals which have the same quantity of brain to manifest absolutely the same faculties; it is not possible even to measure the faculties in individuals of the same kind according to the absolute size of the brain: such views show that we must search for another measure of the faculties of the mind than the absolute size of its organ.'

Whoever, therefore, takes an interest in this discussion, will readily discover, on attending to these specified references, the true position* of phrenologists to be—that organic size is not *the only*, but merely *one*, condition in producing energy of function; and that, WHERE ALL OTHER CONDITIONS ARE EQUAL, there increase of size will indicate increased activity of function; and, consequently, that he who charges them with affirming cerebral size to be the only and exclusive condition of functional energy, does distort one of the fundamental principles of their science, and substitutes in its stead a palpable and erroneous mis-statement.

Be it temporarily conceded, however, that Mr. Stone's representation is accurate, and then let us estimate the evidence by which, as he dreams, it can be disproved. Such evidence is threefold; *first*, Mr. Stone's own assertion that, 'on investigation, it appears that no such co-relation does exist; and that the brain attains its fullest complement in size before the evolution of the intellectual faculties:' *second*, a quotation from 'the Wenzels, who,' as the citer certifies, 'have investigated the subject minutely; and, from the result of their observations, demonstrate that the brain acquires

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what conditions the energy of the faculties depends. There is a general law that the energy of the functions of any part depends on its size, and on its *organic constitution; that is, on its extensity and intensity.* It is also certain that, in order to judge the degree of activity of the faculties, it is necessary to consider, besides the extensity and intensity of the organ, the *exercise* of every faculty, and the *mutual influence* of the faculties upon each other. The same doctrine is defined in all the phrenological works; see Combe's *Elements*, p. 181, his *System*, 1825, p. 36, 44, 47, 50, 434, 441, 453. *Phrenological Transactions*, 1824, p. 86 and 112; at the former of which places it is said, 'Every individual has all the organs, but their size and degree of activity vary in all. *Strength* is one quality of mind, and *activity* another. A mind may be very powerful, but slow; or very active, but not remarkable for vigour; or both qualities may be combined. Strength depends on the *size* of the organs; activity may result from *constitution and exercise.*' The *Phrenological Journal* contains an article in which the 'effects of size and activity in the organs' is perspicuously defined; vol. I. p. 297—307; see also p. 590, 622—4, of the same volume; likewise vol. II. p. 461—2; and III. 218—222.

* This position has been illustrated by Dr. Andrew Combe, in an elaborate and most philosophical article, entitled, '*On the Influence of Organic Size an energy of function, particularly as applied to the Organs of the External Senses and Brain;*' *Phrenological Journal*, vol. IV. p. 161—189.

its fullest increment in size at the age of seven years, when, they observe, illo anno cerebrum hominis et quoad totum et quoad singulas partes absolutum esse videtur:' and, *third*, a piece of concentrated absurdity in the form of a 'table obtained from an eminent *manufacturer!*' Now, with regard to the *first* of these evidences, its utter worthlessness is apparent without demonstration; for, its author having been, and hereafter will be, convicted of so many instances of bad faith and wilful misrepresentation, no inference can be deduced from his assertions, but this—that the converse of what he affirms to be truth must necessarily approximate reality. Nevertheless, though the case had been different, his notion is conclusively opposed by the authority of phrenological writers, and, consequently, thus far entitled to the respect of one who seems ever ready to yield an insipid sort of deference to such testimony. Philosophers, from the earliest ages, and each after his own way, have regarded size of the brain as *a* measure of mental capacity; thus, for instance, Aristotle, Erasistratus, Galen, and Pliny, inferred that superiority of intellectual endowment depends always on the absolute size of that organ. The same doctrine, under various modifications, is distinctly recognized by Ebel, Camper, Dumeril, Vicq-d'Azyr, Cuvier, Richerand, and other modern physiologists. According to Georget, 'the extent, diversity, energy and complication of the intellectual operations, in animals and in man, are generally in a direct proportion to the size of the brain, whether absolutely or relatively considered.' 'The number and perfection of the intellectual faculties, in the series of species and in the individuals of the same species,' says Desmoulins *, 'are proportionate to the extent of the cerebral surfaces.' Magendie † is still more explicit; 'of all animals,' says he, 'man has proportionally the most voluminous brain; the dimensions of this organ are proportionate to those of the head: in this respect, men differ much from each other; in general, the size of the brain is in direct relation to the capacity of the mind; it would be wrong, however, to believe that every man having a large head necessarily has superior intelligence; for many causes, independent of the size of the brain, may enlarge the size of the head; the sole means of appreciating the size of the brain in a living person, is to measure the dimensions of the skull ‡.'

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* *Anatomie des Systèmes Nerveux des animaux a vertébres, appliquée a la physilologie et a la zoologie, par* A. Desmoulins, D.M. Paris 1825, tome II. p. 606.

† *Précis Elémentarie de Physiologie, par* F. Magendie, D.M. Paris 1816, tome I. p. 162—3.

‡ Our Correspondent sent us a very interesting and important Table, shewing

Thus, then, according to evidence, ancient and modern, philosophical and medical, experimental and demonstrative, it appears, that a 'co-relation' really does exist between the increase of size in the brain and the development of 'the faculties:' this, however, is only a *part* of the phrenological proposition which—as the reader has just observed to have been left altogether unnoticed by Mr. Stone, requires vigour of organic constitution, appropriate exercise and discipline, and the influences of mutual re-action in the cerebral organs, to be superadded to their 'fullest complement in size,' as the means of determining a perfect 'evolution of the intellectual faculties.'

With regard to the *second* antiphrenological evidence, the 'favourite theory' whereby 'the Wenzels' are said to have 'demonstrated—that the brain acquires its *fullest* increment in size at the age of *seven* years,' it is essentially, perfectly and palpably erroneous; altogether discordant with facts cognizable by common observation; completely disproved by the results of anatomical research, and absolutely refuted by that most conclusive of all testimony, the 'table,' fabricated by an 'eminent manufacturer!' Now, this condemnation of the 'favourite theory' need not be received on the faith of any person whatever; let its accuracy be investigated and impartially judged; any medical practitioner, indeed, however limited his experience, possesses the means of readily ascertaining the fallacy of the singular notion here explicitly condemned; let him, with the assistance of his parents and the 'HATTER,' compare the dimensions of his own head successively in his seventh, fourteenth and twenty-first years; let him measure the heads of children in their seventh and each subsequent year; let him practise anatomical inspection of the brain in subjects who have died at different periods intermediately to the seventh year and the adult age; and, having done all this, he will find, with the phrenologists—that the brain always, in healthy persons, does acquire a determinable 'increment in size' after the *seventh* year of life; and that, before any man can be tolerated in fixing authoritatively a precise period for the ultimate development and 'perfectionnement' of the cerebral parts, he must first of all *prove* that such a period *ought* to be, and

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the comparative size of the spinal chord, cerebellum and brain, in man and the lower animals, constructed from the twenty comparative tables given by Dr. Serres, in his work, entitled '*Anatomie Comparée du Cerveau dans les quatre Classes des Animaux*,' which was intended for insertion here; but it was found impossible to get it in according to the directions of the author, and time would not permit to have it done in another form. We much regret the circumstance; but we shall endeavour to insert it in our next Number, accompanied by a reference to this part of the essay.—EDITOR.

actually does exist, as one of the Creator's exquisite arrangements.

Again, neither the 'inductive experiments' of anatomists, nor the 'experience* of hatters,' has enabled even one subsequent physiologist 'to come impartially to the conclusion' of the Wenzels; no person whatever, indeed, has adopted their 'favourite theory' from knowledge and a rational conviction of its plausibility, far less of its truth; whereas, on the contrary, its improbability and utter fallacy are clearly established by the inductive experiments of Dr. Serres, a decided anti-phrenologist, in his researches into the structural development and peculiarities of the brain; subjoined is a tabular view of some results of his observations, which the French Institute officially approved †.

Having, for his own perverse purposes, exhibited the conclusions of 'the Wenzels,' as something quite immaculate, Mr. Stone proceeds to notify their 'inferences,' in this phraseology:—'In no one faculty,' he says they say, 'is a boy of this age'—*seven years!*—'entirely deficient, but all *(all the faculties he means)* are in a state of inactivity. He is conscious of sensation, perception, judgment, desire, memory, imagination, fancy, reflection; but all of these *faculties*, if not exercised, are inert and inoperative. Habits of observation, and the force of intellect, grow upon him *(a boy of seven years!)* apace; in collective trains of ideas he institutes comparisons, and draws conclusions; still no absolutely *new* mental faculty is added, but all *(all what?)* acquire vigour and concentration.' 'These inferences,' he superadds with the sincere assurance of infatuation, 'being so much at variance with the phrenological deductions, Dr. Spurzheim naturally denounces them as incorrect; yet we are to remember that the Wenzels—not the avowed advocates of any favourite theory—came impartially to their conclusions after a series of inductive experiments; whereas Dr. Spurzheim, zealous in the support of his own system, opposes them merely with a gratuitous assertion.' Now, Dr. Spurzheim, although he must necessarily regard the premises as a pure hypothetical phantasm, and the 'inferences' as a medley of reality and delusion, never denounced them as incorrect, nor opposed to them any assertion of any kind whatever; had he done this indiscriminately, he would have discredited *some* truth while condemning much nonsense and error. With him and the phrenologists, it is a fundamental

* If the '*experience of hatters*' be admitted as a *philosophical* argument against phrenology, such *experience* ought, by the same rule, to be received as an equally philosophical argument in support of that science.

† This table also we have been obliged to defer inserting from the cause specified in a preceding note.—EDITORS.

doctrine—that the mental faculties are *innate*, and that every *sane* person, in boyhood and in manhood, possesses *all* these faculties, though as diversified in their relations of power and activity, as man's distinctive character is various and manifold. Phrenologists know, moreover, that in the *seventh* year of life, some, perhaps many, faculties of the mind *may* be inactive; but the notion that '*all are* in a state of inactivity, in a boy of this age,' they hold to be an absurdity outrageously contradictory to common sense, inconsistent with all human experience, and perfectly irreconcilable with the manifest laws of nature and philosophy. Again, Dr. Spurzheim, regarding it as not absolutely impossible that a boy of *seven* years *may*, in some degree, be 'conscious of sensation, perception, judgment, desire, memory, imagination, fancy, reflection,' does *not* 'naturally denounce this inference as incorrect;' neither, on the other hand, does he pronounce it to be true; because, were he, on assuming such a postulate, required to evince its accuracy by genuine evidence, he might be puzzled to find a 'fiction,' a fact, or even a 'plain tale,' possessing verisimilitude sufficient to make the conceit in any way plausible. Nevertheless, the doctor cannot be charged with disputing the truism—that 'all of *these* faculties'—and the true ones besides—'if not *exercised*, are inert and inoperative;' because he knows, with every schoolboy, that whatever is not acting, or not undergoing action, must, by inevitable consequence, be inert and inoperative. Farther, when Mr. Stone expresses approbation of the marvellous inference—that 'habits of observation, and the force of intellect grow upon him,' the boy of *seven* years, 'apace' in collective trains of ideas, he institutes comparisons, and draws conclusions,' he might be accredited for depicting the circumstances of his own personal experience; and, consequently, since one pure 'induction' must be far more conclusive than many mere arguments, this unoriginal position of his may be left undisputed. When, however, he sanctions the vapouring corollary—'still no absolutely *new* mental faculty is added, but all acquire vigour and concentration,' he first of all reiterates mawkishly an incontrovertible axiom; and then contributes an important, though unintentional, testimony to the truth of phrenology.

Lastly, the '*manufacturer's*' table itself shows that, in the *first* year of life $5\frac{5}{8}$, the *second* $5\frac{7}{8}$, the *fourth* $6\frac{1}{8}$, the *seventh* $6\frac{5}{8}$, the *twelfth* $6\frac{3}{4}$, the *sixteenth* to the *eighteenth* $6\frac{7}{8}$, and in *adults* $7\frac{1}{8}$, $7\frac{3}{4}$, 8 inches, give successively the 'mean diameter of heads;' and by direct consequence, according to the 'experience * of hatters, who themselves are void of all theory,'

* Mr. Stone, at p. 32, condescends to admit us to the knowledge of Capital

the head, after the *seventh* year, does actually increase as much as the difference between $6\frac{5}{8}$ and $7\frac{3}{4}$ or something more than a *seventh* part of its 'mean diameter' in the adult state. Mr. Stone, to be sure, *says*, that on comparing the '*manufacturer's*' table with 'that of Dr. Monro's, it appears that the dimensions of the skull ascertained by the learned professor *are below average*, and that the difference of mean diameter between the *head* of seven years and of maturity, or the extra half-inch, is to be attributed to the growth of the frontal sinus, external table, and soft integuments.' Well, since the *sayer* of all this is a most veracious person, it may be possible that these sayings of his may have a trace of indiscernible verisimilitude about them; but, till he shall have adduced *some* proof in support of such mystical enunciations, his egregious table may be exhibited as a 'nice article' among 'manufacturers,' but cannot be held as other than the miserable puppet of a parasite in the estimation of philosophers.

Having thus accompanied those wriggling dogmatists, the anti-phrenologists, through the maze of stupidity, sophistry and falsehood which constitutes that portion of the 'plain tale' intended to 'put down' the first phrenological proposition, let us momentarily contemplate, for the sake of refreshment, the portentous self-complacency wherewithal their representative, by way of epilogue, pronounces the fatal judgment. 'It is therefore,' he says, p. 34, 'satisfactorily *proved*, that the brain attains its *full* increment in size long before the intellectual faculties are fully developed; consequently, the powers of the mind cannot be considered as being evolved by the gradual enlargement of the cerebral substance. No anatomical research is indeed necessary to prove the supervention of mental energy after the age of maturity. The fact is sufficiently exemplified in the lives of many eminent men, as in those of Cornaro, Swift, and Wal-

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Mensuration, as practised by that set of 'inductive' philosophers who 'themselves are void of all theory.' 'Hatters,' he says, 'add the two diameters together, and take their arithmetical mean for the diameter of hats, which surround and measure the external visible circumference of the head.' Now, the fact of advancing in any way, as a ground of philosophical deduction, the 'experience' of persons whose utmost science is to measure, not the whole, but a part only of the external visible *circumference* of the head, affords a manifestation of the most stupid and absolute childishness. According to their 'interesting' process, the *flat* head, the head 'villanously low,' and the head of him who is sottish, selfish, mischievous and impure, may be larger than that of the man whose life constitutes an uninterrupted exemplification of humility, benevolence, justice, intelligence, and practical virtue. There is something exquisitely magnificent, indeed, in the discovery, which shows, to a demonstration, that the size of a globated body—the human head for instance—can be ascertained by the self-same means which enable a retailer of hats to accommodate his customers with a 'good fit.'

cott.' Now, if the first of these positions be 'satisfactorily proved,' this, by the same rule, is *proved* also—that a mean, agent or instrument must have existence, be *fully* complete and used before its application or agency can conduce, effectively to the *full* production of results—which is an essential phrenological doctrine. Again, if it be *consequently proved* that 'the powers of the mind cannot be considered as being evolved *by* the gradual enlargement of the cerebral substance,' this, by the same rule, is proved also—that materialism is a false and pernicious delusion, and that phrenologists are insomuch quite orthodox, inasmuch as they do *not* 'consider the intellectual faculties as being evolved in any degree, *by* the gradual enlargement of the cerebral substance.' Lastly, if it be 'satisfactorily proved' that the 'supervention of mental energy, after the age of maturity,' is a *fact* 'sufficiently exemplified by the lives of many eminent men,' this position, by the self-same rule, is *satisfactorily proved* also, that the phrenological doctrine—innateness of the mental faculties and their susceptibility of increased energy from external and internal impulses—is as demonstratively certain, in all respects, as the immutable reality of truth.

Next comes the *second* PROPOSITION, in Mr. Stone's select phraseology; thus, 'The power of manifesting each faculty is *always* proportionate to the size and activity of that organ, or part of the brain, with which *it is supposed* to be in immediate connexion.' Conceding this version of the proposition to be nearly exact, let us consider the kind of evidence opposed to it, as a fairly-stated portion of the phrenological system. At the very threshold, then, and with the utmost amazement, we find a tissue of falsification and plagiarism, wherein all decency, justice, the honour of 'esquires' and the good faith of honest men, are outrageously insulted by the grossness of its impudence, and the monstrousness of its profligacy.

Mr. Stone, p. 34, begins with garbling *two* 'ON REMARQUES' of Dr. Gall's, where an upright person would have found it requisite, as an act of indispensible justice, to quote *twenty* besides; next, he most shamelessly exhibits those garbled remarks as a true and perfect representation of the doctor's principles; and then, with an assurance alike confident and detestable, proceeds to 'put down' this false doctrine, by arguments, often in words, preferred 'without reference or acknowledgment' from the discussions wherein Drs. Gall and Spurzheim themselves had previously demonstrated its futility and discordance with truth, nature and philosophy. Ascribing it to the former, however, Mr. Stone says—'On

this hypothesis, as man is the most intelligent of created beings, so ought his brain, whether viewed in relation to the size of the body, nerves, cerebellum, or medulla oblongata, to exceed in volume that of every other animal. This appears not to be the case.' Now, astonishing as the assertion may appear, Dr. Gall *never* entertained this nonsensical 'hypothesis'—never in any way described, as has been shown already, mere size of brain as the sole and certain measure of intelligence—*never* expressed the notion that the brain of man, *whether viewed in relation to the size of the body, nerves, cerebellum, or medulla oblongata*, ought *to exceed in volume that of any other animal;* but, on the contrary, has most minutely, most philosophically, and most completely, exposed and refuted its errors. Nevertheless, and calculating undoubtedly on an escape from detection in a fraud so iniquitous, Mr. Stone attributes to Dr. Gall this visionary 'hypothesis,' and commences forthwith, in his own drivelling way, to produce its confutation. For this purpose he *first* of all adduces, as portentous novelties, the authorities of Daubenton and Buffon, who, we are told, have shown that the brain of some of the monkey tribe is larger in proportion than *to* that of man;' *secondly*, some remarks of Cuvier's on the brains of certain animals, and 'their powers of intelligence;' *thirdly*, the 'point of comparison' instituted by Söemmering, with a bald exhibition of its incorrectness; *fourthly*, the 'point of comparison which has been attended to by all anatomists and physiologists, from the time of Willis,' on which *hypothesis* he says significantly, 'the cow should be as intelligent as man,' and not less simple, certainly, than an antiphrenologist; *fifthly*, the 'comparison' proposed by Ebel, with a condemnation of it as an 'unsatisfactory criterion,' because 'the breadth of the medulla oblongata, in some *baboons*, nearly equals what we find in man;' and, *finally*, the inductive oracle—that 'no relation, therefore, can be supposed, in any case, to exist between the absolute volume of the brain and the different degrees of intelligence; and these facts sufficiently refute the phrenological opinion which we have given *in the words* of Dr. Gall.' Here, then, is a pure instance of sciomachy, of a person *first* deluding himself with the fancy that Dr. Gall maintains an unsound hypothesis, and then *stealing* from the doctor's own writings, the 'Evidences' whereby the absurdity of such hypothesis is demonstrated. Before acceding to the justness of this charge, however, let the reader compare what is said in p. 35, 36, and 37 of the 'Evidences,' with Dr. Gall's investigation of the same subjects; an analytical view of his remarks may be worthy of attention.

Mr. Stone has more than once quoted Dr. Gall's treatise on the functions of the brain, and he knows perfectly, that, in the third volume of this work *, there is a section entitled —'On the method of ascertaining, by means of the state of the brain, a measure of the intellectual faculties and moral qualities;' and, also, that this section comprises thirteen distinct heads, *nine* of which, in particular, are devoted to an exposure of the hallucinations wherewith the doctor himself is charged. The *first* is—'On the absolute volume of the brain, compared with its functions;' in this, the primitive assumption—'that man has a larger brain, in proportion to the size of his body, than any other animal,' originally advanced by Aristotle, adopted by Erasistratus, Galen and Pliny, and still maintained by certain modern physiologists, is examined and disproved. Here Dr. Gall declares expressly, that 'it is necessary to renounce the estimation of the intellectual faculties by the absolute size of the brain;' that, 'moreover, we observe nature producing the most wonderful effects by means of extraordinarily small brains;' that 'if the mass *alone* of the brain were to be considered, without its integral parts, as elements, being included in the consideration also, there would be no other difference between animals endowed with a large cerebral mass, and those possessing a small brain, except greater or less intensity in the exercise of the intellectual faculties: the qualities peculiar to each species can *never* be explained by the size *exclusively* of its brain;' and, in fine, 'that we *cannot* obtain a scale for the instincts, propensities and faculties of animals in the absolute size of the brain.' The *second* head is—'On the proportion which exists between the size of the brain and the size of the body,' and comprehends a decisive refutation of the unphilosophical conceit which prefers this proportion as a measure of the mental powers; let the investigation of this question be impartially and carefully perused, and conviction of Dr. Gall's originality, and consequently of Mr. Stone's profligate depredations, must necessarily ensue. The *third* is—'On the proportion between the brain and the nerves,' and exhibits the utter futility of the notion advo-

* *Sur les Fonctions du Cerveau et sur celles de chacune de ses parties;* tome II. p. 278-312. At p. 516 of the same volume, he states summarily,—'I have indicated the means of ascertaining, as well for man as the lower animals, a measure of the moral qualities and intellectual faculties. I have shown that neither the absolute size of the brain, nor the proportion that exists between the size of the brain and that of the body, nor the proportion between the brain and the nerves, nor that between the brain and the face, nor that between the brain and the neck, nor the proportions between the cerebral parts, can ever furnish such a measure. I have also shown that the facial line of Camper, and the occipital line of Daubenton are incapable of furnishing any measure of the intellectual powers.'

cated by Wrisberg, Söemmering, Cuvier, and others—that the proportion between the cerebral mass and the nerves is a true measure of the intellectual faculties. 'Such proposition,' says Dr. Gall, 'can never serve as a scale for estimating the animal instincts and faculties; it rests on a supposition altogether erroneous.' The *fourth* is—'On the proportion between the brain and spinal marrow,' which Ebel and others had regarded as 'the most infallible' measure of the intellectual faculties: Dr. Gall proves it to be an assumption in all respects imaginary and preposterous. The *fifth* is—'On the proportion between the brain and the face,' as 'an exact measure of the faculties, instincts and intelligence of animals,' and proves, to a demonstation, that such a scale is absolutely delusive and irrelevant. The *sixth* is—'On the proportion between the brain and the neck;' a Platonic absurdity, revived by Bichât and Richerand, as a means of appreciating the mental faculties; 'here,' says Dr. Gall, 'the authority of Plato proves one thing only—that men who enjoy great reputation ought, above all things, to be cautious of expressing rash notions; for, however erroneous these may be, they are sure to be repeated in after-ages. The *seventh* is—'On the proportion of the cerebral parts between themselves,' as a means of determining the nature and degree of the intellectual powers; under this head, Dr. Gall shews the impossibility of ever finding a fixed proportion between the different cerebral parts, and establishes the preposterousness of such an odd fancy, beyond all doubt or disputation. The *eighth* is—'On the facial line of Camper,' as a means of ascertaining, in animals, the degree of their intellectual endowment. Out of deference to the celebrity of its inventor, Dr. Gall devotes more attention to the examination of this whimsical speculation than it deserves: a very cursory perusal of his reasoning must shew that a more childish fancy was never obtruded on the consideration of physiologists. The *ninth* is—'On the occipital line of Daubenton,' which, says Dr. Gall, cannot indicate even the most striking differences that exist in brains the most dissimilar; which includes no cognizance of the superior, anterior, and lateral portions of the brain; and, by necessary consequence, is entirely useless and nugatory.

Again, and as a subject of contemplation for the anti-phrenological sages and their *fact*-maker, the shuffling baronet, another evidence of their champion's torpid integrity may be stated. More than once, then, has Mr. Stone cited the 'physiognomical system*' and the 'phrenology' of Dr.

* *The Physiognomical System, founded on an Anatomical and Physiological Examination of the Nervous System in general, and of the Brain in particular;*

Spurzheim, and incontestably he knows that the doctor has investigated, in distinct sections of these works, the different speculations which constitute the 'hypothesis'—that, 'as man is the most intelligent of created beings, so ought his brain, whether viewed in relation to the size of the body, nerves, cerebellum, or medulla oblongata, to exceed in volume that of every other animal'—and, at the same time, clearly and conclusively demonstrated such hypothesis to be, in each and all its parts, a conception remarkable only for its puerility and nonsensicalness. Let the reader, on perusing these sections attentively, submit to the scrutiny of his own understanding the accuracy of Dr. Spurzheim's conclusions; here are his recapitulatory remarks; 'I have demonstrated that the faculties of the mind can neither be determined according to the absolute size of the brain, nor according to any proportion between the brain and the body, the nerves, the face, or the neck; nor according to any proportion of one cerebral part to another. We have seen that it is necessary to compare each special faculty only with its relative organ.' Here then, and unveiled by the testimony of these works, stands exposed in all its hideousness, another instance of the obliquity whereby the 'plain tale' is desecrated—another manifestation of the insincere spirit which pervades the 'Evidences against phrenology,' exhibited in their true character as they have been, these may, or ought at least, to prompt the adversaries of that calumniated science to the practice of reflection on their own consciousness, for the purpose of detecting the principles which have hitherto urged them, at the expense of so much guilt and infamy, to attempt the suppression of a humanizing system, with means not palliated by one trace of modesty, not illuminated by one ray of benevolence and philosophy.

(To be continued.)

III.—*A Case of enlarged Scrotum, treated with the Unguentum Iodinæ.* By Medico Chirurgus.

G. S—, student of medicine, ætatis twenty-one, a free liver, contracted, in the month of May, 1828, a severe gonorrhœa, from which time until August very little care was taken to prevent its progress. During the latter stage, he suffered

by J. G. Spurzheim, M.D., 8vo, London, 1815, p. 190–207. With these pages before them, it is impossible to conceive what could be Mr. Stone's inducement in describing '*this hypothesis*' to phrenologists, and then unblushingly taking its refutation from the phrenological writings.

Phrenology, or the Doctrine of the Mind; and of the relations between its Manifestations and the Body; by J. G. Spurzheim, M.D., 8vo, London, 1825, p. 54–63.

much from hæmaturia. One day in August, the patient having drank rather freely of wine, exercised himself at the game of skittles, which produced great swelling of the scrotum. Severe pain ensued, so severe that from this cause, and also the size of the tumour (equal to a large fist) he was confined to bed. Dr. Epps, having seen the tumour, ordered a dozen leeches to be applied, and rigid abstinence with rest. The pain having been subdued, Dr. Epps prescribed the Ung. Iodinæ, which was applied, and reduced the tumour to the size of a hazel nut. The ointment, producing great irritation, was, at this stage, left off*. The effect produced was very striking.

IV.—*Mode of Exhibition for Copaiba.* Communicated by a Correspondent.

Any formula by which the peculiar unpleasantness belonging to a medicine can be removed, is truly deserving attention. With the following I was favoured by one of the gentlemen attending the Western Hospital. It is for the exhibition of that unpleasant medicine copaiba.

℞. Bals. Copaibæ f ʒij
Pulv. Acaciæ ʒij
Sacchari ʒiij
Liq. Potassæ f ʒiss
Spir. Myristicæ f ʒj
Aquæ f ℥vi, ft. Mist.

Capiat cochlearia larga ij ter die.

I recommend this formulæ to the attention of practitioners, as being very eligible for the administration of this otherwise most nauseous medicine. The efficacy of the copaiba seems to be much increased by the combination.

One circumstance is to be attended to in its administration, namely, that, as it is apt to leave a caustic taste in the mouth, the patient should wash his mouth and fauces with some mild diluent.

MONTHLY SYNOPSIS OF PRACTICAL MEDICINE.

1. *Fracture of the Cervical Vertebræ* †.—Notwithstanding the very minute anatomical examinations to which the different classes of nerves have been submitted, and the numerous experiments

* This circumstance is not to deter from continuing the use of the ointment. The irritation may be removed by the application of a few leeches, and the use of the ointment should be continued.—Editors.

† St. Bartholomew's Hosp.

which have been performed on the nerves of living animals, our knowledge of the distinct function of each class is still very limited. The cerebral and spinal nerves have been generally considered to preside over the movements of animal life, or over sensation and voluntary motion; and the ganglial nerves, over the *involuntary* movements. Nevertheless, facts prove that the functions of the automatic organs cease when the influence of the spinal nerves is abstracted, though the ganglial system of nerves be free from lesion. It is generally considered that the branches of communication subsisting between the spinal nerves and the ganglial, are *given off* by the latter, and not *received* by them from the former. Whether it be so or not, the fact is clear, that nervous influence moves in the contrary direction, namely, from the spinal to the ganglial. This is proved by the fact that the action of the intestines ceases, or becomes considerably diminished, when the influence of the spinal nerves is abstracted from them. The following cases affords an example :—

James Halford, admitted on the evening of November 10th, about eight o'clock,with complete paralysis of the upper and lower extremities, consequent to injury of the cervical vertebræ, occasioned by a fall on the back of the head from the top of a loaded waggon. When admitted, had not the power of raising his head; had lost all sensation and power of motion, excepting that he was able to turn his head from side to side when in bed; complained of great pain at the back of the neck; respiration slow and oppressed, performed by the diaphragm only, the intercostals being completely paralysed; pulse about sixty, somewhat full; had partial priapisms. On examining the back of the neck as he lay, the spinous process of the fifth cervical vertebra appeared to be displaced, and more prominent than usual: from this and the attending symptoms, it was concluded that there was fracture, probably extending through the bodies of the cervical vertebræ. During the night the priapisms became more frequent, and towards morning a quantity of flatus had collected in the abdomen; nothing had passed per rectum, and an enema was ordered. With the view of exciting the muscular action of the intestines through the nervous influence, a stream of galvanism was directed from the back through to the rectum: this at first had the effect of somewhat lessening the distention, but the tympanites soon increased, and continued to extend though the galvanism was kept up for upwards of half an hour, varying its direction; occasionally it was applied with less power through the œsophagus to the rectum. The patient was bled to about ℥vj. when he became sick and faint; a drop of croton oil was given in two doses, but without any effect; the water was drawn off twice, the smell of which was slightly ammoniacal. The tube of an elastic gum catheter was introduced per rectum, with the view of evacuating the wind, which, towards 6 P. M. had collected to a great extent, impeding the action of the diaphragm, and causing the patient to gasp for breath; he was gradually sinking from the oppression, continually turning his head from side to side, and died at 6 P.M.

Sectio Cadaveris. Dislocation was found to have taken place between the fourth and fifth cervical vertebræ. After cutting away the muscles, the cartilaginous surfaces of the superior articular processes of the fifth cervical vertebra came into view, in consequence of the inferior processes of the fourth having been completely dislocated forwards, and remaining fixed in their unnatural position. The ligamentum subflavum was torn throughout, and the apex of the fourth spinous process lay in close contact with the basis of that of the fifth. An unusual projection was observed on this part of the column, in consequence of the fibro-cartilage connecting the fourth and fifth vertebræ being completely torn through, the body of the former projecting in front of the latter; the posterior longitudinal ligament was torn, but the anterior, covering the point of the bodies, was entire. The antero-posterior diameter of the vertebral canal was lessened by this displacement nearly one half; the spinal marrow was soft and pulpy, and blood was effused in its substance; its membranes were entire; some blood was effused in the canal between the bones and the membranes.

A remarkable symptom in cases of this description, is *priapism*. Can our phrenological friends explain this circumstance upon any of the principles of that science? Erection of the penis generally takes place from a positive cause, namely, an augmentation of nervous influence; whereas, in cases of paralysis from lesion of the spinal marrow, the cause appears to consist in a *diminution* of that influence. Now, whether or not our view of this subject be correct, but we should account for this symptom in cases of the above description according to the same principle which determines more than the due proportion of blood to a part in a state of inflammation. A diminution of nervous energy in a part is tantamount to a diminution of vital properties. The effect of this on the blood-vessels is dilatation; the next step in the chain of effects is congestion, or, as it is generally termed, determination of blood. Now, the calibre of the vessels of erectile tissues is highly variable; and, in order to admit of this variableness, their dilatable property, depending upon the inherent elasticity of their coats, must be considerable. Hence, a diminution of nervous influence in them, by reducing their vital contractility, permits full play to their elastic dilatability, and the immediate effect of this is erection of the tissue which they supply. Some objection might be raised to this mode of explanation, but our limits will not permit us to answer them here.

2. *Fatal case of Erysipelas.—Post-mortem Examination* *.—A man, aged 40, was admitted, on the 4th of November last, under the care of Mr. Lawrence. The patient was the driver of a coal waggon, of rather short stature, remarkably muscular and strong, and appeared to have been a hard worker, as well as a hard drinker. Feeling rather unwell, he presented himself as an out-patient the day before his admission to the hospital. Twelve ounces of blood

* St. Bartholomew's Hosp.

were taken from his arm, and he fainted. On recovering he went away; told to return again on the following day. On Tuesday he felt worse, and was admitted. His right hand presented an erysipelatous appearance, with a spot on the back of it, as if it had received a blow; he was not aware of its having sustained any external injury. He was ordered to be bled again to sixteen or eighteen ounces; but twelve only were taken from him by the dresser, and twenty-four leeches applied to the hand and arm. He had a dread of being bled.—5. Half-past one o'clock, he has just been visited by Mr. Lawrence. His countenance is somewhat wild and anxious, and his mental faculties becoming impaired, so that it is difficult to get a satisfactory statement from him. He says that the first inconvenience he felt in his hand or arm was on Sunday. The hand and fore-arm are now considerably swoln and inflamed. The dorsum of the hand seems inclined to slough, to the extent of about a half-crown piece. The erysipelas has spread over the whole of the chest and abdomen. The redness in those parts, however, has somewhat a papillary appearance, and Mr. Lawrence has not made up his mind as to its exact nature. Tongue brown, and coated; pulse 84, and full, though compressible. He is evidently in a very precarious state. Ordered to be bled again, the bleeding to be regulated by the state of the pulse, and the opening medicine to be repeated. Twelve ounces more were taken from the arm in the course of the afternoon, and a dose of calomel and jalap administered. He became delirious at five o'clock in the evening, and so outrageous that the strait waistcoat had to be put on. At seven P. M. the dresser took, as he states, *ten* ounces of blood from the temporal artery. A cold lotion was kept applied during the evening and night to the head. The disease made rapid progress; he was exceedingly violent throughout the night; no other remedies whatever were resorted to, and he died at half-past eight on the following morning, by which time extensive sloughing both of the arm and fore-arm had taken place.

Sectio Cadaveris.—The liver was unusually large, and had all the appearance of that of a dram-drinker's; it, as well as the kidneys, was firmly adherent to the adjoining parietes and peritoneum, but the adhesions were decidedly of a chronic nature. There was about an ounce of fluid within the pericardium. The right auricle of the heart was loaded with blood, and very flaccid. There was more blood in the several viscera, when cut into, than is usually detected after death, and the vessels throughout were much distended. The arachnoid membrane of the brain was opaque, and a small quantity of bloody fluid was observed between it and the pia mater. No pus, but a considerable quantity of yellow fluid, escaped on cutting through the integuments of the diseased arm. The superficial veins of this arm seemed more hardened than natural. He evidently, for a considerable time, had laboured under a large scrotal hernia; the sac was found filled with omentum.

3. *Inflammation supervening on Venesection.—Death—Post-mor-*

tem Examination *.—A servant girl from the country, aged 23, was admitted on the 31st of October, under the care of Mr. Lawrence, with a small varicose ulcer on the inside of the right leg. Hemorrhage had twice taken place from the vein over which the ulcer was situated, and had been both times arrested by a compress and bandage. After the second hemorrhage the leg became inflamed and painful, for which complaint two dozen leeches were applied, and a dose composed of five grains of calomel, with some jalap, was administered. This brought on salivation; and ulceration took place in the leech bites. The limb had been ever since in much pain. On her admission, the patient was ordered to be bled, and to have a bread poultice applied to the leg. A dose of house physic, and five grains of blue pill every night, were also prescribed. The first dose of the pil. hydr. produced salivation, it was consequently discontinued. On the third day after the bleeding the arm had become painful and inflamed from the orifice upwards; and there was much fever, accompanied with a quick pulse; furred tongue. Pressure on the punctured vein produced exudation of a little fluid from the orifice. The disease gained ground, exhibiting all the symptoms generally attendant on these fatal cases, and the patient died on the afternoon of the 14th of November. The treatment adopted, consisted of bleeding, leeching, cold lotions, purging, and opiates. Mr. Lawrence observed that he had never known a case of inflammation, consequent on venesection, where the patient recovered.

Sectio Cadaveris, ten hours after Death.—A small branch of the vena saphena vein was found to communicate with the ulcer in the leg. The median basilic vein of the right arm inflamed, and the calibre obliterated for about an inch below, and an inch and a half above, the puncture. The orifice of the puncture open. A small quantity of matter extended underneath the fascia covering the biceps. In the vein accompanying the brachial artery, abscesses had formed in various situations, from which exuded small portions of pus and blood. This condition, and the inflammation of the vein, extended up to within an inch and a half of the axilla. The internal cutaneous nerve, accompanying the vein, greatly softened, and very vascular in its substance at the diseased portion of the vein. The brain healthy; a small quantity of fluid in the lateral ventricles, as well as within the pericardium, and with the exception of slight inflammation of the mucous membrane of the small intestines, no other morbid appearance, either in any of the veins or any part of the subject, was detected.

4. *Fatal Consequences resulting from mistaking a Fracture of the Thigh for simple Contusion of the Knee* †.—We find, in the *Lancet*, a report of a case of this nature, the substance of which is the following:—A woman, aged 34, was admitted by Mr. James Earle, on the 12th of October last, under the care of Mr. Lawrence. She stated, that nearly twenty years ago she had a fall from a horse, after which she had, for a long time, suffered much pain in the

* St. Bartholomew's Hosp. † Ibid.

right knee and thigh; that she had ever afterwards had a stiff knee until the night of her admission, when, on going down stairs, she unfortunately fell again; her right foot flexed under her, and she found she had seriously injured the knee. On rising and attempting to stand, she perceived the knee-joint to be moveable, but she was unable to stand on the right leg, and it being acutely painful, she was immediately brought to the hospital. Mr. J. Earle, after examining the limb, concluded that no injury had been sustained beyond *a simple contusion of the knee*, and accordingly wrote upon the board, at the patient's bed-head, as the description of the case—'*Contused knee!*'—ordering her to be treated accordingly. On the following day Mr. Lawrence saw her, and giving credit to the description, continued to treat the case as that of a simple contusion. Mr. Bulmer, the dresser, likewise regarded it as such. On the morning after the accident, the œdema of the knee and thigh was very considerable, and continuing, it occasionally excited a degree of surprise. The patient's constitution became much impaired; she was unable to move her limb, and was kept on her back until the whole of the integuments covering the sacrum sloughed.—Nov. 12. The *Sister*, on turning the patient upon her left side, to afford an opportunity of dressing the slough, observed that there was a *fracture of the thigh-bone!!* Having made this communication, all doubt was immediately set at rest, by a very slight examination. Matter having appeared also to have formed in various parts of the limb, under the fascia, Mr. Lawrence punctured the lower part of the ham, just over the attachment of the *gastrocnemius externus*, from which about eight ounces of thin, and extremely fœtid pus, flowed. On the anterior aspect, near to the middle of the thigh, he also made a puncture, and let out about six ounces of more healthy and less fœtid matter. The patient was left in the same condition, extremely exhausted.—14. The slough on the sacrum is extending, and, at one part, separating. The patient is extremely weak; the tongue clean; pulse 115.—15. She is evidently sinking fast. Takes eight ounces of brandy daily, and also quinine.—23. She lingered till nine o'clock, P.M., and then expired. A very profuse and offensive discharge was kept up through the punctures, until she died.

Sectio Cadaveris, three hours after Death.—The joint had been anchylosed many years. The fracture commenced in the shaft of the bone about three inches above the condyles; the lower part being smashed to pieces. Numerous splinters penetrated the muscles, and a comminuted fracture extended nearly as high as the trochanter major.

We hope that the surgeons under whose care this case was placed are sufficiently conscious of their negligence, so as not to require to be reminded of it; and it is to be hoped that this may act as a warning both to them and to others.

5. *Case of Extra-Uterine Pregnancy**.—A woman, aged 20, un-

* St. George's Hospital.

married, but the mother of one child, now eighteen months old, was admitted, October 29th, under the care of Dr. Bright. Her complaint consisted of diarrhœa, abdominal pains, tenderness on pressure, and difficulty of breathing, which had been of six months continuance, but not very severe until within three weeks of the time of her admission. She died in the night of the 15th of November, and the following morning, while the body was still warm, it was examined by Dr. Hodgkin. In the abdomen a large portion of the peritoneum lining the parietes presented a very dark, carbonaceous appearance, less intense superiorly, but deepening towards the pubic region. Numerous fibrinous adhesions were found, evidently varying in the periods of their formation: these were fewer in the umbilical region—firmer and more numerous towards the pubes. In the left side of the lower belly these adhesions were so numerous and extensive as to form a perfectly shut cavity, bounded by the sigmoid flexure of the colon, the rectum, the bladder, the lateral and anterior parietes of the abdomen and pelvis, in their respective situations. This cavity enclosed a fœtus, tolerably well formed, of about three months' growth, attached, by an umbilical cord of natural length, to a mass of the size of an egg, apparently performing the office of placenta. These parts, like the cavity itself, were all of a dark brown colour, apparently from a process of decomposition and the parietes of the cavity were loose and soft, so as readily to separate into shreds. This cavity communicated with the intestinal canal by two openings, of which the smaller entered the rectum; while the larger, which was two or three inches in length, was in the sigmoid flexure of the colon. The mucous lining of these intestines was healthy, except at the very margin of the apertures. The uterus was healthy, and afforded *no trace of tunica decidua*; it was not adherent to the rectum. Nothing remarkable was observed in the ovaries, or fallopian tubes, except that, attached to one of the latter, there was a thin membranous cyst, ruptured and collapsed which had probably contained the fœtus from its formation until it became free in the abdomen, and was enclose in the new cavity in which it was found. The difficulty of respiration was in some measure accounted for by the discovery that a part of the lungs were in a state of gangrene. In the lower part, both of the right and left lung, there were several patches in which both lung and pleura were perfectly sphacelated. The colour of the spots was ashy grey, approaching to whiteness. In several parts of the abdomen there were circumscribed collections of pus, varying in extent. The largest was opposite to the fœtal cyst, in the right iliac fossa.

6. *Large, Soft, Urinary Calculus* *.—The subject of this case was a man aged 40, who had suffered for several years from the usual symptoms of stone in the bladder. About six years ago he was

* St. Thomas's Hospital.

sounded by Mr. Tyrrell, who, then, could not discover any calculus. About six weeks, however, before the patient entered the hospital this last time, Mr. Tyrrell sounded him again, and easily discovered a large, soft stone. The man continued to follow his occupation until his health became very bad, and when he entered the hospital he was in a complete state of exhaustion. He died in about a week after his entrance, after suffering the greatest agony.

Sectio Cadaveris.—The body was exceedingly emaciated, and the whole surface had that sallow, yellowish appearance which accompanies organic disease. The bladder was closely contracted around a stone of an almost spherical shape, and somewhat larger than a goose's egg. The coats of this viscus were much thickened, especially the mucous coat, which was covered with irregular ragged projections, and was of a bright red colour, being highly vascular. The lining of the left ureter, which was larger than natural, was in the same state, as well as that of the pelvis of the kidney from which it arose. The kidney was of nearly twice its proper size, and its substance had completely lost its natural character. The pelvis contained a quantity of the viscid mucus, which the patient had been in the habit of voiding, and the same could be squeezed out of the mamillary processes. This fluid had those characters to which the term "muco-purulent" is often improperly applied, being white, opaque, semi-fluid, and viscid. The renal artery supplying the left kidney was twice as large as natural. The right kidney was not more than half its usual size. Its artery was contracted to a third of its usual calibre, and its ureter was obliterated during a part of its course. Its substance had undergone similar degeneration to that of the other, but it differed in containing several small cysts filled with calcareous matter. Its pelvis contained some opaque fluid.

A section has since been made of the calculus. Its centre presents two or three fragments, which are phosphate of lime, united somewhat loosely by the same salt, and inclosed in a shell of the same; over this, and forming by much the greater bulk of the concretion, are layers of carbonate of lime. On a part of the surface is deposited a thin shell of triple phosphate, deposited in minute crystals, which make that part of the stone as rough as a file.

7. *Fracture of the Skull—Death—Post-mortem Examination* *.—The subject of the present case was a distiller's clerk, aged 45, who had been in the habit of drinking great quantities of spirits. He was brought in with a comminuted fracture of the patella, and a punctured wound of the forehead, caused by a fall from some height. The cerebral symptoms were very slight; he was, however, bled. On the following day, the pulse being rather hard, he was again bled and had some purgative medicine administered to him. He was supposed to be doing well, until November 19th, when Mr. Travers found him complaining of pain in the head, and he discovered fungous granulations sprouting up from

* St. Thomas's Hospital.

the wound. On the introduction of a probe, the cranium was found denuded to some extent; and having dilated the wound, he found that a portion of the cranium, containing nearly two square inches, was bare, indicating a separation of the dura mater, and probably suppuration between the two. Mr. Travers would have trephined, but, in the first place, there was nothing to lead to a belief that pus, if any existed, was producing compression of the brain; and from the patient's previous habits, and the probability that the brain itself was implicated seriously, little hope was felt of a successful termination, whatever treatment was adopted. There was a purulent discharge from one of the nostrils. On the 20th, he suffered from a violent pain in the right hypochondrium, similar to that produced by the passing of a gall-stone. For this he was cupped, and had some saline cathartic given him. He became delirious on the 21st, and continued so, more or less, until the 23d, when he died.

Sectio Cadaveris.—The denuded portion of the cranium appeared rough and bloodless; a very minute fissure, unobserved before death, extended vertically through it as far as the orbit. After the brain had been removed, a continuation of the same fissure was traced upon the orbitar plate of the frontal bone, where it soon became divided into two, one of which ran along the cribriform plate of the æthmoid bone, close to the crista galli, and terminated in the processus olivaris, which was broken into several portions; while the other, taking a direction outward for a short distance, again turned inward, and met the first near its termination. A considerable portion of the orbitar plate was thus detached and slightly depressed upon the parts below; a portion of the cribriform plate was also separated. Further back than the sella turcica the fracture could not be traced; but it was very evident that it extended downwards deeply through the bodies of the æthmoid and sphenoid bones. The internal surface of the frontal bone, where the fissure commenced, was, like the external, denuded of its periosteum; the dura mater roughened from absorption, and bloodless. Between it and the dura mater there was a small collection of pus, the membrane was softened, as if beginning to slough, and in the anterior lobe of the cerebrum behind it were seen what appeared to be the effects of acute inflammation following laceration, viz. a breaking up of the cerebral substance, and conversion of a part of it into an imperfect pus. Pus was also found lying on the cribriform plate over the fissure, and the dura mater there was sloughy: thus the discharge of pus through the nostril was accounted for. The cavity of the right pleura contained a pint or two of lemon-coloured transparent serum; the surface of the pleura covering the lung was covered with a layer of apparently recently effused lymph. Entering into the substance of the same lung, to a depth of about an inch, were several finger-shaped deposits of white and tolerably firm lymph; none of these had proceeded so far as to be softened or converted into pus. The left lung was healthy. The liver was very large, but healthy in its structure.

8. *Dissection of a Case of Psoas Abscess, pointing on the anterior part of the Dorsum Ilii* *.—A young and strumous looking woman was long in St. George's hospital, under the following circumstances. Between the great trochanter and anterior spines of the ilium, in fact at the anterior edge of the dorsum of that bone, was a middling sized tumour, which fluctuated and presented all the characters of abscess, accompanied with hectic and other constitutional symptoms. Mr. Jeffreys, whose patient she was, pronounced the disease to be psoas abscess, though perfectly unable to explain the rationale of its pointing where it did. Latterly, symptoms of phthisis pulmonalis were developed: the young woman fell to the charge of the physicians, and died. The swelling, we should mention, was never punctured, and never burst.

On dissection, the lungs were found greatly diseased, and presented abundance of tubercles and vomicæ. The local appearances, however, were those which naturally attracted most attention. The body of the last lumbar vertebra was generally unsound, and partly destroyed on its left side by caries; the intervertebral substance between it and the fourth lumbar vertebra was gone. From this point you could trace the bed of an abscess in the substance of the psoas, just above, or more correctly anterior to, the level of the lumbar nerves, down to within two inches of the ligament of Poupart. Here the abscess had, as it were, bifurcated, forming for itself two paths—one in the remainder of the course of the psoas, the other diverging to the outside of the thigh, where the swelling had appeared during life. Let us first pursue the latter. Leaving the psoas at the point above mentioned, the channel of the abscess traversed obliquely the substance of the iliacus internus, crossed beneath Poupart's ligament close to its iliac attachment, held on its way beneath the rectus at its origin, and finally ended at its outer side. The anterior crural nerve naturally lies rather deep between the iliacus and psoas muscles. The abscess, however, taking very nearly this direction, the nerve had in some degree avoided it, by describing the segment of a large circle, and moving much nearer the crest of the ilium. Besides this mal-position, it was matted to the neighbouring parts; notwithstanding all which the patient had complained of no unusual pain during life.

The other division of the abscess accompanied the psoas, betwixt it and the margin of the acetabulum, as deep as the trochanter minor. Here it formed a cavity nearly the size of an egg, situated, however, at too great a depth to admit of its detection during life, or even to be felt from without after death.

Thus, then, this case was a compound of common "psoas abscess," following, perhaps more deeply than usual, the course of the muscle, and another variety taking this new, and, as far we know, undescribed direction. The dissection is important, as explaining the quomodo here and assisting diagnosis hereafter.

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* Med. Gazette.

9. *Ulcer of the Stomach fatal by Hemorrhage* *.—A gentleman aged about 40, had been long dyspeptic, and liable to pain in his stomach, which had not assumed any fixed or regular character; but he required great care in respect of his diet, and many articles were apt to disagree with him. He was otherwise in good health, and applying himself actively to business till Saturday, 5th November 1825, when he was suddenly seized in his counting-house with a feeling of extreme faintness. He was assisted with difficulty to his dwelling-house, which was in the neighbourhood, and soon after vomited a large quantity of black fluid resembling ink. On Sunday he continued very sick and faint, and vomited occasionally the same kind of fluid, and he had discharges of similar matter from the bowels. On Monday he was better and walked out, but had some vomiting in the afternoon. On Tuesday he still felt very unwell, but without any marked symptom. On Wednesday he was seized with pain in the stomach, followed by vomiting of pure blood to the amount of several pounds. This was followed by extreme faintness and coldness, and the vomiting of blood returned in the afternoon. Dr. Abercrombie now saw him for the first time along with Dr. Hamilton, and found him extremely pale and exhausted, his skin cold, and his pulse very feeble. He complained of nothing but great faintness; but every attempt to rally him proved ineffectual, and he died in the night, having been again seized some time before his death with violent pain in the stomach.

Inspection.—The stomach was of immense size, but showed no appearance of disease in its structure, except at a part in the small arch about half way between the cardia and pylorus. Here a round defined portion, about the size of a half-crown piece was much indurated and about half an inch in thickness. On the inner surface of this portion, there was a small defined ulcer about half an inch in diameter, and more than a quarter of an inch in depth, and the bottom of it was occupied by a firm fungus mass of a dark brown colour. No other disease could be detected in any organ.

10. *Ulceration of the Stomach fatal by Perforation* †.—A young woman, aged 18, had been affected for about six months with variable appetite, and occasional pain in the stomach, which made her frequently sit with her body bent forward, and her hand pressed upon the epigastric region. Little notice was taken of the attacks, as she was going about, and otherwise in good health; and for some weeks previous to the attack now to be described, her appetite had greatly improved. On the 26th November 1824, while in a room by herself late in the evening, she was heard to scream violently; and when a person went into the room, she was found unable to express her feelings, except by violently pressing her hand against the pit of the stomach. When she was soon after seen by Mr. M'Culloch, she was moaning as if in extreme agony, but was unable to speak; the pulse was 86 and very weak; she could scarcely swallow; but soon after vomited the contents

* Abercrombie on Diseases of the Stomach. † Ibid.

of the stomach, which seemed to be merely food which she had recently taken. Various remedies were employed without relief. She continued with every appearance of extreme suffering, and unable to speak, till seven o'clock in the morning of the 27th, when she said the pain was considerably easier, but was still very severe in the pit of the stomach, and was extending downwards over the abdomen. The abdomen was now becoming distended, and when Dr. Abercrombie saw her about three o'clock in the afternoon, it was distended to the greatest degree and very tense. The pulse was was extremely feeble; she was scarcely able to speak, but her countenance was expressive of extreme suffering. Nothing afforded the smallest relief, and she died about two in the morning, 29 hours from the attack.

Inspection.—The cavity of the peritoneum was distended with air, and likewise contained upwards of eight pounds of fluid of a whitish colour, and fetid smell. There was slight but extensive inflammatory depositions on the surface of the intestines, producing adhesions to each other, and to the parietes of the abdomen. On the upper part of the small curvature of the stomach near the cardia, there was a small perforation of a size which admitted the point of the little finger. Internally this opening communicated with an ulcerated space on the mucous membrane, about the size of a shilling, with slightly thickened and hardened edges, and a considerable perpendicular loss of substance. The stomach in all other respects was particularly healthy.

11. *Perforation of the Stomach, with Peritoneal Inflammation, where no symptoms indicative of previous Disease existed* *.—A strong and healthy looking servant girl, aged about twenty-one, while engaged at her work between seven and eight o'clock, in the morning of one of the last days of September 1827, was suddenly seized with excruciating pain in the belly, sickness, and vomiting. About ten, she was bled ad deliquium, and twice afterwards in the course of the day. The bowels were freely moved by an enema, and she took purgative medicine which did not operate; but there was no alleviation of the symptoms. The belly became tense, tender, and tympanitic, the pulse feeble and rapid; every thing she took was vomited, and she died in eighteen hours from the attack.

Inspection.—The peritoneal cavity was distended with air, and also contained a considerable quantity of fluid, which had the appearance of the liquids she had swallowed. There was extensive peritoneal inflammation, with a coating on the bowels of puriform matter. In the middle of the smaller curvature of the stomach, there was a round opening of about one-third of an inch in diameter. At the part where it was situated, the coats of the stomach were in some places nearly half an inch in thickness, and the thickening extended in a greater or less degree over a portion five or six inches in extent. The inner surface, at the place of the rupture, presented a deep excavation with rounded and smooth edges,

* Ibid.

like a deep corroding ulcer which had cicatrized. It was fully half an inch in diameter, and a third of an inch or more in depth, having penetrated the thickened substance until it was bounded merely by the peritoneal covering; and it was this which had given way in the fatal attack.

12. *Perforating Ulcer of the Stomach, and communication with the arch of the Colon* *.—This interesting case occurred in a gentleman aged 56, who had previously enjoyed good health, except occasional dyspeptic complaints; began to feel languid, with impaired appetite, some loss of flesh, and occasional pain in the abdomen; but he was able to go about and attend to all his engagements, which were extensive and fatiguing. These symptoms had continued two or three weeks, when one day, while walking in the street, he was seized with vomiting, and the matter vomited had the odour and appearance of fæces. He felt no farther inconvenience till about a week after, when he was seized in the same manner. After this, the vomiting returned at various intervals, sometimes three or four times a-day; and sometimes he was free from it for a week at a time. The matter vomited always consisted of pure fæces, sometimes so consistent that it was brought up with difficulty, until he diluted it by swallowing hot water. During the whole course of the affection, the bowels continued regular or easily regulated; the fæces varied considerably in their appearance; but that which was vomited always resembled what was passed from the bowels so closely, that it was impossible to distinguish them. He never was observed to vomit food, or other matters which had been taken into the stomach. His appetite continued good, and no disease could be detected by examination. He lived in this state three months, and died gradually exhausted, without any particular change in the symptoms, except that a week before his death he vomited a considerable quantity of blood. There was occasional pain in the abdomen, but not distinctly referred to any particular part.

Inspection.—The stomach was found contracted, and adhering to the parietes of the abdomen on the left side, and to the arch of the colon. At the place of the adhesion, a soft tubercular mass was formed, which seemed in general to be about two inches in thickness. The stomach appeared externally healthy; internally it showed a mass of ulceration which occupied the whole of its great curvature, and covered about one half of the inner surface of the stomach. The pylorus and whole pyloric extremity were healthy. In the centre of the ulcerated part there was a ragged irregular opening, fully two inches in diameter, which made a free communication with the arch of the colon; and, around the opening, there was also some ulceration of the mucous membrane of the colon. The intestines in all other respects were healthy. The small intestines were empty; the caput coli was distended with feculent matter, and the colon throughout contained healthy well formed fæces.

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* Ibid.

13. *Cases of Erysipelatous Peritonitis* *.—In another part of the present Number, we have noticed a species of peritonitis, termed by Dr. Abercrombie the erysipelatous. The following are some of the cases which he recites in illustration of that disease :—

Case 1.—A lady, aged 50, in June 1823, was seized with extensive erysipelas of the left leg, accompanied by acute pain, and considerable swelling of the upper part of the foot. After six or seven days the erysipelas of the leg subsided gradually, the swelling and pain of the foot continuing undiminished. After another day, these disappeared, suddenly and a few hours after she was seized with acute pain in the region of the stomach, which, after a short time, moved downwards, and settled with great severity in the lower part of the abdomen, and around the umbilicus. This took place in the night, and Dr. Abercrombie saw her in the afternoon of the following day. She was then moaning with most acute pain, but did not complain much of pressure; great anxiety and restlessness; pulse about 100; bowels open. He advised bleeding, a blister, &c., but the former, he afterwards found, was not done at the time. At night the pain continuing unabated, she was bled without relief. The other usual remedies were then employed, but without benefit. She continued in great pain, without any other marked change of the symptoms; her strength sunk; and she died early in the morning of the following day, being little more than twenty-four hours from the attack.

Inspection.—The lower half of the small intestines was of a uniform deep dark red colour, but without any exudation; the upper half was of a dull leaden colour; and the whole was considerably distended. In the cavity of the peritoneum there was a considerable quantity of bloody sanious fluid. No other morbid appearance could be discovered.

Case 2.—A woman, aged 30, had been ill for several days with the erysipelatous inflammation of the throat, accompanied with considerable fever. She felt better and was able to be out of bed, when, having taken some laxative medicine, she was severely pained during its operation; and in the evening was seized with most violent pain over the whole abdomen, accompanied by vomiting. Dr. Abercrombie saw her on the following day, along with Dr. Begbie, and found her pulse very frequent and extremely small; skin rather cold; countenance expressive of exhaustion; severe pain and acute tenderness of the whole abdomen; some vomiting; no stool. A bleeding was attempted, but she bore very little; and it gave no relief. Blistering, opiates, tobacco, and other injections, &c. were then employed without benefit. She continued in the same condition, and died in the evening of the following day, being about forty-eight hours from the attack; the bowels had been partially moved.

Inspection.—The bowels were in general considerably distended, and of a dark livid colour, without exudation. In the cavity of the peritoneum, there was a considerable quantity of puriform

* Ibid.

fluid. There was much appearance of inflammation upon the omentum, especially at the lower part, where it was for several inches highly inflamed and thickened, and had formed an adhesion to the sigmoid flexure of the colon.

Case 3.—A gentleman, aged about 50, of a feeble and broken down constitution, about four weeks before his death suffered for some days intense pain in the rectum, which terminated in an abscess; and, in connexion with it, sinuses were formed along the buttocks. These were opened, and appeared to be going on favourably; and though he was a good deal confined to bed by them, he made no particular complaint until the evening of Monday, the 30th of July 1827, when he was seized with shivering, followed by heat and quick pulse On Tuesday the fever was much abated, but he had some diarrhœa and vomiting, with griping pain in the bowels On Wednesday the vomiting had subsided, the bowels were moderately open, and the stools were healthy; but there was much general uneasiness over the abdomen, with some hiccup, and his look was depressed and anxious. His pulse was natural and of good strength. On Thursday the hiccup continued, and gave him at times considerable pain; and he complained of much uneasiness when he brought up wind from his stomach; his pulse was still natural, and the bowels moderately open. The abdomen was not distended, but he complained of considerable uneasiness upon pressure across the epigastric region. His look was depressed, anxious and exhausted; and, without any change in the symptoms, he died in the night.

Inspection.—The cavity of the peritoneum contained a large quantity of purulent matter of intolerable fœtor; three pounds and upwards were collected, besides much that was lost. The surface of the intestines was in general of a dark livid colour, but without any appearance of exudation. The right lobe of the liver, on its concave surface, was considerably softened, rugged and unequal; no disease could be discovered in any other organ. The most diligent search was made for any abscess or cavity which might have been the source of the matter, but none was discovered.

The symptoms, progress, and the anatomical characters of the disease in these cases, are very different from those of common peritonitis. The affection bears some analogy to the puerperal form of the complaint.

14. *Case of Suppuration of the Spleen.*—The tissue of the spleen does not appear to be very prone to suppuration. This organ is often discovered, on post mortem examinations, in a state of disease, but its diseases are not often attended with the formation of pus. Dr. Glionna relates a case, in the *Osservatore Med. di Napoli*, which he considered to be an extensive abscess of the spleen, and which he evacuated by means of a trocar. The result was favourable. The following is the substance of the case: Dominique Rotunno, aged 29 years, was affected for a long period with obstruction of the spleen, consequent to intermittent fever. An excess of food and of exercise rendered the tumour larger and more

painful; and Dr. Glionna discovered, at the same time, well characterized splenitis. In spite of bleeding, of the application of great numbers of leeches, of purgatives, and tartarized antimony, the disease gained ground; the tension of the hypochondrium and the pain increased, accompanied with paroxysms of shivering, followed by heat and nocturnal perspiration. The spleen then lost its former hardness; it increased in volume, and became soft at its inferior part. Having found that the inflammation had passed into the state of suppuration, Dr. Glionna now applied emollient cataplasms to the side, and at the expiration of six days, the fluctuation was such as to induce him to propose puncturing the tumour, which was done by means of a trocar, at the distance of about four inches from the linea alba. There immediately issued from the abscess about three pounds of thick, very fetid pus, of a pale white colour at first, and then of a reddish tint. The patient was instantly relieved. The wound was kept open for some days; but by the eighth day it had closed, and the patient, re-established in health, soon acquired flesh and strength.

15. *Injection of Vinegar and Water into the Umbilical Vein in Cases of Uterine Hemorrhage, depending upon Retention of the Placenta.*—Dr. Jemina mentions, in the *Repert. di Med. di Torino*, for August, 1828, three cases of uterine hemorrhage depending on partial attachment of the placenta, where he succeeded in producing its detachment by injecting the umbilical vein with cold water, with which a little vinegar was mixed. The following is the report of one of the cases:—A woman, aged thirty, habitually of good health, and of a sanguineous temperament, having already had three children, was delivered, on the 24th of October, 1827, of a robust child. The accouchement, which took place about the commencement of the ninth month, was easy and natural. But the expulsion of the placenta did not follow, and the hemorrhage was considerable. The midwife endeavoured to promote its detachment by friction on the hypogastrium with the hand, while she produced some tractions on the umbilical chord; but these means proved ineffectual. The hemorrhage continued in great quantity. M. Jemina made several attempts to introduce his hand into the uterus, in order to extract the placenta, but these attempts only increased the flow of blood. He then determined to inject the placenta. Having emptied the umbilical vein of the blood which it contained, he injected fifteen ounces of cold water, accidulated with a little vinegar. In less than three minutes the placenta became detached, and its expulsion was preceded by violent pains in the loins and abdomen, accompanied with anxiety and convulsive movements, which were succeeded by a swoon.

16. *Mode of arresting Hemorrhage from Leech-bites.*—Penetrated with the importance of being able to arrest the profuse hemorrhage which, in some cases, proceeds from the bites of leeches, and after trying diverse experiments on this subject, Dr. Ridlofo communicated the following method to the Medical Society of Livourne:—It often happens that the bites of leeches, abandoned to themselves,

give issue to a much more considerable quantity of blood than necessary, and the hemorrhage is sometimes so profuse as to threaten the patient's life. Cold water, the application of flour to facilitate the formation of a coagulum, caustic, as the nitrate of silver, calcined alum, &c., are, as experience daily demonstrates, means often insufficient. Compression, also, in various ways, will not always answer the purpose permanently. Dr. Ridolfo proposes a method which, according to his experience, is always successful. This consists in the application of a cupping glass on the point from which the blood escapes. This practitioner uses a very small glass when the hemorrhage proceeds from a single bite, and a larger one when it issues from several, situated near each other. Almost immediately on the application of the glass, the blood forms a clot over the bite, which suspends the hemorrhage. The formation of this clot takes place with great rapidity, even in subjects of a soft constitution, and in whom the blood is very thin and aqueous; circumstances which are generally unfavourable to the formation of coagulum. The glass is allowed to remain on for a few minutes, until the integuments become tumefied. Care must be taken, in removing it, not to disturb the coagulum, as only the fluid part of the blood should be emptied, and the glass is to be applied again and again until the hemorrhage has completely ceased.

17. *Scirrhus of the Stomach**.—David Miller, aged 40, admitted August 7th, 1827. He had been affected for two or three weeks with severe pain in the region of the stomach, and rejection of every thing that was swallowed. Symptoms on admission were, pain in the left hypochondrium, increased upon pressure; eructation and vomiting. Vomiting aggravated by the mildest ingesta, the matter rejected being generally of a dark colour, resembling coffee grounds; symptomatic fever; pulse hard, frequent, and contracted; cough; countenance pale and emaciated; anxiety and a feeling of great debility; an induration of considerable extent was perceptible below the lower end of the sternum. Directed the patient to live on a milk diet, and prescribed the following:—℞. Submur. Hydrarg, gr. xii. pulv. opii. gr. iv. M. ft. pulv. iv. sumat tertia quaque hora. 10th. Pain in the region of the stomach abated; extreme dejection of mind; vomiting so incessant that the patient could scarcely retain any thing on his stomach; induration less. (℞. Ext. Conii. ℥ss. ft. in pilul. viij. Capiat, ter in die. Ordered wine pro re nata.) 12th. Patient gradually declining; extreme restlessness and anxiety; great debility; hiccup; the patient flatters himself with prospects of recovery. Perceiving that the die was cast, and that all we could hope to accomplish was to delay the fatal result, to lessen the present sufferings, and smooth the passage to the tomb, he was ordered the black drop. 14th. The patient worse in every respect; respiration difficult; a sense of coldness, particularly of the extremities; vomiting much diminished, but the epigastric distress so intolerable, and inclination to

* Harrisburg Alms-House.—American Med. Recorder.

vomit so tormenting, that he introduced his finger into the fauces in order to induce it, but without effect. On the following day a diarrhœa of a dark and offensive matter terminated his existence

Sectio Cadaveris.—That portion of the peritoneum lining the muscular parietes of the abdomen was thickened to a considerable extent. Tuberculated accretions of different forms and dimensions, commonly the size of a pea, were found growing from every part of the membrane. Their consistence was not so great as cartilage, but possessed a similar structure. The diaphragm was enlarged to about eight lines in thickness and semi-cartilaginous, particularly about the middle, becoming softer towards the lateral parts. The omentum was totally disorganized and soft, chiefly resembling adipose and scirrhus matter mixed with pus, lacerated upon the slightest movement or compression; it was thickened to the extent of one inch, and covered all the convolutions of the intestines; laterally and below, it adhered to the surrounding organs only slightly; but was so firmly fixed to the fundus of the stomach and parts adjoining that it could not be separated without laceration. The stomach, and especially the part adjacent to the pylorus, had completely lost all vestige of its natural structure, and was changed into a very hard substance of a whitish colour, intersected with membranous septa. The vessels of the stomach were very much enlarged and filled with an ossified substance. The internal surfaces were ulcerated, and the coats were thickened to the extent of two inches, leaving a narrow passage for the ingestæ into the pylorus. The outer membrane was enlarged to an astonishing degree, and irregularly elevated towards the pylorus. The pyloric orifice was very much contracted, admitting with difficulty the extremity of the little finger; the valve was entirely obliterated. The whole superior face of the liver adhered to the diaphragm by a fine transparent membrane, with soft adipose excrescences growing from it; the parenchymatous substance did not exhibit any morbid derangement. All the remaining abdominal viscera were covered with tubercles of coagulable lymph, moderately soft, and of a yellow colour, and so intimately connected and blended together by albuminous matter, that they could not be separated without careful dissection. The thoracic viscera exhibited nothing remarkable with the exception of the heart, which was unusually small, not larger than that of a child six or eight years old; an effusion of blood, resembling petechiæ, had taken place, at the lower end of the sternum, a short time previous to his death.

18. *Case of Tetanus successfully Treated**.—Samuel Green, aged 20, was admitted August 23, 1827. Eight days previous to his admission he received a wound in the sole of his foot, from a nail; the puncture cicatrized in a short time without any attention. On the day of his admission he was attacked with great rigidity of the muscles of the neck and back; deglutition and articulation were performed with great difficulty; a sense of constriction about

* Ibid.

the chest; trismus nearly complete; pulse 50; the whole extensors and flexors equally rigid; face covered with a cold clammy sweat. Dilated the cicatrix, and introduced pledgets of lint moistened with Ol. Tereb.; allowed brandy ad libitum, and prescribed the following:—℞. Calomelanos gr. xxx. pulv. opii. vj. M. ft. in pulv. iij. Sumat j. tertia quaque hora. 24th. Somewhat improved; spasms of the jaws less violent; severe pain, referred to the bottom of the sternum; bowels constipated; pulse 75 and softer; muscles a little relaxed. Ordered an enema and applied the caustic alkali to the lumbar region. (Continuentur pulveres.) 25th. The patient in a perfect stupor and could scarcely be roused; spastic rigidity not so great; pulse 100; skin hot and dry; complains much of the spastic traction at the bottom of the sternum; soreness on pressure at the umbilicus cordis. Can open his jaws to some extent. He experienced great relief about two hours after the application of the caustic. (Cont. Medicamenta.) 26th. Found the patient much worse; spastic rigidity returned; extremities cold; deglutition very difficult; pain at the sternum increased. Applied a sinapism, and afterwards an epispastic to his breast, and re-applied the caustic to the spine. (Cont. pulv.) 27th. This morning there is considerable mitigation of all the symptoms; no pain or traction; temperature more natural; pulse 100 and fuller; deglutition and articulation tolerably easy; mouth slightly affected. (Capiat pulv. opii gr.iss. tertia quaque hora. Omitte calomel.) 28th. Much improved; perfectly free from tetanic symptoms. (℞. Sulph. Quin. gr.xii. pulv. opii. ft. pilul. xii. Capiat secunda quaque hora.) Sept. 3. He now walks about; has a good appetite and is rapidly regaining his usual health. Dismissed, cured.

19. *Bronchocele**.—Sarah Ogle, aged 19, of a fair and delicate complexion, has laboured under bronchocele for the last four years. Dr. Roberts saw her on the 10th of February, 1827. The whole body of the gland involved in the disease, and enlarged to an enormous degree, occasioning great deformity; tumour presses on the trachea to such a degree as to produce difficulty of breathing and deglutition; hoarseness; frequent and severe headaches; pain at times shooting through the body of the gland; tumour tense and elastic; general health good; no hereditary predisposition. (Capiat. Tinct. Iodini. gutt. xv. ter in die ex aquæ frigidæ cyatho vinario.) Feb. 28th. No change in the appearance of the tumour; breathing still difficult, and wheezing no better. Experiences some sickness from the use of the medicine. (Contin. Tinct.) March 20th. Tumour considerably smaller and softer; breathing much improved and wheezing less; deglutition easier; experiences no sickness or inconvenience from the tincture; headache entirely vanished. (Sumat Tinct. Iodini. gutt. xx. ter in die ex aquæ frigidæ cyatho.) May 2d. Bronchocele continues to subside; difficulty of breathing diminished; no wheezing; deglutition perfectly easy; feels no shooting pains in the tumour. (Capiat

* Ibid.

Tinct. Iodini. gutt. xxv. ter in die ex aquæ frigidæ cyatho. ℞. Ungt. Cetacei. ℥j. Hydriod. Potass. ℥ss. ft. unguentum, ℥ss. cujus fricetur in glandula, mane, hora meridiana et vespere.) June 6th. Tumour much softer, and she can move her head with more freedom; breathing free; tumour not half the size as when the treatment was first commenced. (Continuentur Medicamenta.) July 18th. Bronchocele still continues to diminish in size; experiences no inconvenience from it. (Capiat Tinct. gutt. xxx. ter in die ex aqua. Conti. Ungt.) August 12. The patient still improves. (Capit Tinct. Iodini. gutt. xxxv. ter in die ex aqua. Conte. Ungt.) Sept. 15th. Bronchocele entirely disappeared. Discharged, cured.

20. *Ganglion* *.—Ganglion is sometimes a very troublesome affection, and it often resists various plans of treatment. It is by no means the common practice to puncture the tumour, although it would appear from the following case, that this plan might be adopted with impunity if the air be excluded from the cyst:—C. Swager, aged 21, labours under a ganglion of the right wrist, which first became perceptible about two years ago, and has since gradually enlarged. It is now about the size of a nutmeg; tumour tense and elastic, and moves freely under the finger; occasions no inconvenience. Oct. 18th. The skin covering the ganglion was drawn and firmly retained to one side, and a couching needle introduced into the tumour; the contents were pressed out through the puncture. A small quantity of fluid, resembling in colour and consistence the white of an egg, issued through the orifice in the sac. A compress and bandage moistened with a solution of the acetate of lead were kept constantly applied. 29th. Ganglion much softer and smaller; orifice closed; the contents were again evacuated by the couching needle; the puncture made on the opposite side of the tumour; the patient feels no pain from the introduction of the needle, but rather an agreeable sensation. Continue the compress and bandage with the solution of acet. of lead. 30th. Ganglion altogether disappeared, and a small induration observable in the part which the tumour occupied. Discharged, cured.

21. *Fatal Case of Constipation from Mechanical Obstruction* †.—Patrick Johnson, aged 35, was admitted a patient Nov. 18th, 1827. Has been afflicted with constipation for six days He has had occasional slimy and scanty evacuations, which afforded him but temporary relief. Symptoms on admission were distention of the abdomen; diffused and severe pain; nausea and occasionally vomiting; anxiety and dejection of countenance; excessive lassitude; difficulty of breathing and furred tongue; entire want of appetite. (℞. Pulv. Aloes. P. Jalap. Cal. Pulv. scam. āā. ℥ss. ft. pilulæ. Capiat iij. tertia quaque hora donec alvus purgetur.) 9th. Costiveness continues obstinate; abdomen more enlarged and tense, difficulty of breathing and abdominal distress increased. Pills produced no effect. (℞. Infus. Sennæ ℥v. Sodæ sulphat.

* Ibid. † Ibid.

supertart. Potassæ aā. ℥j. ft. mistura cujus capiat. cochl. magna iij. tertia hora; and the following enema every two hours until an evacuation occurs. ℞. Sodae Sulphat ℥ss. ol. Ricini ℥j. aq. fervent. Oss. ft. enema.) 11th. The patient much worse; no evacuation; abdomen enormously distended and very hard; breathing extremely difficult, and fetid; pulse weak and tremulous; extremities cold, and his countenance exhibits great distress and depression. (℞. Croton Tiglium gutt. vj. Micae panis. q. s. ft. pilulæ vj. Sumat j. quaque hora. ℞. Tart. Emet. gr. xx. aq. fervent. Oss. ft. enema.) 13th. The patient expired in great torment and agony.

Sectio Cadaveris.—At the lower end of the sigmoid flexure of the colon there was a narrow stricture, which would hardly admit the passage of the little finger. The intestine above the stricture was peculiarly loaded with fæces and enormously distended; the transverse diameter being above six inches. The large intestines where the distension was very great, had their muscular coat considerably stretched, and the longitudinal bands were twice as broad as in their natural state. On opening the constricted part, a rib of a fish was found extending in an oblique direction across the stricture, and completely precluded the passage of fæces. The dissection was continued no further.

22. *Aneurism of the Aorta**.—In October last, Thomas Poird, a coloured man, about 45 years of age, was the subject of the following history:—Came under the care of Dr. J. Roberts, for rheumatism in the head, which he conjectured was his disease. During his examination he remarked, that he had a tumefaction on the right side of his neck. On a close examination of the tumour, a strong and violent pulsation was very perceptible. The tumour was situated immediately above the clavicle, on the right side, near the sternal end. It extends an inch above the clavicle, and was an inch and a half in diameter, and three in circumference. He perceived a small tumefaction, the size of a pea, about a year previous, which increased slowly and gradually, and had now acquired an alarming magnitude. He imputed it to a strain he had received by rolling a stone, a short time previous to his recognizing the tumour: viewing the tumour as a trifle, he paid no attention to it until the pain in his head, which he supposed originated from a different cause, compelled him to apply for relief. He complains of severe pain in his head, which is confined entirely to the right side; sometimes it extends down the arm. The right arm is very much attenuated and emaciated, and possesses very little power of action. No difference can be distinguished between the pulsation of the two radials. Pulse about 80. The physicians of this place were called in to examine him, and to decide what was most judicious and proper to be done. The nature of the disease appeared to be so decided, and its situation so manifest and apparent, that they were unanimous in the opinion that the disease was aneurism of the root of the cartoid artery in-

* Ibid.

volving the arteria innominata, and decided that an operation might probably be performed, at least it was the only possible means of rescuing him from the grave. Under this conviction he was sent to Philadelphia, for the purpose of having an operation performed. He left this for the city but returned in a few days, whether through inability to perform the journey or intoxication, I will not pretend to say. The aneurism continued rapidly increasing; the respiration became exceedingly, obstructed; the voice materially changed; and he is almost suffocated from the pressure of the internal tumour on the trachea and bronchia. The pulsation is unusually plain and visible through the integuments, and so strong and vehement as to repel the fingers when placed on the dilatation; numbness and coldness of the right side of the head and arm from the compression of the veins and lymphatics. He is very much troubled and harrassed with a violent cough which occurs at irregular intervals, and expectorates with great vehemence; expectoration consisted at first of a thin frothy mucus, but towards the close of his career, consisted of lymph blended with blood. He experiences agonizing pains in the right side of his chest and palpitations; dropsical effusion took place over the whole body. In this condition he continued for four or five weeks, languishing under great torment and agony, until entirely exhausted, he perished of sufferings, both corporeal and mental, too immense and dreadful for human nature to endure.

Sectio Cadaveris.—An incision was made through the integuments, from two inches above the tumour to the bottom of the sternum, and another cutting it at right angles in the form of the letter T; then dissected away the skin and cellular membrane. The muscles were now removed, and an incision made immediately into the tumour, which gave issue to a considerable quantity of blood. The sternum was then removed, which exposed the arch of the aorta and the innominata and gave a view of the true nature of the disease. The aneurism was now found to exist in the aorta and arteria innominata. The aorta from its origin to about an inch below where the left subclavian is given off was exceedingly dilated and enlarged, and the innominata was so much implicated in the disease as to be almost obliterated. The whole cylinder of the aorta, from the heart to below the curvature, was equally dilated, and to the extent of nine inches in circumference. The enlargement of the innominata produced the tumefaction above the clavicle, and induced the false impression with regard to the seat of the disease. A considerable quantity of lamellated coagula or layers of fibrine disposed over each other were found in the superior part of the aneurism. The coats of the arteries were as thick as in their natural condition, and the internal coat was rough and easily separated. The valves were perfectly natural, and ossification had commenced adjacent to them, and had made considerable advancement. Morbid adhesion had taken place between the aorta and mediastinum and contiguous parts. The right subclavian and carotid arteries were somewhat enlarged. The trachea and bronchia did not appear to be in any degree in-

jured by the pressure of the tumour. The other viscera both thoracic and abdominal were in a perfectly natural and healthy condition.

23. *Case of Perforation of the Duodenum* *.—Louis Laurin, aged 17, complained for several months of obscure pain in the epigastrium. For the last six weeks there was, in addition to this, diarrhœa, and for the last ten days, loss of appetite, nausea, and general illness. The 10th of December 1827, three hours after his repast, which had been more copious than usual, he was suddenly seized with a severe pain, which, commencing at the region of the stomach, soon extended over all the abdomen; he vomited what he had eaten, after which, coloured mucosity and bile were ejected. He was taken on the morrow to the Hôtel-Dieu; the face was pale and altered; the skin covered with cold perspiration; the pulse frequent and small; the abdomen tense and very painful; the tongue pale and moist; and he had some bilious vomitings. *Forty leeches to the abdomen;* emollient fomentations. He expired at four o'clock the following morning.

Sectio Cadaveris.—The abdominal cavity was filled with gas and a quantity of reddish, very fœtid, serous fluid; the peritoneum had lost its natural aspect; it presented in diverse points a red colour, running in striæ or in patches; the intestinal convolutions were slightly agglutinated together; the peritoneum was generally little adherent to the abdominal muscles, from which it was easily detached. The mucous membrane of the stomach was healthy. At the origin of the duodenum, close to the pylorus, was found an oval ulceration, from three to four lines in diameter, with round, smooth edges of a greyish colour; the bottom of this ulcer was formed by the peritoneum, which was of a yellow colour, and presenting a perforation of about a line in diameter; which perforation formed a free communication between the cavity of the intestine, and that of the peritoneum. Near this ulcer, was found another of a similar size, but not so deep, which penetrated the mucous membrane only. The rest of the intestinal tube was perfectly healthy.

24. *Gout treated with Iodine.*—In the *Journ. Gen.* for September, three cases are given, by MM. Godier and Gendrin, in proof of the efficacy of iodine in the regular gout. These gentlemen are of opinion that this remedy is not adapted for the irregular gout, but that, instead of relieving the patient, it gives rise to symptoms of gastric irritation, of agitation, and even of arthritic metastasis. M. Gendrin had previously published some observations on this subject, and the following cases are adduced in further proof of the utility of the remedy.

Case 1.—Madame ——— about 50 years of age, of a lymphatic temperament, lived in a narrow, unhealthy street. Since the age of thirty, she has had occasional attacks of the gout in her feet, especially in the right foot and knee About five months ago she had a very severe attack, in consequence of which M. Godier was

* Journal Universel.

sent for. The right ankle was red, swollen, and painful; the aponeurotic attachment of the muscles to the heel of the same side was also swollen, but free from redness. M. Godier ordered the painful parts to be wrapped in flannel, and prescribed slightly diaphoretic drinks, and perfect rest. At the expiration of eight days, finding the affection remaining stationary, he had recourse to the hydriodate ointment, prepared according to M. Magendie's formula. The foot and heel were rubbed with this; and by the fourth day, the patient was able to walk. The same means were continued for three weeks, at the expiration of which period the gout had completely disappeared and the joint was perfectly pliable. From that time to the time when the case was reported, a period of several months, the patient continued free from the disease.

Case 2.—Mademoiselle ——— aged 16, of a nervoso-lymphatic constitution, living in a situation always damp, had the catamenia imperfect; she is in the bad habit of drinking a very great quantity of water, and of taking but little food. About six months ago she felt, for the first time, pain in the right heel during walking. Finding this affection increasing, she consulted M. Godier, who, on examining the part, found that a swelling extended from the insertion of the tendon of the plantar muscles to the middle of the sole of the foot. The pain was not very great, but there was considerable tenderness of the part. He considered the affection to be *chlorotic gout* (a *new* form of gout we suppose). He ordered friction with the hydriodate ointment, recommending, at the same time woollen stockings to be worn; and after the ointment had been used fifteen days (a period long enough for the disease to get well of *itself)* the swelling disappeared. The patient continued free from any gouty affection after this.

Case 3. Madame M. aged 56, of a strong constitution, was taken, for the first time, in 1825, with sudden pains in the joints, with cephalalgia and epistaxis. These pains, accompanied with swelling confined the patient to her bed for three weeks. On the 19th of August, 1828, after dinner she was suddenly seized with stupor, and loss of recollection; she had eaten very little. In the night she was much agitated; on the morrow, the mouth was bitter and clammy. 20th. Sudden attack of intense pain in the right wrist; this pain, circumscribed, occupied, on the cubital region, the space corresponding to the articulation. Soon after a similar pain took place in the elbow, at the internal part of the olecranon. In the following night, during which the patient was very restless and deprived of sleep, the left knee became swollen, and intensely painful. Besides these local affections, 'evidently of a *gouty* (?) nature,' the head was painful, the face injected, and the patient complained of drowsiness and paroxysms of heat. M. Gendrin, under these circumstances, ordered eighteen leeches to be applied to the anus, and, by the morrow, 20th, the headach and stupor had ceased, but the local affections still continued the same; the patient suffered considerable pain during the night. The iodine was now commenced in the following form: thirty-six drops to be taken daily. ℞. Aq. Distillat. ℥iss; Potass. Hydriod. ʒj; Iodinæ

grx. M. 23rd. The malady much diminished, and only obtuse pains remained in the parts which were before swollen and excessively painful. The dose of the solution was increased to forty-five drops daily. 25th. The affections had now ceased, with exception of an obtuse sensation of stiffness and heaviness in the knee. M. Gendrin prescribed, in addition to the internal use of the iodinic solution, friction of the parts, night and morning, with the following ointment: ℞. Adipis, Bals. Tranquill, āā ℥ss; potass. Hydriod. ʒj; Iodinæ ℈j M. A spoonful (cuillerée à café) of this liniment was to be used at a time. 28th. Health completely re-established. M. Gendrin, however, ordered the remedies to be continued as a prophylactic measure. No ill effects resulted from the iodine on the digestive passages.

Few of our readers, we believe, will consider these as cases of regular *gout*. If there be any essential difference between gout and rheumatism, the symptoms which characterized the above cases must, certainly be considered as those of the latter malady, not of gout. The remedy, however, deserves further trial in both diseases.

25. *Case of Laryngotomy for the Extraction of a Needle* *.— A man, aged 25, let a needle slip down his throat. He was instantly attacked with violent cough and attempts to expectorate, by which, at last, the thread to which the needle was attached was thrown up; this was, however, of little use, for pulling the thread brought on fresh attacks of coughing, and caused a very painful sensation in the larynx, as if the needle were fixed in its substance. After the patient had remained in this state for three days, he was on the 19th of June, brought into the hospital; at this time he was affected with a most violent convulsive cough, dyspnœa, extreme anxiety, intense pain in the larynx, almost total loss of voice, and very difficult deglutition. The external parts of the neck were red, hot, and swollen. During an attack of cough, the thread had again disappeared. M. Blandin being uncertain whether the foreign body was in the larynx or in the œsophagus, put off the operation until the re-appearance of the thread should enable him to form a more certain diagnosis; meanwhile leeches, venesection, &c., were employed. The above symptoms continued, but without indicating much danger, till the 21st, when the thread having been again brought up by coughing, many attempts were made to withdraw the needle by it, but in vain; in depressing the tongue with the finger, it was evident that the thread entered the larynx on the left side of the epiglottis, and after a fruitless attempt to extract the needle by means of a curved tube, laryngotomy was resolved on. The swelling of the neck was so considerable, that it was impossible to find exactly the crico-thyreoidean space. M. Blandin made an incision in the middle of the laryngeal region, and by slowly dissecting the cellulo-fibrous mass, into which the subcutaneous muscles were changed, arrived at the crico-thyreoid membrane, which, after the ligature of a few

* Journ. Hebdomad.

small arteries, was transversely opened. A director was carried through the aperture. and the thyreoid cartilage divided on it in its whole length ; a violent, but short attack of cough followed this part of the operation ; when it had subsided, some attempts were made to extract the needle, but the extreme agitation which followed each introduction of the forceps, made M. Blandin desist from them. The wound was dressed with a piece of adhesive plaster, with an opening in the middle for the passage of air. The act of swallowing was now attended with much less difficulty, but the fluids escaped, for the most part, through the wound. The thread had, during the operation, been involuntarily swallowed. The next morning the needle, an inch and a half in length, was found fixed in the plaster, and easily extracted. From this time all the symptoms abated, and the wound slowly healed, at the end of September, a small fistulous opening, and some hoarseness, still remained.

26. *Case of Rabies in a Wolf* *.—A she-wolf was lately killed in the Department de la Meurthe, apparently with all the symptoms of rabies, after having bitten about thirty sheep, a dog, and two men ; its viscera, on examination, were found in a healthy state, except the intestinal canal, the mucous membrane of which was violently inflamed. As the two wounded persons, one of whom was most shockingly lacerated, got perfectly well, it would seem that the animal was not labouring under true rabies, and that its fury was produced merely from the irritation of the intestines. A very remarkable circumstance in the examination of the animal was, that a musket-ball was found imbedded in the substance of the heart, and covered by a whitish and very firm cicatrix.

27. *Angina Maligna treated by Nitrate of Silver* *.—In an epidemic prevailing in the commune of Vouvray, Dr. Guimier, from the suggestion in a memoir by an English physician on the use of nitrate of silver in these cases, applied it to thirty patients, with perfect success, after the ordinary treatment of local and general bleeding, vomiting, cauterization with hydrochloric acid, and cutaneous resolvents, had been found wholly inefficacious. The symptoms were those of angina joined to croup, termed by the French writers *diptherite*. The tonsils, the uvula, and the pharynx were covered with membranous concretions of a grey, white, or yellow colour : they were thick and adherent, extending into the air passages, the larynx, and trachea. The respiration was impeded and ' sifflante,' accompanied with hoarse, dry cough. The patients who died previously to the adoption of the new treatment were suffocated. Thirty patients were submitted to the application of nitrate of silver to the tonsils, uvula, and pharynx : they merely complained of its bitterness. An advantage resulting from this caustic, in comparison with that of the hydrochloric acid, is, that in the former the eschar is limited to the surface, while in the latter it spreads to the continous

* La Clinique. † La Clinique des Hôpitaux.

parts, so that its extent cannot be accurately measured.—Where the disease had extended to the ærial passages, the remedy was generally ineffectual; but in one case, which terminated in croup on the tenth day, it was successful. Insufflation of powdered alum had been regularly applied on the preceding days, excepting two or three, when it was changed for the nitrate. The disease nevertheless gained the larynx, constituting a case of croup, where the croupal sound and impeded respiration existed to such an extent as to leave little hope but from tracheotomy. It may be useful to class the benefits of nitrate of silver in these cases with the same results in other local irritations producing great constitutional disturbance; namely, the pustule of variola and the vesicle of herpes phlyctenodes, wherein both local and general symptoms are immediately cured by its application.

28. *Treatment of Poisons absorbed from Wounds* *.—Dr. Verniere, a French physician, having in view the experiments in which M. Magendie succeeded in suspending the absorption of poison by the introduction of an abundant quantity of warm water into the veins, applied three grains of alcoholic extract of nux vomica to a wound made in the paw of a young dog, and placed a ligature above the humero cubital articulation of the poisoned limb. He slowly injected into the jugular vein as much water as he could introduce, then opened the vein of the poisoned limb beneath the ligature, and having drawn away some ounces of the poisoned blood, injected them into the jugular vein of a healthy dog, which instantly produced tetanic convulsions, terminating in death. The wound of the first dog was cleaned, and he was set at liberty. No sign of poisoning appeared. The author considers that it is easy to account for the immunity of the first dog, when it is known that venous plethora has the tendency to prevent absorption, which was prevented in this case by the ligature which intercepted the course of the venous circulation. This experiment suggested to the author what he denominates an infallible mode of treating similar accidents. But the apparent necessity of introducing water into the veins, presented an insurmountable obstacle. He proposes, therefore, as a substitute, to make a ligature on the limb of sufficient tightness to interrupt the venous circulation without affecting the arterial, and then to open a vein, so as to give exit to the poisoned blood. In another experiment, three grains of an alcoholic extract of nux vomica were applied to a wound in the cheek of a small dog. He compressed the jugular veins for a few minutes, and subsequently opened that belonging to the wounded side, and which bled copiously. The dog experienced no symptom of poison. In a fourth dog, the poison was inserted under the dorsal surface of the right fore-paw, and the limb immediately bound by a very tight ligature. After five minutes, the poison was washed from the surface, the ligature detached, and the animal set at liberty. He walked quietly, but was soon seized with

* Med. and Phys. Journ.

tetanic convulsions of extreme violence. Blood was taken largely from the jugular vein, and the convulsions ceased. The author is of opinion, that, in this case, had the action of the ligature been confined to the veins only, the distention thereby effected in them would have destroyed the poison, but the artery having also been compressed, the venous plethora could not take place.

The author adds, that hitherto no attempt has been made to follow the poison into the veins, and that the above means are especially applicable to the poison from the bite of a mad dog.

29. *White Swelling cured by Friction with Iodine* *—The use of iodine in scrofulous tumours is strongly recommended by the most eminent French surgeons. M. Breschet in his lectures, speaks of it in the highest terms. The same treatment is pursued with advantage at the Hôpital St. Louis, from the records of which a recent cure of white swelling and tumour of the jaw may be cited as a proof of its efficacy. The patient had white swelling, with several fistulous ulcers, on the knee: the leg was bent on the thigh, and utterly useless. He had also a large tubercular tumour on the right side of the face, which seems to have its origin over the maxillary joint. The swelling was such that the man could scarcely open his mouth, and the flat edge of a penny-piece was the largest substance he could introduce between his teeth. These tumours have entirely disappeared under the use of iodine frictions.

30.—*Case of Inflammation of the Placenta.* By Mr. Stratford†.—About the middle of June, 1828, Mr. Stratford was called to Mrs. C. who believed herself in the third month of pregnancy. She had been attacked with pain in the back, extending down the thighs; it had come on gradually, and was attended with symptoms of fever; such as a quick pulse, sickness at the stomach, constipation, &c. These symptoms increased; she was attacked with cold shivers, and discharge of blood from the uterus: this and the pains increased, and after a short time an ovum was discharged, with its membranes, placenta, &c. The pains now somewhat subsided; so also did the hemorrhage; but there was a degree of tenderness experienced upon pressure just above the symphisis pubis. This, however, subsided after the administration of some purgative and sudorific medicines.

Upon examining the ovum Mr. Stratford found that the fœtus and all its appendages were present. The placenta was large, soft, and spongy; its surface covered with flakes of coagulable lymph: these were particularly marked upon its inner surface, while some were loose and easily detached. The fœtal membranes Mr. Stratford thought somewhat thicker than usual and more opaque; the liquor amnii contained small portions of lymph floating in it. The umbilical cord was swelled, and the whole cellular tissue of the fœtus was loaded with a thin serous fluid; in some parts almost to the extent of rendering it transparent.

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* Journ. des Hôpitaux. † Med. Journ.

THE MONTHLY REVIEW AND DR. ELLIOTSON'S BLUMENBACH.

It is a practice which is becoming too prevalent in the present day, when men, because possessing a smattering of many things, imagine they possess all things, for individuals to write upon subjects on which they are not competent to judge, and to pass the sentence of 'foolish,' 'weak,' and 'absurd,' upon the decisions of others, who have had better opportunities of knowledge, and from this circumstance are better calculated to give a just judgment upon those subjects on which they have thought fit to decide. Journals devoted to Belles Lettres, and to the exhibition of moral and religious truth, are beginning to deliver their dogmas upon matters of physical and organic natures. If an author happen to belong to the sect of the editors, his work is represented as highly important, as practically useful; whereas, often no opinions but what are well known to every tyro are presented; and facts, the most unconnected and deficient in point, are stated, more like the affidavits before the Lord Mayor, than the sobered descriptions of a scientific medical practitioner.

These remarks have been called forth by the perusal of such reviews; and to shew the incapacity of judgment on medical science belonging to the individuals who write these criticisms, we shall quote the following passages from the *Monthly Review*, No. XL.; they are to be met with in connexion with a notice of Dr. Elliotson's Blumenbach.

Referring to the abundant and highly interesting notes of Dr. Elliotson, as supplying a knowledge of facts and discoveries which Blumenbach had not presented, the reviewer says, 'Dr. Elliotson, however, has most amply redeemed the deficient character of the original work in so far as the recent progress of physiology is concerned;' and then adds, 'though he has allowed his strong partiality for the wild, vague, and improbable theory of Gall to distort in many instances his views of the discoveries or the conclusions of others.' This, be it remembered, is mere assertion; there is no proof given. The reviewer then proceeds to intimate that Dr. Elliotson is not so blindly wedded to the phrenological system as the greater number of its disciples; and the proof of this grave statement is, that Dr. Elliotson has, so the acute eye of the critic has discovered, a dislike to Dr. Spurzheim and the Edinburgh phrenologists. This exhibits the wonderful powers of our critic; the argument standing thus—'Dr. Elliotson,' says our critic, 'speaks rather slightingly of Spurzheim as well as of the Edinburgh phrenologists;' *ergo*, Dr. Elliotson is not so blindly wedded to phrenology as the greater number of its disciples.

The reviewer then, an effect of an ignorant association of nonsense with Germany, proceeds; 'Dr. Elliotson is not quite a believer, but has his doubts respecting another absurdity of German origin—we mean *animal magnetism*.' After quoting some of the magnetic effects, the following sage statement is made:—'Now

some of this, Dr. Elliotson, with the utmost *naiveté*, says, is very probable, and the testimonies in favour of it, supported by the probability, are too respectable to be doubted.'

The unfitness of our reviewer for the task of criticising medical works is exhibited here most clearly. Since any one who has seen any thing of practice, and surely Dr. Elliotson has, must be aware that many effects, which the magnetisers describe as magnetic, occur in cases of nervous affections. These occurring, Dr. Elliotson concludes, and so would every man in acquaintance with facts, that it is very probable that some effects might be produced by the peculiar motions and other circumstances which, in magnetising, are presented to the view of the patient. Our reviewer seems ignorant not only of medicine, but of chemistry and of natural history generally. Is he not aware of the peculiar influence of some snakes? is he not aware of the powers of the *gymnotics*, *torpedo*, and other electric fish? How will he explain these? Has he never heard of the deaf teaching music? Has he never seen the electro-magnetic experiments in which by acting upon two metals by a diluted acid, and attaching the same metallic bodies to a magnet, revolutions are produced, in a polar direction? Has he not seen the variations of the needle induced by the electro-magnetic apparatus? Surely if these effects can be produced by *inanimate* matter acting upon *inanimate*, is a philosopher not justified in saying, that certain, and these very peculiar, effects may be produced by the action of *animate* upon *animate* bodies? and does it not indicate the candour of a generally-informed mind to conclude 'Having never seen the magnetic phenomena, I have no right to pronounce judgment; but before I believe these wonders, I must see them.' And yet this conclusion of Dr. Elliotson is ridiculed by our reviewer. This person then refers to '*Russell's Tour in Germany*,' as containing an account of an abominable abuse, by a German physician, of the privileges which a medical man possesses in reference to a young lady whom he magnetised. This again shews that our reviewer has not been trained in the school of accurate thinking; for who, of a truly philosophic mind, would argue against the USE from the ABUSE.

He seems also to be not much acquainted with the mighty minds that Germany has produced: since so far from absurdities only being of German origin, and being characteristic of Germans, some of the first classical, medical, and theological works come from and exist in Germany. Has our reviewer ever heard of Leibnitz? of Zollikofer? Has the name of such a person as Haller ever produced an impression on his auditory apparatus? Has he read Gesner's works? Schlegel's, Zimmerman's? Have the inspiring sounds of Handel's music ever excited his soul? Is he acquainted with Schiller?

But as a further illustration of our reviewer's inability for the task he has assumed, the facts may be pointed out, that he has completely *misunderstood* Dr. Elliotson's remarks on animal magnetism, and that he has stated what is actually not the case.

With respect to the first matter, it will be found by any one who does not wish to make unsuitable associations, that Dr. Elliotson, in his remarks on animal magnetism, is rather quizzical. Notes of admiration are often introduced, 'quotations from Hudibras and Voltaire are given. Indeed most have thought that Dr. Elliotson has been too severe upon a subject, which is published to the world under the authority of a late report of the French Institute as a *remedial* means. Blumenbach, moreover, has the following passage, p. 198, 'The singular and undeniable effects attributed to *animal magnetism*, &c.'

With respect to the second matter, that the reviewer has stated what is not actually the case, we quote the following: 'We think that Blumenbach shewed his good sense in omitting all mention of it,' referring to phrenology, p. 523, *Monthly Review*. Now, Blumenbach does mention phrenology in the following passage, in relation to the seat of the soul. 'Others, not contented with one spot, have assigned particular parts of the brain for individual faculties and propensities,' p. 196. This is Blumenbach's own statement, and Dr. Elliotson comments upon it. It is very curious that the reviewer praises Dr. Elliotson for having supplied the deficiencies of Blumenbach on other matters; but blames him for the supply on this particular point; in other words, he praises where the matters supplied are congenial to his own taste; and dispraises when not. Such is human nature.

None of these remarks, in conclusion, it may be noticed, are presented to our readers, from any disrespect to the *Review* before us, or the reviewer. We know not who the reviewer is, not even his name. Neither are they sent into the world to endeavour to induce literary reviewers not to notice *medical* subjects; by no means; but simply with the object of leading them to take care to inform themselves well on those subjects on which they presume to pass judgment as critics.

This we think we have a right to demand of them; and if they do not attend to our request they shall receive a little severe punishment.

GENERAL MISCELLANY

OF THE ACCESSORY SCIENCES.

1. *On the Criteria of Security after Vaccination, or Variolous Inoculation.*—Dr. Miller, of Washington College, Baltimore, asserts—First, That the vaccine cicatrix, and that produced after variolous inoculation, have peculiar and distinctive characters; the *vaccine* cicatrix having within its circumference several little pits, or depressions, whilst the *variolous* cicatrix is marked with *sulci*, or grooves, disposed in a distinctly radiated form.

Secondly, That in some individuals these characteristic marks become less evident as life advances, and are at length totally obliterated; the period of obliteration varying from five to seven, eight, nine, or even thirty years.

Thirdly, That while the vaccine cicatrix retains every one distinct *foveæ*, or depression, the individual continues unsusceptible both of small-pox and of revaccination; but that, should all the *foveæ* become effaced, the system will be found susceptible of either. The same may be said of the radiated sulci of the variolous cicatrix.—*Med. Gazette.*

2. *Preservation of Anatomical Preparations.*—The following are Mr. Gaskoin's instructions respecting the preservation of preparations of morbid anatomy:—

Having removed the diseased part from the body, it should be as little handled or dissected as possible, especially when the effects of inflammation, congestion, &c. are to be preserved, as the blood may be pressed from or disturbed in the minute vessels. Let the blood which may have escaped from cut vessels, be gently washed off from the surface with a solution of the *muriate of ammonia*, or be absorbed by a soft sponge, lightly applied. The part should then be wrapped with care in old linen, and be so immersed in *one part of a saturated solution of the muriate of ammonia, and two of rectified spirits of wine.* After two or three days the linen may be removed, and the part restored to the fluid.

Should the preparation be large, or, from the nature of the disease, contain a large quantity of aqueous fluid, then an additional portion of the muriate of ammonia, in powder, should be added, to meet the excess of aqueous menstruum.

The time necessary for maceration will mainly depend upon the size of the part to be preserved; but generally, from ten to fifteen days will be found to be sufficient, although nothing can be lost by an extension of that time.

Being taken from the macerating fluid, it should be again washed in a solution of the muriate of ammonia, then dissected as much as requisite, and be "put up" at once, *in equal quantities of a saturated solution of the above salt in distilled water and rectified spirits of wine.* I should observe, that in these preparations the part is somewhat corrugated, which is not the case if *one-third* of the saline solution be used with two of the spirit; yet in the former quantities, I have some reason to think the appearances of disease may be more securely preserved.—*Med. Gazette.*

3. *Nature of those Gelatinous Substances supposed to fall from the Atmosphere*—One of these gelatinous masses, which being found in meadows are often supposed to have fallen from the atmosphere, was taken to Dr. Brandes, who examined and made out its nature with considerable certainty. It equalled about $2\frac{1}{2}$ cubical inches, was white, and resembled swelled tragacanth; it was covered in several places with a fine skin, which had burst here and there, and allowed a bulky gelatinous mass to protrude. The bursting had occurred from swelling caused by the absorption of moisture. When entire, it showed a vermicular appearance, of the thickness of a quill, having the figure of an intestine. The back was marked by a tender vessel of a dark brown colour. In a dry place the substance shrunk, became yellowish brown and tough, like glue, and at last horny; 20 grains were reduced to 4 grains by desiccation. Being moistened with water, it swelled up to its former size and colour. 100 grains boiled in 3 ounces of water converted the whole into a tremulous mass when cold. 100 parts gave 18.8 of gelatinous substance, 1.2 phosphate of lime and phosphate of soda, and 80 of water.

This substance Dr. Brandes concludes to have been the spawn of a *limax rufus*, or some other species of limax, swelled by water; and the supposition was confirmed on finding, in a portion of the substance placed in a cup for a few days, a little naked snail (*limax*) about a quarter of an inch long. The spawn, although small at first, swells by moisture, and hence the reason why these substances are usually found in meadows and moist situations. M. Brandes then considers and reconciles the observations of MM. Buchner and Schwabe with those of his own.—*Phil. Mag.* N. S. iii. 271.

4. *J. E. Bowman, Esq. on the Gossamer Spider.*—Mr. B. arrested several of these little aëronauts in their flight, and placed them on the brass gnomon of the sun-dial, and had the gratification to see them prepare for, and recommence, their aërial voyage. Having crawled about a short time, to reconnoitre, they turned their abdomens from the current of air, and elevated them almost perpendicularly, supporting themselves solely on the claws of their fore legs, at the same instant shooting out four or five, often six or eight, extremely fine webs, several yards long, which waved in the breeze, diverging from each other like a pencil of rays, and strongly reflecting the sunbeams. After the insects had remained stationary in this apparently unnatural position for about half a minute, they sprang off from the stage with considerable agility, and launched themselves into the air. In a few seconds after they were seen sailing majestically along, without any apparent effort, their legs contracted together, and lying perfectly quiet on their backs, suspended from their silken parachutes, and presenting to the lover of nature a far more interesting spectacle than the balloon of the philosopher. One of these natural aëronauts I followed, which, sailing in the sunbeams, had two distinct and widely diverging fasciculi of webs; and their position in the air was such, that a line uniting them would have been at right angles with the direction of the breeze.—*Magazine of Nat. Hist.*

5. *On the Sexual Instinct of Insects, by J. H. Davies, Esq.*—It has been asserted that the circuitous flight of the butterfly tribe arises from one sex pursuing through the air the track of the other; and that, if an unimpregnated female of the *P*halæ`na *q*uércus (egger moth) be carried in a gauze cage into the haunts of that species, numbers of the males will be attracted, so as to be easily captured. I have never had an opportunity of verifying this fact; but, from a circumstance which occurred to me during the past year, I have no doubt of its correctness.

I was engaged in rearing lepidopterous insects from the larvæ, and had a great variety of the pupæ of different species; one evening I found a female *S*phinx ocellàta just emerged, which, in lifting from the floor, ran up my arm, and round the collar of my coat; two hours afterwards, on returning to my study from shutting some glass frames in the garden, a very fine male of the same species was fluttering on my shoulder, where the female had previously crawled. But a still more curious fact, which must appear almost incredible, remains to be stated. Two females of the *S*phinx *p*ópuli were developed; the next day I found three males in the room. As no one had entered it in the interval, nor was there apparently any mode by which they could gain access, I was somewhat puzzled to account for their appearance. The same evening, however, their mode of *entrée* was made apparent, by two more males of the same species coming *down the chimney*, one of which fell into a vase standing in the fireplace, where I captured it before it could extricate itself. Afterwards, on occasion of the evolution from the pupa state of females of the *P*halæ`na bucéphala and *P.* sálicis, the windows of my study were completely besieged by males of the same species, which, on throwing open the windows, eagerly rushed in. The instinct which in these cases must have guided the little animals is truly wonderful.

6. *Characteristics of Feline Animals*—Animals of the cat kind are, in a state of nature, almost continually in action, both by night and by day. They either walk, creep, or advance rapidly by prodigious bounds: but they seldom *run*, owing, it is believed, to the extreme flexibility of their limbs and vertebral column, which cannot preserve the rigidity necessary to that species of movement. Their sense of sight, especially during twilight, is acute; their hearing very perfect, and their perception of smell less so than in the dog tribe. Their most obtuse sense is that of taste; the lingual nerve in the lion, according to Des Moulins, being no larger than that of a middle-sized dog. In fact, the tongue of these animals is as much an organ of mastication as of taste; its sharp

and horny points, inclined backwards, being used for tearing away the softer parts of the animal substances on which they prey. The perception of touch is said to reside very delicately at the small bulbs at the base of the mustachios, —*Wilson's Illustrations of Zoology.*

7. *National Distinctions.*—In the *Hue and Cry* of Jan. 22, a list of 102 deserters is advertised. Of these there are—English, 34; Irish, 32; Scotch, 16. Of the 16 Scotch, 6 have long necks; of the 52 Irish, 12 have long necks; of the 34 English, 7 have long necks. Most of the Irish are described as having short necks. These are described as having large and wide mouths: English, 3; Irish, 19; Scotch, none. Nearly all the long-necked Scotch are weavers and spinners. The chief peculiarities appearing in the list are, that the Irish have as frequently blue eyes as grey or hazel, while the blue eyes, among the English and Scotch, are to the grey, as one to six; that the Irish monopolise all the wide mouths; that there are more fair-haired men among the Scotch than among the Irish, and more among the Irish than among the English.

8. *Faculties of Brutes.*—The dog is the only animal that dreams; and he and the elephant the only animals that understand looks; the elephant is the only animal that, besides man, feels *ennui;* the dog, the only quadruped that has been brought to speak. Leibnitz bears witness to a hound in Saxony, that could speak distinctly thirty words.—*Med. Gazette.*

9. *The Tyrian Purple Dye.*—The colour extracted by the ancients from certain shell-fish, and so highly esteemed as to be preserved exclusively for princes, has been produced by modern experiment, though its value, it should seem, has passed away with the fashions of antiquity. More than one sort of shellfish furnishes a purple dye, but the principal belong to the two genera Murex and Buccinum, which can still be procured in great plenty on the shores of the Mediterranean. The great expense of the process would preclude it, we imagine, from answering the purpose of modern speculation, for one shell only affords a single drop of the dye; and it required (at least in the ancient process) six pounds of dye to one pound of wool, which, when dyed, sold at the enormous price of a thousand Roman denarii, or about 36*l.*—*Magazine of Nat. Hist.*

10. *Origin of Jet.*—In the Cabinet of Mineralogy in Languedoc, M. Chaptal preserved several pieces of wood, whose external part is in the state of jet, while the internal part still remains in the ligneous state; so that the transition from the vegetable to the mineral state may be distinctly observed. At Montpelier have been dug up, several cart-loads of trees converted into jet, with their original forms so perfectly preserved, that the species of trees thus bituminised can only be strictly recognised, as retaining the texture of the walnut tree; and the texture of the beech can be traced in the jet from Bosrup, in Scania. The most singular instances, however, are those of a wooden pail and of a wooden shovel, which M. Chaptal, whose authority is undoubted, affirms to have been converted into pure jet.—*Ibid.*

11. *Influence of Sea Air upon Animals and Vegetables.*—The atmosphere, in the vicinity of the sea, usually contains a portion of the muriates over which it has been wafted. It is a curious fact, but well ascertained, that the air best adapted to vegetables is pernicious to animal life, and *vice versâ*. Now, upon the sea-coast, accordingly, animals thrive and vegetables decline.—*Harwood's Southern Coast.*

12. *Mechanism of the Neck in Birds.*—The contrivance by which the spine of animals is rendered susceptible of varied motion, is by means of a strong chain of bones (vertebræ), locked together by means of knobs and projections to prevent dislocation, a chain which stretches from the head to the extremity of the tail. Every body must have remarked, that in birds the neck is more capable of varied motion than in quadrupeds; but it is not so commonly known, that this can be accounted for from the greater number of bones, and, consequently, of joints, in the necks of birds. Except in the three-toed sloth, indeed, the bones in the necks of quadrupeds and of man are uniformly seven in number, the short-necked mole having the same as the long-necked giraffe; in birds, the number is never less than nine, and varies from that to twenty-four: facts which, we think, are as interesting as they are curious.—*Nat. Hist. Magazine.*

13. *Borax and Soda as Tests for Manganese.*—Berzelius, in his treatise on the blowpipe, recommends borax and soda as tests for manganese; the former giving a purple, and the latter, on platina foil, a pale greenish blue glass. Soda, by itself, appears incapable of dissolving a sufficient quantity of manganese to impart to the glass a strong blue tint. Borax dissolves manganese easily, but the purple suit sometimes does not appear till after the addition of nitre, and is very obscure when the assay contains a large proportion of iron; but the addition of a small quantity of soda to the assay, fused with borax on platina wire, readily brings out the purple colour, rather more inclining to blue than when borax alone is used; and, finally, as more soda is added, it changes to a fine deep blue, that cannot be mistaken.—*Ibid.*

14. *Eyes of Crabs and Lobsters.*—Dr. W. E. Leach has invented a term (Podophthálma) to distinguish crustaceous animals, from the mechanism of their eyes, which are placed at the extremity of pedicles, somewhat like the glass of a telescope. M. Lamarck says that these eyes are not retractile, like the horns of the snail, but he has observed, in living crabs and lobsters, that the eyes, at the least touch, are drawn back a little into the sheath, and concealed in the same *fossette* where they are placed.—*Lamarck, Discours d'Ouverture*, p. 15.

15. *Rheum Australe, the true Rhubarb Plant.*—The plant that yields the fine rhubarb of commerce, having been long involved in obscurity, is now discovered to be the rheum australe; it flowered in June last, in the collection of A. B. Lambert, Esq., at Boyton House, Wilts. The stem of the cultivated plant is from seven to ten feet high; the leaves are cordate, ample, numerous, and of a grass green colour; the flowers are smaller than in any of its congeries, and of a dark, or blood red colour; the seeds are dark red, with a highly polished surface; when bruised, they emit a powerful odour of rhubarb. It is perfectly hardy, and ripens its seed readily in this climate.

Dr. Wallish, of the Calcutta Botanic Garden, sent over some dried specimens of the true rhubarb plant, and some seeds, from which Mr. Lambert raised a number of plants. We were informed by Mr. Anderson, of the Apothecaries' Garden, at Chelsea, that he had proved the stalks of this species to be powerfully purgative, when employed in the same manner as those of the rheum undulatum, in pies.

It seems probable, that in a rich, loamy soil, we shall be able to cultivate this valuable article of materia medica advantageously. For a fuller account, and a coloured figure of the plant, see *Sweet's British Flower Garden*, October 1828. Plants may be obtained at the nursery of Messrs. Whitley, Brames, and Milne, Fulham.

16. *Prunes and Senna, Formula for.*—Of the many different methods of preparing this old-fashioned, but excellent domestic aperient, perhaps the following will be found to be the most pleasant and effective. Take of senna leaves half an ounce; supertartrate of potass, half a drachm; water, half a pint; boil gently for ten minutes, and strain. To the liquor put half an ounce of sugar, and half a pound of French plumbs; let them simmer until the liquor be nearly absorbed by the plumbs.

This old form has the advantage of being easily carried in the memory—half a pint of water, half an ounce of senna, half an ounce of sugar, half a drachm of cream of tartar, half a pound of plumbs.

17. *Mr. Mantel's Report of Midwifery.*—In the midwifery practice of a healthy country town, the number of cases being 2510; there were 4 arm presentations, or 1 in 600; 8 in which turning was required, or 1 in 300; 6 in which the forceps were employed, or 1 in 400; 3 cases of embryotomy, or 1 in 800; 6 cases of puerperal convulsions, or 1 in 400; 2 cases were fatal.—*Med. Gaz.*

These are interesting and valuable reports; and we should be glad to see similar documents respecting the private and public practice of the metropolis.

18. *Fine levied for Exhuming a Cranium.*—Mr. H. Holme, who was convicted lately at the Middlesex Sessions, of having removed a cranium from a grave in Henly churchyard, was brought up for judgment on the 1st of last month (Dec.), and fined in the sum of 50*l.* Intimation was given him at the same time by the chairman, that in consideration of his having committed the crime with a view

to the interests of science, he would not inflict upon him the punishment of incarceration. The case of Sheen, who was tried for removing the head from a living child, forms, in its result, a curious contrast with that of Mr. Holme.

19. *Vending Carbonate of Soda, and Acid, without a Stamp, illegal.*—During the last month, several apothecaries in the north-west part of town have been informed against, and fined, for selling carbonate of soda and tartaric acid, put up in proportions for mixing, to produce effervescing beverage, they not being licensed, and selling the articles without a stamp. One general practitioner of respectability, being a member of the Royal College of Surgeons, and a member of the Apothecaries' Company, a gentleman of private fortune, and who never vends advertised medicines, and who is above any attempt to evade any known duties required by Government, was fined in the mitigated penalty of 8*l.* in consequence of his assistant having retailed some carbonate of soda and tartaric acid; 2*l.* of the penalty, which is 10*l.*, were remitted in consideration of the gentleman not being aware that he had incurred the said penalty.

Every apothecary should furnish himself with the act entitled, "An act to amend an act passed in the forty-fourth year of his Majesty's reign, for granting stamp duties in Great Britain, so far as regards the duties granted on medicines, and on licences for vending the same," 28th July, 1812.

So strict does this act appear, that no apothecary is safe from its operation. It is illegal to sell without license and stamp, any compound medicines, except such as are known and approved of in the cure of disease, and wherein the preparer and seller has no secret art in mixing, nor any exclusive right to prepare; or which have not been heretofore patent or advertised, nor shall at any time hereafter be offered to the public as proprietary medicines or as specific remedies, &c. &c. &c.

Also all compositions in a liquid or solid state, to be used for the purpose of making any artificial mineral waters.

20. *Asclepias Tuberosa, medicinal properties of.*—This beautiful ornament of our flower gardens, is called in America, its native soil, pleurisy root, from its medicinal properties, which are, in that country, highly appreciated. Dr. Bigolna says that it is eminently entitled to the attention of physicians as an expectorant and diaphoretic. It produces effects of this kind with great gentleness, and without the heating tendency which accompanies many vegetable sudorifics. It appears to be an expectorant peculiarly suited to the advanced stages of pulmonary inflammation, after depletion has been carried to the requisite extent. Dr. Parker, of Virginia, having been in the habit of employing this root for twenty-five years, considers it as possessing a peculiar and almost specific power of acting upon the organs of respiration, and for relieving the breathing of pleuritic patients in the most advanced stages of the disease. Like other vegetable bitters, if given in large quantities its operates upon the alimentary canal.

The best mode of administering the asclepias root, is in decoction or in substance; a tea-cup full of strong decoction, or from twenty to thirty grains of the powder, may be given in pulmonary complaints several times a day.—*Maund's Botanic Garden.*

21. *Anatomy—Deputation to Mr. Peel.*—On Saturday 29th November, a deputation from the Westminster Medical Society, consisting of Dr. Thompson, Mr. Cæsar Hawkins, and Mr. Arnott, waited on Mr. Peel, respecting the difficulties still continuing to be felt in procuring subjects for dissection. The deputation experienced from the Minister a very courteous reception. We believe that the Westminster Medical Society has the merit of having been the first to petition Parliament upon the above subject last year. The committee of the Westminster Medical Society have agreed upon calling a special meeting of the members, on Friday, the 12th of December, to consider the difficulties attending the study of anatomy, and the measures for their removal.—*Med. Gazette*, Dec. 6.

22. *Nursery Fire-guard.*—If prevention be better than cure in any thing, surely it is so with respect to burns. We have lately seen a most effectual and neat fire-guard, formed upon so simple a principle, that we feel it a duty to give it our approbation, and to recommend it to the attention of those of our readers who have children. It is manufactured and sold at Dowson's, Welbeck-street, Cavendish-square.

(Continued from Page 588, *Vol. I.)*

23. *Formulary of the* HOTEL-DIEU, *at Paris.*—The quantities are expressed in Troy weight and English fluid measure.

Antispasmodic Powder.—(M. Récamier.)—Take of Cinchona in powder ʒij. Valerian ʒj. Mix. To be taken in twenty-four hours; divided into doses.

Powder of Ipecacuanha and Rhubarb.—(M. Récamier.)—Take of Ipecacuanha in powder ϑj. Rhubarb in powder ϑss. Mix. This may be employed in a dose, as an emetico-cathartic.

Expectorant Powder.—(M. Récamier.)—Take of Ipecacuanha in powder ϑj. Squills in powder ϑss. Mix.

Pulvis de Tribus.—(M. Récamier.)—Take of Gentian in powder ʒss. Bistort and Pæony in powder, of each ʒij. Mix.

This was much employed as a substitute for Cinchona, when that article was scarce. It has since been used in fevers which have resisted the bark.

Aromatic Powder.—(M. Dupuytren.)—Take Powder of Thyme, of Sage, and of Rosemary, of each ʒiv. Camphor and Muriate of Ammonia, of each ϑj. Mix.

Used as an external application in gangrene.

Stomachic Powder.—(M. Dupuytren.)—Take of powdered Cinchona and Rhubarb, of each equal parts. Given in doses of ten grains, in a spoonful of Soup. Very useful in indigestion, attended by constipation.

Anthelmintic Powder.—(M. Dupuytren.)—Take of powdered Jalap gr. xxv. Rhubarb gr. v. Calomel gr. iss. Mix.

Powder for Gastrodinia.—(M. Récamier.)—Take of Subnitrate of Bismuth gr. iv. Magnesia and Sugar, of each ʒss. Divide into four papers.

Powder of Rousselet.—(Of all the Hospitals.)—Take of Red Sulphuret of Mercury ʒj. Dragon's Blood ʒiv. White Oxide of Arsenic ʒss. Mix.

Decoction of Dog Grass.—(The common Tisane of all the Hospitals.)—Take of Root of Dog Grass (Triticum Repens) ʒj. Liquorice Root ʒj. Water Oij. Make a decoction.

This is much used on the Continent, as a drink in febrile affections; sometimes nitre is added to it.

Oxycrate.—(Of all the Hospitals.)—Take of Vinegar f. ʒij. Water Oij. Mix.

Hydrogala.—Take of Barley Water Oij. New Milk f. ʒiv. Mix.

Infusion of Violets.—Take of Violet Petals ʒij. Boiling Water, Oij.

Recommended in inflammatory affections of the thoracic viscera.

Infusion of Arnica.—Take of Flowers of Arnica Montana ʒj. Boiling Water Oij. Make an infusion.

Considered to possess a power of stimulating the brain and nervous system. Given in cases of apoplexy and paralysis, when no inflammation is present.

Decoction of Juniper Berries.—Take of Juniper Berries bruised ʒij. Boiling Water Oij. Make an infusion.

Decoction of Rice.—Take of Rice ʒss. Water Oiij. Boil until reduced to a third part.

Employed in dysentery and diarrhœa.

Decoction of Catechu.—Take of Catechu bruised ʒij. Water Oij. Boil fifteen minutes.

Decoction of Veal.—Take of lean Veal ʒiv. Water Oij. Make a decoction.

Employed in inflammatory affections, to obviate constipation. To render it more active, Pulp of Tamarinds ʒij. are added, or gr. j. of Antim. Tart.

Infusion of Ground Ivy.—Take of Flowers of Ground Ivy ʒij. Boiling Water Oij. Make an infusion.

In the same manner and proportions are made the Infusions of Mallow Flowers, Hyssop Tops, Elder Flowers, Borage Flowers, Saffron, Wormwood, Chamomile, Lime Flowers, Orange Flowers, Red Poppy.

Decoction of Corsican Moss.—Take of Fucus Helminthocorton ʒj. Water Oij. Boil.

Decoction of Burdock.—Take of Burdock Root ʒj Water Oij. Boil.

Tar Water.—Take of Tar ʒss. Water Oij. Boil.

Decoction of Fir Buds.—Take of Buds of the Northern Fir ʒij. Water Oij. Boil.

(To be continued.)

24. *Mr. Watt's Solar and Lunar Compasses.*—Mr. Watt has lately described, in the philosophical journals, what he calls solar and lunar compasses. The following seems to be the last improvement. Stretch a circular disc of dark-coloured velvet, of about four inches diameter, upon two very thin slips of light wood, or upon two feathers placed across each other at right angles: render about 25 grains weight of pure filings of steel magnetic, by putting them between the folds of a piece of paper and drawing the ends of two magnets about thirty times across them. Rub the filings over the whole face of the velvet disc, they will then sink into the spaces formed by the piles of the silk. Let this be affixed to the end of a very light bar of wood, or to the opaque part of a writing quill four inches long, by a fine needle passed through the disc. Make a small perforation in the wood or quill at the distance of one-third of its length, measuring from the point at which the disc is attached; press a small agate or glass capsule into the aperture without any wax or fixture; the elasticity of the wood or quill keeps it sufficiently firm; balance it on a fine steel point, and let a cover be put over it. This instrument moves to the influence of the solar beam from morning to evening in our shortest days, even when the thermometer stands at freezing, and though the rays fall upon it through the glass of a window and the glass of the cover: the motion of the balancing bar is as slow, equal, and constant when the sky is clear, as the shadow of the gnomon of a dial. Mr. Watt has also observed, he says, that this instrument and several other bodies clearly indicate by their motion the attractive influence of the lunar beam.—*Jameson's Journal*, 1828.

MR. GRAINGER'S EXCULPATORY LETTER.

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

GENTLEMEN—In the report of the trial of Cooper *versus* Wakly, there are some questions in the cross-examination of Mr. Lambert, which imply that I had delivered several demonstrations, and also a lecture, with the view of shewing that Mr. B. Cooper's operation of lithotomy was unskilfully performed. As this imputation has been widely circulated through the medium of the press, I am desirous of refuting it in the most public manner; and I therefore trust you will give insertion to the following statement in your next Number. In consequence of receiving many applications from gentlemen attending my lectures, who were subpœnaed on this trial, to describe to them the anatomy of the perinæum, I delivered a lecture, which was numerously attended; and among those present, were several students who had been called on to give evidence both by the plaintiff and defendant. In that lecture I pointed out the anatomical relations of the perinæum and neck of the bladder; I also gave several demonstrations in the dissecting-room, in the usual routine, on the same parts. But in thus discharging what I considered the imperative duty of an anatomical lecturer, I studiously avoided all allusion to the operation performed by Mr. B. Cooper. On Saturday morning last, I read the above report in the *Morning Herald*, and I felt anxious to have an opportunity of stating these facts in Court; I therefore made an application through Sir A. Cooper to that effect, but I was informed by him that it was too late. Under these circumstances I had no alternative, but to publish the letter which appeared in the *Morning Herald* of Monday. In the evening of that day, I received the following letter from Sir Astley Cooper; and by his kind permission I insert a copy of it.

Conduit Street, Dec. 15, 1828.

MY DEAR SIR—You have done exactly as I wished, in publishing your letter. All the evidence on the part of the defendant had been examined; and I, who am ignorant of these matters, believed that it was impossible to retrograde. By sending your letter to the press, you have exculpated yourself.

Believe me, with real esteem, yours always, most truly,

ASTLEY COOPER.

In conclusion, I have only to add, that my colleague, Mr. Pilcher, has requested me to state, that in the demonstrations which he has given, he has carefully abstained from all comment on the above operation.

I am, gentlemen, your obedient servant,

R. D. GRAINGER.

Broad-street Buildings, Dec. 19, 1828.

Literary Intelligence.

Dr. Epps, author of the Internal Evidences of Christianity, deduced from Phrenology (Simpkin and Marshall, Paternoster Row), and Lecturer on Materia Medica and Chemistry, proposes to publish (by request) three Phrenological Essays:—

I. On the faculty of Veneration—showing that many forms of religious worship adopted by different sects of professing Christians, excite *false* devotion, by acting on this faculty through the feelings, and not through the intellectual faculties.

II. On Morality—pointing out the inferior origin of the greater portion of the morality of the present day, and that the facts of Christianity present the only lasting motives to moral actions.

III. On the best means of attaining Happiness—demonstrating the sources of our misery, the sources of our happiness, and that our happiness and misery may arise from one and the same source, according to the improper or proper guidance of all our faculties.

A slight sketch of the science of Phrenology will form the preface to the work, in order to enable the reader to comprehend more fully the principles laid down.

Books Received during the Month.

1. Transactions of the Medical and Physical Society of Calcutta, Vol. III. 8vo. pp. 454. Calcutta, 1827.

2. Comments on Corpulency; Lineaments of Leanness; Mems, on Diet and Dietetics. By William Wadd, Esq., F.L S., Surgeon Extraordinary to the King, &c. &c. &c. p. 170. Ebers and Co., London. 1829.

*** It is not necessary to say more than that Mr. Wadd is the author of this little work, to induce every one to read it. We augur that it will be in the possession of every person of *taste* in town and country, before many weeks shall have expired.

3. Observations on the History, Use and Construction of Obturateurs, or Artificial Palates; illustrated by Cases of recent Improvements; to which are added numerous Cases of Deficiency of the Lower-Jaw, Lips, Nose, &c. &c.; with the most efficient means of restoring the parts Artificially. By James Snell, Surgeon-Dentist, M.R.C.S., and Lecturer on the Anatomy and Diseases of the Teeth. Second Edition. 8vo. pp. 106. Callow and Wilson; London, 1828.

*** See a Review of Mr. Snell's Work in the present Number.

4. The Anatomy and Physiology of the Nervous System. By Valentine Flood, A.M. M.B., Member of the Royal College of Surgeons in Ireland, and one of the Demonstrators in the Richmond School of Anatomy. 12mo. pp. 315. Dublin, 1828.

5. An Essay on the Mechanism of Parturition, from the German of C. F. Naegelè, Professor of Midwifery at Heidelberg. By Edward Rigby, M.D. 12mo. pp. 166. Callow and Wilson, London. 1829.

6. No. I. of the Medical Reporter; or, Analysis of the Sciences of Anatomy, Medicine, Surgery, Chemistry, Materia Medica, Pharmacy, Clinical and Obstetric Medicine. Price Fourpence. Published by J. Anderson, West Smithfield.

Notice to Correspondents.

Communications have been received from Dr. Bailey and Mr. Sanders.

Communications and Works for Review are requested to be addressed to the Editors, to the care of Messrs. Underwood, 32, Fleet Street.

THE LONDON

MEDICAL AND SURGICAL JOURNAL.

No. 8. FEBRUARY 1, 1829. Vol. II.

CRITICAL REVIEW.

I.—*Pathological and Practical Researches on Diseases of the Stomach, the Intestinal Canal, the Liver, and other Viscera of the Abdomen.* By John Abercrombie, M.D., &c. &c. &c.

(Continued from Page 12.)

The pathology of the mucous membrane of the intestinal canal forms a very important subject for the consideration of the medical practitioner. Disease of this membrane is probably more frequent in occurrence than disease of any other tissue in the body. We have already said, that we cannot separate disorder from actual disease. The former is the immediate and necessary effect of the latter. Disease, considered either as a general or a local condition of living parts, may be the effect of a long series of prior causes, but it bears the relation of a cause to the disorder of function. By disease, we understand some change in the natural condition of a vital part. The change may be in various degrees, constituting different degrees of disease. Health, strictly considered, cannot, evidently, admit of degrees. Any deviation from the natural state must constitute some degree of disease in the seat or tissue where that deviation has occurred. How functional disorder could ever have been considered as a thing separate from disease, is beyond our comprehension. The anatomical structure of each organ is made up of several dissimilar tissues, each of which, as a necessary consequence, performs a distinct office. Any one of these may become diseased while the rest preserve their healthy state. As the office of each tissue forms a part of the common function of the organ, the least deviation or change occurring in a single tissue must produce more or less disorder of the general function of the organ of which that tissue forms a part. The change may be so inconsiderable as to escape the scrutiny of our senses, but its effects may be evident in the functional derangement. It is this circumstance which has given rise to the supposition that

disorder of function may exist independent of actual disease. If we give up our assent to this opinion, we must admit that effects may start into existence without the aid of any causes —that the properties of bodies may undergo a partial or an entire change, whilst the conditions of these bodies, upon which the properties depend, remain exactly the same. According to the same principle we may look for motion without a body, or for gravitation without matter.

It is, perhaps, more excusable to err in the attempt of tracing, the chain of causation in the living body, than in inanimate matter. The machinery is complex, and a derangement, when it occurs, does not always become evident until it has arrived at a series of its effects far removed from the original cause. Thus, a derangement may take place in the function of the liver without giving rise to pain, tenderness, or any other symptom in the hepatic seat indicative of such an effect. The bile may be of a natural colour and consistence. It may not inflame or irritate the gall-bladder and the biliary ducts. But the properties of the bile having undergone a change, the fluid irritates and inflames the mucous lining of the intestinal canal, and the effect of the derangement may be now recognised in a seat distant from that in which the first deviation from the natural state took place. In the nervous system, we find sufficient examples in illustration of this subject. Hence, although an organ may not manifest those symptoms generally considered as the *sine qua non* of disease, and although no change of structure could be seen in it if examined, still the inference which must be drawn in such a circumstance appears to us to be, that the arrangement of its component parts or elements must have undergone some change. It becomes then a question, whether or not such a change of condition is to be termed *disease?* If induration, thickening, inflammation, or congestion, comes within the meaning of the term disease, the very first step towards either of these states, deserves, according to our view, the same appellation. The difference is merely in degree. The shades of difference in this respect may be innumerable.

We should not have considered it necessary to say so much upon this subject were it not for the circumstance that authors of the present day, especially those who have taken under their special protection the organs of digestion, speak of disorder and disease as two things which have severally been clearly and satisfactorily defined, or as if the two were perfectly independent of each other.

The diseases of which Dr. Abercrombie treats in the *third* part of the work before us, possess more palpable properties

than those which are connected with the kind of affections of which we have been just speaking. The principal changes observed in the mucous membrane of the intestinal canal are, 1, portions of it, of different extent, exhibiting a uniform and high degree of redness, with flakes of coagulable lymph, or a coating of false membrane attached to its surface in various places; 2, the mucous membrane covered, to a greater or less extent, with patches of a bright red colour, and sensibly elevated above the level of the surrounding parts; 3, the membrane exhibiting a soft consistence, of a uniform black colour, or what may be properly termed gangrene of the mucous membrane; 4, minute dark coloured spots spreading extensively over a portion of the membrane; and each surrounded by a small areola of inflammation; 5, small round or oval portions of the mucous membrane of a dark grey colour and pultaceous consistence; 6, the surface of the membrane covered by numerous small spots of an opaque white colour, which consist of vesicles slightly elevated, and containing a small quantity of clear fluid; 7, ulcers of various appearances and extent; 8, portions of the mucous membrane covered by small firm tubercles.

The peritoneum sometimes continues healthy during the whole progress of the various diseases above described, 'so that, on first opening the abdomen, even in very protracted cases, there is no external appearance of disease.' Patches of dark red or livid colour may be observed in other instances, shining through the peritoneum; this membrane, however, continuing perfectly healthy. In other cases, again, the disease extends through all the coats of the intestines, giving rise to peritonitis and its consequences.

In speaking of the symptoms of diseases of the mucous membrane of the intestines, Dr. Abercrombie remarks, that we are too apt to form a judgment of the affections from the character of the evacuations, and to conclude that no serious disease exists when they are feculent and of a healthy appearance. He is of opinion that the conclusion thus formed may be fallacious; and that most extensive disease may be going on while the evacuations appear perfectly healthy. These cases, we should say, form exceptions to the general rule. But Dr. Abercrombie admits of no *general rules* in medicine. We are told that, 'we even find some writers expressing such confidence in these deductions' (from a limited number of facts) 'as to talk of general rules in medicine, with exceptions to those rules.' What then? Are there no general rules, with exceptions, in medicine? Is it not a general rule that a scruple of ipecacuanha produces vomiting? that an ounce of Epsom salts purges? that

peritonitis is accompanied with pain? If these be general rules, let us ask, are there no exceptions to them? By saying that there are no general rules in medicine, we conceive the author's meaning to be, that like causes must produce like effects in medicine as well as in every thing else. There we fully agree with him. If we could trace the causes to their origin we should be able to discover the reason of the exceptions to general rules. But because we cannot do this in every instance, we are not to conclude that no general rules, with exceptions, exist in medicine. We consider the terms general rules and physical laws to convey very different meaning. The former are, we admit, governed by the latter, but as the laws depend upon the nature of the bodies with which they are connected, they admit of some modification without producing much change in the general rules. Thus, the stomach may not be precisely in the same state to-morrow as it is to-day, still a given quantity of ipecacuanha shall produce vomiting each day, so that the general rule has no exception here. The same organ at another time may not be sensible of the effect of the medicine given in the same quantity and of the same quality. We have here an exception to the general rule, that a given quantity of ipecacuanha produces vomiting.

It is very important to know the fact, that 'most extensive and deep-seated disease may be going on, with feculent and healthy evacuation;' because the state of the bowels forms the principal criterion by which we arrive at a diagnosis of disease of the mucous lining of the intestines. Thus, we are told that 'the effects upon the functions of the bowels in connexion with these diseases, are chiefly referable to the following heads: 1, a simple irritable state of the bowels, with feculent discharges: 2, morbid discharges from the diseased surfaces of various kinds, such as watery, mucous, bloody, puriform; 3, various mixtures of these matters with the feculent evacuations; 4, various changes in the appearance of the feculent evacuations themselves, in consequence of articles passing through in a partially digested state, or, frequently, almost entirely unchanged; also from the mixture of bile or other matters from the upper part of the bowels.' The general rule is, therefore, confirmed—that disease of the mucous membrane of the intestines is attended by unhealthy evacuations. This is, indeed, the most important symptom connected with maladies of this tissue.

Dr. Abercrombie arranges affections of the intestinal mucous membrane into three classes: 1, active inflammation, varying in its characters according to the extent and seat of the disease. In this class the disease may be fatal in the

inflammatory stage, by gangrene, by ulceration, or by passing into peritonitis; 2, chronic disease of the membrane; this class includes induration, ulceration, thickening, and all the other morbid conditions which supervene on chronic inflammation; 3, ulceration of the membrane existing for a length of time without producing any symptoms which lead to a knowledge of their existence. There is no distinction between the anatomical characters of this last modification of the disease and those of common ulceration. The only difference appears to be in the symptoms. In the last, the almost universal symptom of disease, namely, more or less pain, is absent, and the evacuations appear healthy.

As we do not pretend to write an elementary essay on diseases of the mucous membrane of the intestinal canal, it will not be expected that we point out the various shades observed in the symptoms in different cases; or that we describe the exact forms assumed by ulcers of this tissue under various circumstances. Almost every disease has some distinct characteristic symptoms. It has other symptoms in various shades, common to it and to other diseases. Now, so far as observation has hitherto extended, the characteristic symptom of disease of the tissue under consideration, is diarrhœa, tormina, or frequent inclination to evacuate the bowels. The state of the evacuations forms the next important circumstance. Then we find that pressure on the abdomen produces a peculiar deep-seated pain, different from the extreme tenderness attending peritonitis. When we have enumerated these symptoms, we have described all those which are peculiar to disease of the mucous membrane of the bowels. But these vary considerably in their modification, according to the exact seat of the malady. As a general rule, (begging the author's pardon for using the expression) when the disease is situated in the small intestines, the evacuations are abundant, and they take place very soon after the patient has eaten any food. The aliment passes through the canal without undergoing any considerable change. When, on the contrary, the disease is situated in the large intestines, the evacuations are small in quantity. Their passage is attended with great bearing down pain. Only a small quantity of fluid matter escapes, sometimes containing small, hard lumps of fæces. The shades of colour of the evacuations at different times are innumerable. When the colour is different from that of healthy fæces, and when any of the symptoms already described are present, we have a proof of the *existence* of disease of the mucous membrane, but, unless the discharges contain blood, coagulable lymph, or pus, we are not aware that their *colour* alone can

lead us to form any particular opinion respecting the nature, precise seat, or extent of the malady.

The manner in which systematic writers generally, in this country, describe the symptoms of diseases, is most slovenly. It is eminently calculated to confuse, not only the student, but also those who have laid aside that title. Symptoms most distantly related to the malady are not unfrequently enumerated first, with great minuteness; then come those, as it were by accident, which are characteristic of the disease in question. Thus, we have seen peritonitis described: 'quick pulse, bowels regular, tongue whitish, thirst, pain in the abdomen, urine high coloured, skin hot, belly tender on pressure, loss of appetite, nausea, headach, restlessness, &c.' A score or two of symptoms may be sometimes noticed, huddled together in this manner, without the least order or arrangement. Fortunate is the student whose memory is capacious enough to retain them all.

In the first section of this part of the work, Dr. Abercrombie treats of active inflammation of the mucous membrane of the intestine. In this form of the disease, the symptoms already noticed will vary in modification according to the extent and intensity of the inflammation. With respect to the terminations of the disease, it may be fatal, 1, in the inflammatory stage; 2, gangrene; 3, ulceration; 4, by passing into peritonitis or enteritis. The author relates numerous cases in illustration of this subject. The following are the heads:—1, inflammation of the mucous membrane confined to the rectum and part of the ascending colon; 2, the disease extending along the whole course of the colon and rectum, fatal in the inflammatory stage; 3, the disease occupying the whole colon and rectum, fatal by gangrene; 4, the disease occupying the whole colon and rectum, and part of the ileum; 5, occupying the colon, fatal by ulceration with peritonitis; 6, the disease confined to the caput coli, and part of the ascending colon; the patient dying of an affection of the brain; 7, fungous ulceration of the caput coli, and recent inflammation of the ileum, with a coating of false membrane; 8, the disease in the ileum, with deposition of false membrane; 9, the disease in the ileum, fatal in the state of red elevated portions, with incipient ulceration; 10, the disease in the ileum, fatal by gangrene; 11, the disease in the same situation, fatal by ulceration; the disease occurring in continued fever, with ulceration.

Dr. Abercrombie enters into some disquisition respecting the difference between diarrhœa and dysentery. Since practitioners have commenced attending to morbid anatomy, and comparing the diseased appearances observed after death

with the symptoms during life, the practice of treating diseases from the names merely which certain systematic writers have applied to them, has, fortunately, become less common. Is there any real difference between the anatomical characters of diarrhœa and those of dysentery? If there be, what does the difference consist in? 'If we are asked,' says the author, 'what is the difference between diarrhœa and dysentery, we must reply, *that it consists in the nature of the disease*, and can be learned only from a diligent attention to the concomitant symptoms, not from the character of the evacuations. Diarrhœa is an *increased action* of the canal, produced by various irritating causes applied to the mucous membrane in a healthy state; the highest degree of it is the cholera of this country. Dysentery is a similar *increased action* arising from inflammation of the mucous membrane; and the highest state of it appears to be the cholera of India.' It must follow, if this view of the subject be correct, that the cholera of this country is essentially different in its nature from that of India. In other words, the two affections differ in kind, not in degree. We do not exactly understand what the author means by 'increased action' of the canal. Does he mean mechanical action of its coats? or does he apply the term to the secretion of its surface? But passing over this point, we cannot agree with Dr. Abercrombie in opinion, that the cholera of this country, which is often fatal in a few hours, is different in kind from the cholera of intertropical climates. Both prevail during the hottest season of the year, and the history of the two is so nearly alike in most respects as to lead to the conclusion that the difference is merely in degree. The disease may be modified by various circumstances, like remittent fever, continued fever, and almost every other malady. Very few, we think, will be of the same opinion as the author, that the mucous membrane is in a healthy state in the cholera of this country; and that the disease depends merely upon the application of irritating substances. If this were the case, there is no reason why the disease should not be as prevalent during the cold season as during the hot. A high temperature of the atmosphere appears to be one of the essential causes of cholera. Diarrhœa, on the contrary, may be produced, and often is produced, by a state of the atmosphere quite the reverse. Cold feet, cold applied to the abdomen, or to any other part, will often give rise to it. But the diarrhœa produced by this cause never manifests symptoms like those of the cholera observed in this country during the summer season.

It appears to us that dysentery and cholera differ chiefly in respect to the part of the intestine which is affected. The

former is allied to the colon and rectum more particularly; the latter affects the mucous membrane of the small intestines and stomach. This view agrees with the pathological characters of the two maladies. But the two seats just mentioned, become frequently affected at the same time. When this is the case the symptoms are complicated. We then observe sickness, vomiting, tormina, together with tenesmus, scybalous and bloody evacuations. In simple dysentery, or inflammation of the mucous coat of the large intestine, symptoms indicative of cholera are not generally present. The disease, when situated in this part of the canal, is also not so suddenly fatal, as when seated in the small intestines. Whether or not the two affections differ in kind, is a question which no one yet has solved. From the circumstance that they are influenced by the same causes, and that they are allied to a similarly constituted tissue, we might be disposed to infer them to be identical. There is no reason, at all events, to infer that the cholera and dysentery which occur in this country, during the summer season, are essentially different from those of intertropical countries. They arise from similar causes, and they require the same *plan* of treatment so far as experience has hitherto proved. The treatment requires, of course, to be pursued with an energy proportioned to the intensity or severity of the disease in individual cases. Cholera may destroy life before time is allowed for the mucous membrane to ulcerate. The mucous lining of the small intestines will be found, in such cases, to be intensely inflamed. Mr. Annesley, in his Sketches of the Diseases of India—the best work we have on this subject—gives the history of numerous cases of this kind. Very seldom was there much disease found in the large intestines. From the very suddenly fatal tendency of cholera, or that peculiar inflammation which takes place in the mucous membrane of the small intestines and stomach in intertropical countries, and in the hot season in other countries; and from the length of time dysentery is often observed to go on without destroying life, it would appear that the former portion of the alimentary canal is much more necessary to life, or that the injury inflicted on it by disease is felt much more intensely, than the latter portion. Dysentery may continue for weeks without proving fatal. Cholera, unless it be checked, kills in a few hours. It appears to destroy life, in general, by producing a sudden and extreme exhaustion. Independently of the exhaustion occasioned by the intensity of the pain, and by the impression produced by the disease on the ganglionic system of nerves, it also deprives the system in two ways of the pabulum from which the life and

structure of the body are derived. It in the first place gives rise to excessive secretion from the internal surface of the small intestines, thereby draining the vascular system of its contents nearly as fast as it would be drained if an orifice were made in a vein. It in the second place puts a stop to the formation and absorption of chyle. Thus, by the abstraction of properties necessary to the support of life on the one hand, and by privation of elements, of which the life and structure of the body are compounded, on the other, the career of the malady is short and rapid. The course of dysentery, when not complicated with inflammation of the small intestines or stomach, is generally very different. The functions of the whole, or of a part of the large intestine may be materially deranged; the evacuations may be scanty, scybalous, bloody, purulent; the patient may be ultimately worn out by the pain, tenesmus, and the exhaustion of nervous energy always attendant on extensive and long continued disease; still there is no excessive draft on the vital fluid; the functions of the lacteal absorbents are not materially deranged, so that life may retain its hold in the system for a considerable period.

We now come to the *chronic* diseases of the mucous membrane. The following are, according to the author, the varieties of morbid appearances presented by them: 1, a greater or less extent of the membrane covered with irregular patches of a dark red colour, and fungous appearance, sensibly elevated above the level of the surrounding parts; 2, small, well-defined ulcers, more or less numerous, often at considerable distances from each other, and not larger than the diameter of a split pea, the intervening membrane being entirely healthy; 3, an extensive tract of the membrane, showing one continued surface of disease, in which ragged irregular ulceration alternates with fungous elevations, and with other parts from which portions of the membrane appear to be removed; 4, the other coats partaking of the disease, and a portion of the intestine, of greater or less extent, becoming thickened and indurated, often with adhesion to the neighbouring organs or to the parietes.

Dr. Abercrombie is of opinion that the first and second modifications of the disease are generally characterized by long continued diarrhœa, without any thing peculiarly morbid in the appearance of the evacuations, excepting that they are always fluid, and have often a peculiar fœtor. But these appearances are morbid. The author probably means that neither blood nor pus is found mixed with the evacuations in those modifications. We are told that in the third form, when it occurs in the colon, 'there are copious evacuations

of morbid matter from the diseased surface, which are sometimes puriform, and sometimes consist of a mixture of a tenacious puriform fluid, with mucous, or semi-gelatinous matter; and the whole is often deeply tinged with blood.'

The state of the bowels forms the most characteristic symptom of chronic disease of the mucous membrane. There is generally diarrhœa, or a strong tendency to that state. Pain in the abdomen, sometimes almost constant, but more generally in the character of tormina, constitutes another leading symptom. The evacuations are unhealthy in quality, either as regards colour, smell, or consistence. The appetite is variable, but generally deficient. The patient often has an inclination to vomit. Sickness and vomiting, in many cases alternates with diarrhœa. Emaciation necessarily takes place in consequence of the diseased state of the surface from which the nourishment is naturally absorbed. Independently of the obstacle presented to the absorption of the chyle, the constant pain under which the patient labours, and the frequent calls to evacuate the bowels, to which he is subject, soon reduce his system to an extreme state of emaciation.

The author devotes a section of his work to a modification of ulcers of the mucous membrane, which he considers different from the preceding, inasmuch as they are without any prominent or characteristic symptoms. In its pathological characters the affection is the same as that attended with the diagnostic symptoms of ulceration. 'It consists of ulcers of various extent, but few in number, perhaps only one or two of them occurring in the whole course of the canal; or a few of them in succession occupying a small space, most commonly about the lower end of the ileum, while every other part of the canal is in a perfectly healthy state.' These ulcers often exist without producing any symptoms indicative of their presence, until the case proves suddenly fatal. The termination in such cases may take place by hemorrhage, or by peritoneal inflammation, occasioned by a perforation of the intestine by one of the ulcers, and the escape of the intestinal contents into the cavity of the peritoneum.

Authors generally agree respecting the indications of treatment in particular diseases, but they differ regarding the best mode of fulfilling such indications. Each has certain views and certain methods of doing that which another would endeavour to accomplish by means perhaps diametrically opposite. Dr. Abercrombie founds his principles of treatment of acute cases of disease of the mucous membrane upon the anatomical characters of the malady. 'If,' says he, 'to the class of diseases now described, we simply apply the term inflammation of the mucous membrane of the in-

testine, we can be at little loss in fixing upon the first and great principle to be followed in the treatment; while, if we use the term dysentery, we in vain endeavour to find our way amid the various causes that have been proposed for the treatment of the disease.' Let us hear what this first and great principle consists in: '1, to subdue the inflammation; 2, to quiet the general irritation of the canal; 3, to correct the morbid secretions from the diseased surface.' No one, we conceive, will disagree with the doctor respecting these principles, or rather respecting the necessity of accomplishing the three points just mentioned. But, we may be allowed to ask, are not the second and third principles swallowed up altogether in the first? Is not the inflammation of the mucous membrane the cause of the 'general irritation of the canal,' as well as of the 'morbid secretions of the diseased surface?' If the canal were healthy it could not be in a state of irritation, nor could the secretions from its surface be diseased. Now, for answering the first of the three indications specified by the author, we are told that the remedies on which we rely, are blood-letting, blistering, diaphoretics, and antiphlogistic regimen. What medicine are we to administer as a 'diaphoretic?' 'Dover's powder.' What medicine 'to quiet the general irritation of the canal?' 'Dover's powder.' Again, what medicine to 'correct the morbid secretions from the diseased surface?' 'Dover's powder,' combined with a little calomel. We find no fault with the author's plan of treatment. We wish merely to point out, that in the treatment of diseases generally, there is, strictly speaking, only one grand indication, namely, to subdue the malady; but there appear to be various methods of fulfilling that indication. In inflammation of the mucous membrane of the intestines, opium appears to exert a beneficial influence. In some inflammations, especially of the brain or its membranes, its influence is prejudicial. But does this circumstance prove any thing more than that a remedy which has the property of lessening inflammation of one tissue, or one kind of inflammation, is calculated to increase inflammation of another kind, or of another tissue? Bark possesses properties perfectly analogous. Speaking of the great principle of treatment in inflammation—this, according to most authors, comprehends blood-letting, general and local; saline cathartics, antimonials, starvation; besides blistering and other modes of exciting counter-irritation. Opium forms no part of the treatment, in the acute stage, according to the opinions of most writers. But, in inflammation of the mucous lining of the intestine, opium is not only admissible as a remedy calculated to relieve pain:

it constitutes one of the chief medicines upon which we rely for the cure of the disease. Opium, in most cases of inflammation, is considered as a necessary evil. It occasionally lulls the patient to repose, and renders him for some time insensible of his pain. The symptoms to which it gives rise, at other times, are nearly as frightful as those of the malady itself. Hence, it appears to us to follow, that 'the first and great principle' in the treatment of inflammation is, certainly, to subdue that inflammation; but it unfortunately happens that this indication cannot always be fulfilled by the same methods or even by the same plan. The same indication will, in different cases, sometimes require plans, apparently, diametrically opposite, for its fulfilment. We are enabled to subdue one kind of inflammation by blood-letting, purging, antimonials, abstinence, &c. Another kind will give way to the exhibition of a moderate quantity of wine, bark, or other stimulants and tonics, aided by a nutritious diet.

The treatment of dysentery, as it appears in this country, according to Dr. Abercrombie, should consist of blood-letting, general, or local, as the case may require; blisters to the abdomen; Dover's powder, combined with a few grains of calomel; a mild mucilaginous diet. In a more advanced stage, 'when the morbid secretion continues after the inflammatory symptoms have been subdued,' remedies of a tonic and astringent nature may be resorted to; such as, cusparia, lime-water, oxyde of bismuth, nitric acid, &c. Purgatives are generally inadmissible. Mild laxatives, however, are sometimes necessary, especially when the disease is situated in the lower part of the large intestine, attended, as it commonly is, with retention of the fæces. The author disapproves of the administration of large doses of calomel in this affection.

The chronic form of disease of the mucous membrane of the intestines requires a modification of treatment somewhat different from the acute. The remedies recommended are, lime water, vegetable bitters and astringents, especially the cusparia and logwood; preparations of iron, small quantities of mercury with opium; the different resins; nitric acid; sulphate of copper; blistering the abdomen, &c.

Dr. Abercrombie illustrates his opinions of, and remarks on, this affection, by the recital of numerous cases. In conclusion, he points out what he considers to be the error of the French pathologists respecting this subject. We can seldom open a French medical work now-a-days, without noticing the words *gastro-intestinal inflammation*, repeated two or three times in each page. It is the cause of all maladies.

We believe that the majority of our readers will acknowledge the correctness of the following observations. They appear to be perfectly free from any signs of prejudice.

'In the preceding observations I have endeavoured to give an outline of the pathology of the mucous membrane of the intestinal canal, in as far as, in the present state of our knowledge, the facts appear to be worthy of confidence; but it is well known, that, among the pathologists of France and other parts of the continent of Europe, the subject has been made to assume a much more extensive form. In the investigations of the writers whom I now refer to, inflammation of the gastro-intestinal membrane, in an acute, sub-acute, or chronic form, is considered as being the origin of a great variety of diseases, particularly of almost every modification of dyspeptic affections, and all the varieties of fever. This system has not been received to any extent by the pathologists of this country; and the grounds on which we differ from the eminent persons by whom it is supported are chiefly three, namely, in regard to the facts—their generalization—and their causation.

1. We do not recognize the facts upon which this system is founded; because, according to it, many appearances are considered as indicating inflammation of the gastro-intestinal membrane, which we believe to take place after death or immediately before it, and consequently are not to be considered as indicating disease. The nature of these appearances has already been mentioned, as well as the grounds on which we conclude that they are not worthy of confidence in this pathological inquiry. They consist of livid, red, or brown spots on the membrane, portions shewing a violet or rose colour, enlarged vessels, varicose veins, slight extravasations of blood under the membrane, and various other appearances, consisting of mere change of colour without any change in the organization of the part. Such appearances we now consider as fully ascertained to occur in a great extent in the bodies of persons who have died from execution or drowning, or from diseases not at all connected with the bowels; and, consequently, that they cannot be considered as indicating a morbid condition of the mucous membrane.

'2. While we set aside, as foreign to the inquiry, a large proportion of the appearances described by these writers, we admit that others are indicative of real and important disease; but we do not admit that these are uniform appearances in the diseases to which they refer. In a pathological point of view, for example, it is an important fact, that, in a considerable proportion of the fatal cases of fever, inflammation or ulceration is found in the gastro-intestinal membrane; but we are far from admitting that it is met with in all these cases, which we should consider as essential to the doctrine of inflammation of the gastro-intestinal membrane being considered as the cause of fever.

'3. But, even on the supposition that these appearances were met with in all the fatal cases of fever, the question still remains,

whether they are the cause of fever or the effects of it; and upon this head, a very slight view of the facts will shew that they are decidedly in favour of the supposition of these appearances being the effects rather than the cause of fever. This conclusion we must consider as resulting, in the first place, from the fact already mentioned, that these appearances are often wanting; and, secondly, because that, in their degree, or the stage of their progress, they bear no relation to the period of the fever, but are often found existing, in their slightest or earliest stage, in cases which have proved fatal at a very advanced period, and with symptoms of the utmost malignity; while, on the other hand, they exist in a very high degree, and are apparently the immediate cause of death, in cases which have proved fatal at an early period, and in which the proper symptoms of the fever had been slight and moderate.

'On all these grounds, therefore, we think we are warranted in concluding, that the affections of the gastro-intestinal membrane which are met with in connexion with continued fever, are to be considered either as incidental concomitants, or as effects of the fever—and cannot be regarded as its cause.'

There is an appendix to this part of the work, embracing diseases of the mesenteric glands, tympanites, arterial hemorrhage from the rectum, and other affections. We shall not stop to give an analysis of this part of the volume, but shall proceed to the 'Pathology of the Liver.'

In the first section of this part, we have 'the morbid conditions of the liver connected with acute disease.' Under this head we have, 1, inflammation of the liver; 2, enlargement of the liver, its tissue being of a dark colour, and containing a large quantity of black blood; 3, abscess of the liver; 4, simple ramollissement of the liver; 5, the black ramollissement; 6. the white or encephaloid ramollissement; 7, a deposition of gelatinous matter of a soft consistence and of a reddish colour; 8, distention of the biliary vessels.

The chronic affections of the liver are, 1, chronic inflammation; 2, simple enlargement of the organ without change of texture; 3, tubera of the liver, without other disease in its structure; 4, the pale degeneration, consisting of change of colour, without remarkable alteration of texture; 5, pale colour with induration; 6, dark induration of the liver; 7, tuberculated disease of the surface of the organ, without disease of its structure; 8, tubercles of various characters, diffused throughout its substance; 9, hydatids; 10, large cysts, containing a watery fluid, situated under the peritoneal coat of the liver.

In a pathological point of view, it may be interesting to study diseases of the liver according to the various morbid

appearances which the organ presents; but as relates to practical utility such an arrangement as the foregoing is more likely to confuse the practitioner than to aid him in arriving at a knowledge of the treatment of hepatic diseases. In the treatment of diseases of the liver they must be considered, according to the author, as resolving themselves into two great classes, the acute and chronic. The former require blood-letting, general and topical, blistering and saline purgatives, for their treatment, in the first stage; but after the inflammation has been in some degree subdued, mercury is recommended.

Dr. Abercombie speaks favourably of the use of iodinic ointment in chronic affections of the liver. Iodine has been of late recommended, both as an internal and as an external remedy, in various chronic affections, amongst others, those of the liver, spleen and pancreas. So far as our observation has extended, it is not undeserving of the praise which has been bestowed upon it.

In the few remaining sections, Dr. Abercrombie offers some remarks on diseases of the spleen and pancreas. Our limits will not permit us to follow him any further. Indeed, it is by no means necessary to do so, as no new views are divulged regarding either the pathology or the treatment of the diseases of those organs. The work, taken altogether, is valuable as a volume of morbid anatomy. It contains a very great mass of indisputable facts. But few inferences are drawn from these facts; and no new hints are thrown out respecting the treatment of diseases of the abdominal organs.

II.—*a Observations on the Re-union of Fractured Bones, with Cases illustrating the Utility of Pressure in the Treatment of un-united Fracture.* By Thomas H. Wright, M.D. Physician to the Baltimore Alms-House Infirmary *.

b Observations on the Nature and Treatment of Fractures of the Upper Part of the Thigh-bone, and of Fractures of Long-standing, &c. By Joseph Amesbury, Lecturer on Surgery, &c. &c. *(Coniinued.)*

There are few cases more calculated to bring the art of the surgeon into disrepute than those of non-union of fractured bones. Bone-setters are numerous enough in most parts of the country. As cases of non-union do not occur very frequently, the bone-setter generally succeeds in his attempts

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* American Journal of the Med. Sciences.

to cure fractures. He binds the bone in a way to keep the broken extremities in apposition, and we know that this is generally sufficient to allow nature to bring about a union. These quacks, being generally successful themselves, and being, from their calling, likely to be applied to by patients who may be so unfortunate as to have un-united fractures, seldom lose such appropriate opportunities of spreading reports detrimental to the surgeon's character by whom such cases may have been treated.

Various causes have been assigned for the non-union of fractured bones; and there is little doubt but that they are various. Independently of the difficulty, sometimes met with, of keeping the fractured ends in apposition, it may be inferred, that the bones, like the soft parts, are occasionally deficient of the disposition to unite. It is a well known fact that even incised wounds of the soft parts will not always heal by the first intention: much less will lacerated wounds. A fracture of a bone bears a nearer analogy to a lacerated, than to an incised wound. Bones are endowed, like other vital parts, with powers of reparation. Their vessels have the power of secreting calcareous matter, according to the general law, that every tissue, if injured, will re-produce its own kind to a certain extent. But, certain states of the constitution appear to be unfavourable to this process of reproduction, both in the soft parts and in the bones. What this state or condition of the system exactly consists in, has not been satisfactorily explained. It is, we believe, more generally allied with general debility, than with a state of system the reverse of this. This, however, is not a rule without an exception. Too great a plethora is sometimes prejudicial to the uniting process. We have witnessed a case of un-united fracture of several months standing in a strong plethoric man. The fractured bones had been kept in perfect apposition, and the limb (the arm) in a state of rest. The patient's health appeared perfectly good; still no disposition to unite could be discovered in it. Plethora cannot be considered as an unerring sign of a healthy constitution. Florid cheeks and a tendency to corpulency, are appearances perfectly compatible with an unhealthy condition of the system.

Among the local causes of non-union, Mr. Amesbury mentions disease in the bone; want of apposition; diminished action, from too long a continuance in the use of sedatives, or cooling lotions; want of rest. Dr. Wright correctly observes, that there are circumstances connected with certain forms of fracture, either arising out of the character of the lesion, or casually interfering with the design and efforts of the constitution to repair the injury, which act as causes in

preventing union. Thus, in cases of severe compound fractures, there arises a necessity of extensive exfoliation, attended by inflammation and profuse suppuration, before the bones can be brought into a state to undertake the work of re-union. In these cases, the disposition in the broken extremities to unite has ceased, and the vessels lose the faculty of secreting bony matter; or we may, perhaps, say that their lacerated extremities become obliterated before they have an opportunity of throwing out matter to form the uniting medium. They, at all events, lose, in some measure, the power of forming callus when the fractured extremities of the bone have been allowed to remain for some time asunder.

Of all the causes of non-union of fractured bones, Mr. Amesbury is of opinion that bad treatment is the most common. He has examined fifty-six cases of non-union, exclusively of those which he has witnessed in the neck of the thigh-bone, olecranon, and patella. 'The constitutions of three of the persons in whom these cases occurred were decidedly bad; another had been much reduced by cholera during the recent state of the fracture. The remaining fifty-two, apparently, possessed constitutions and enjoyed equal health to the most vigorous and healthy individuals that come under our observation.' He does not believe that any of these fifty-two patients had any peculiar weakness, or that they had any hidden disease in their systems which prevented their bones from uniting. The inference, therefore, is, that had the fractured extremities of the bones been kept properly in apposition, union would have taken place. Dr. Wright appears to be of a similar opinion respecting the cause of non-union. There is no doubt that mal-treatment is by far the most common cause, but we are inclined to believe that cases occasionally occur, where, from some peculiarity of constitution, or of the vessels of the bone itself, no union would take place under the best treatment.

Now for the treatment of non-union of fracture. Mr. Amesbury gives a short review of the methods recommended by different authors. These consist in the use of friction, blistering, rasping the ends of the bone, setons, and other contrivances calculated to reproduce inflammation in the fractured extremities. Some of these are not free from danger, and they all prove generally unsuccessful.

'In the treatment of fractures in this state, our business is to re-produce an inflammatory action in the situation of the fracture; and we do so upon a principle which I have elsewhere mentioned, and which seems to me as well founded as any one in surgery—that an action higher than the natural standard is neces-

sary to the formation of callus. If this be allowed, it will be granted, that if a fracture does not unite from a want of apposition and rest during the continuance of the action, which is set up immediately after the injury, that it will not unite at all till an action similar in kind, though it may differ in degree, is again set up in the fracture, either by Nature herself, or by the assistance of art.'

The methods usually employed are either not calculated to produce this inflammatory action, or they produce it in a degree higher than what is compatible with the formation of callus. Blisters, and friction with stimulating liniments, exert but little influence on the ends of the bone. They may inflame the soft parts, as may an issue, or any other wound inflicted on the integuments over the fracture, but the vessels of the bone seem to be too deeply situated to receive the impression. Rasping the ends of the bone, or the application of caustic substances to them, excite, on the contrary, a degree of inflammation too high for the uniting process to take place. The operation is usually followed by suppuration, and, often, by exfoliation of the bone. During the suppurative process, bony granulations are sometimes formed, and these coalesce and constitute a bond of union between the two portions. More often, however, such a favourable result does not obtain. It would appear that a certain degree of preternatural excitement in the vessels of the fractured ends of the bone is necessary to the formation of callus; but if the excitement be carried beyond a certain pitch, the disposition to unite is destroyed. This is also the case in wounds of the soft parts. An incised wound may be prevented for several days from uniting, by constantly keeping the parts surrounding it below the natural temperature, by the application of cold evaporating lotions. Union by the first intention will take place in a very large majority of cases if the edges of the wound be brought together and retained so simply. The excitation caused by the wound is just enough to induce the edges to throw out the adhesive matter which forms the bond of union. If the wound be irritated, if its edges be disturbed, or if it assume, from any cause, a degree of inflammation above that which results from the simple division of the parts by a sharp cutting instrument, the cut vessels are deprived of the power of forming coagulable lymph. Instead of giving out lymph, they assume another function, namely, that of secreting pus. The property by means of which the same vessels adapt themselves for the performance of these different offices has never been inquired into. The subject is one of the most important in physiology. But, like many other points of physi-

ology, the more interesting it is, the less it is understood. It has never been proved, or attempted to be proved, whether the vessels which usually carry red blood are those which give exit to coagulable lymph on the surface of wounds; or whether lymph and pus are the product of the same set of vessels, or whether each is produced by a distinct set.

According to Mr. Amesbury's experience, non-union of fractures occurs much more frequently in strong, healthy individuals, than in those of weakly consitutions. This is contrary to what might be expected, and opposed to the opinions of other authors. The manner in which he accounts for this circumstance is rather peculiar.

'If,' says he, 'we have a fracture in the person of a strong man, and if we treat this fracture so as to prevent the ends of the bone from irritating the surrounding parts, the inflammation arising from the accident, would soon subside. If the high action produced by the fracture, and the force which occasioned it, be immediately got rid of, and motion, such as would be sufficient to disturb the quietude of the fractured ends of the bone without irritating the contiguous parts, frequently take place, there would, in such persons, be great danger of tardy union. The coagulable lymph, which is thrown out under the first excitement, becomes sometimes formed, as I have said, into a sort of ligament, which supports and covers the ends of the bone; so far as to prevent any material inconvenience from being felt in the soft parts. The excitability being, with difficulty, roused in such persons, Nature does not seem to trouble hersslf any further, and the fractured ends, thus connected, often form a preternatural joint, occasionally with a cavity, into which is poured a fluid, having the resemblance of synovia; which lubricates the parts, and facilitates their motion. In such persons, therefore, we should be less careful in reducing the inflammation than in others; and, in some instances, it might be even advisable to adopt means to support an action higher than natural, for a time, in order to facilitate the formation of callus.

'In other persons, in whom inflammation is easily excited, and easily kept up, re-union takes place more readily. In these, there is more inflammation and more tenderness, which continue longer; and, consequently, there is a greater effusion of coagulable lymph, and also of callus, than in those whose restorative powers are very great. *In the first class of persons, we must take care that the increased action does not subside too rapidly; in the second, we should be on our our guard that it does not rise too high;* for, as I have said, the quantity of callus effused seems to keep pace with the inflammation and the time it continues, provided the action is not too violent.'

By 'increased action,' we suppose that the author means determination of blood, or inflammation. The conclusion to which all his remarks amount, appear to be, that a certain

degree of inflammation is necessary to the formation of union; and that if, on the other hand, the inflammation rises above this degree, there is danger of union not taking place, because the vessels lose the power of secreting coagulable lymph. This is a physiological principle which has never been doubted. It was upon it that friction of the two ends of the bone against each other; rasping their ends, and passing setons between them, have been proposed and put into practice as methods of treatment in cases of non-union. But Mr. Amesbury's method not only answers this purpose, namely, of raising a certain degree of inflammation in the extremities of the bone and periosteum, but it also prevents the causes of non-union from interfering with the formation of callus. Speaking of the views which led him to employ pressure and rest in the treatment of fractures of long standing, Mr. Amesbury observes :—

'Hence I inferred, that if an action, somewhat above the natural standard, could be produced in the ends of the bone, and the periosteum which covers them, in fractures of long standing, and, at the same time, all the causes of non-union be either removed or prevented, union by bone would be often easily effected—probably with almost as much facility, in the majority of cases, as when the fracture is recent.

'I had already possessed myself of means by which I could prevent, what I believe was the principal cause of non-union in almost all the cases I have seen; viz. motion of the fractured ends. I therefore conceived, that I had only to excite the action of the parts, and perhaps to produce absorption of some adventitious deposite, in order to unite many of those which had been of long continuance. But, how were these desirable objects to be accomplished? It occurred to me, that they could not be so well effected by any other plan as by the influence of local pressure. Strong pressure produces inflammation; and, at the same time, absorption of the parts which are pressed upon. Pressure I could readily produce and keep up, for an indefinite period; and, at the same time, maintain the parts in a state of quietude, by the contrivances already in my possession. I now wanted facts only to prove or disprove the validity of my reasoning.'

Mr. Amesbury details several cases of ununited fractures of the humerus, fore-arm, thigh, and leg, to prove the efficacy of the method which he recommends. For an account of these we must refer our readers to the work itself. The principles of treatment in all of them consist in the application of pressure to the broken ends of the bone, so as to cause a degree of inflammation in it and in the periosteum; and in keeping the limb at rest. No plan of treatment can be more rational; and the result proves that no one hitherto proposed has been so successful.

Dr. Wright's views of the causes of non-union, as well as the principles upon which he founds his treatment, are exactly like those of Mr. Amesbury. Dr. Wright appears to have been ignorant at the time he first employed pressure that a similar method had been recommended by Mr. Amesbury. Be this as it may, the three cases detailed by the former gentleman, are very important, and they sufficiently confirm the efficacy of the combination of pressure and rest in the treatment of fractures of long standing.

III.—*An Inquiry concerning the Relative Connexion which subsists between the Mind and the Brain, with Remarks on Phrenology and Materialism.* By WILLIAM WILDSMITH, Esq., Member of the Royal College of Surgeons in London, and of the Philosophical and Literary Society of Leeds. Wilson, Royal Exchange. p. 74.

THE knowledge of the brain possessed by medical practitioners is, indeed, in most cases, very limited. Having been instructed at the anatomical schools according to the inferior method of dissection, *slicing* the brain, all the acquisition made is a collection of names, which are attached to the different parts of the cerebral mass, frequently without any reference to their anatomical or physiological connexions. The nervous system has not been contemplated as a whole; and hence, many symptoms of disease, which, possessing a knowledge of the nervous system, are easily explicable, are called 'nervous' simply as a cover to the ignorance of the practitioner. We hope to see this unsatisfactory and unscientific solution of pathological facts soon die away. Having this desire, it was with considerable delight that we took up the work which heads our present remarks. The connexion subsisting between the mind and the brain is very close, and medical gentlemen have particular opportunities of investigating the links by which this connexion is established.

It seems that the old opinion, that 'discussion is the best friend to truth,' is established by the work before us: since the author was led to present his views to the world on account of a gentleman, of the name of Hamilton, having written an 'Essay on Craniology,' and having afterwards read a series of 'Lectures on the Intellectual Emotions,' before the Leeds Literary and Philosophical Society.

In both these productions, it seems that Mr. Hamilton maintained, 'that the brain of man is not the *seat* of the mind, nor is it destined to be employed as the *instrument* or *medium* by which the mind manifests its powers or faculties,

during its probationary or earthly existence. Second, that craniology or phrenology has no rational claims to credibility. Third, that the belief of the mind having its seat in, or connexion with, the brain, leads to a low, degrading materialism and infidelity.'

These objections—at least the first and the third—every medical reader will be convinced, are not the offspring of a mind enlightened by physiological knowledge, or by an acquaintance with mankind in the world. They proceed from a clergyman; we infer so, because the abridged word 'Rev.' is attached to Mr. Hamilton's name.

Mr. Wildsmith attacks these three fundamental principles, and although replies have been made to the same numberless times, in various scientific works, Mr. Wildsmith has benefited society by collecting the greater part of the arguments, and presenting them in a condensed form.

In showing the untenableness of these objections, we are glad to find that Mr. Wildsmith makes clear that Mr. Hamilton has, in some instances, actually contradicted himself, so glaringly, indeed, that we wonder how Mr. Hamilton will be able to explain the incongruities.

One very common, but very absurd, objection against phrenology, that no men of eminence have supported it, Mr. Wildsmith replies to. The *argumentum ad hominem* is well wielded here, and the blows must have fallen heavily on Mr. Hamilton. Mr. Wildsmith refers this gentleman to the first age of christianity, and asks him, whether many great names advocated the cause of Christ. The application is perfectly clear.

Mr. Abernethy's tesimony regarding the discoveries of Gall and Spurzheim is brought forward. 'I anticipate nothing but mischief from Gall and Spurzheim's physiognomy being generally known and accredited. I candidly told Dr. Spurzheim, that though I admitted his opinions to be true, yet I would never inquire whether they were so or not; because, I believed the proposed mode of judging one another to be unjust, and likely to be frequently productive of erroneous conclusions.' This is Mr. Abernethy's testimony; and we quote it merely as affording an opportunity to show how little the sanction of a great name, in cases where its possessor has not informed himself, is to be respected. Was ever any thing so monstrous heard of; '*I candidly told Dr. Spurzheim, that though I admitted his opinions to be* TRUE, *yet I would never inquire whether they were so or not.*' This truly was 'candidly' told: since the least consideration would have so modified the candour, as not to have allowed Mr. Abernethy to have charged himself to have admitted opi-

nions to be *true*, without having *inquired* regarding them. This foolish statement indicates the greatest ignorance of nature; since whatever is true cannot be in itself injurious. Truth is always beneficial; if it were not, then the Creator of the Universe would, in establishing such an order of things, be giving a premium to error.

We must suppose that Mr. Abernethy uttered these opinions in some of his ludicrous moments; but this circumstance will not save him from the ridicule of posterity. What will the inhabitants of this world, a century hence, say to the sage dictum of Mr. Abernethy? They will quote it as the language of a man who spoke before he reflected. And here we would beg Mr. Abernethy to reflect on the productions of his humorous moments. Setting aside sermonizing, we would recommend him to discontinue the garnishing of his lectures with those unnecessary and, if meaning any thing, blasphemous 'egads.' The baneful influence of this practice is shown by the following circumstance, for the accuracy of which we vouch: One of the pupils of Mr. Abernethy called upon a friend of ours, and, in the course of a long conversation, frequently made use of the word 'egad.' On being asked by our friend, why he used such an expression, the young gentleman apologized, and said, that he had been in the habit of hearing Mr. Abernethy say it so often that he himself unwittingly used it. We shall pity the man, who, after this notice, continues to vitiate the taste of the young; and we hope that parents will be more careful under whose tuition they place their sons.

We thank Mr. Wildsmith for having given us an opportunity of making these remarks, and we conclude in recommending his work to all those who wish a reply to those objections, which Mr. Wildsmith has so successfully combated.

IV.—*Expériences Microscopique sur quelques Phénomènes de l' Inflammation.—Microscopic Experiments on some Phenomena of Inflammation.*—Memoir read at the Royal Society of Sciences of Nancy. By Dr. Leuret.

The phenomena of inflammation have been attempted to be explained in a variety of ways. Almost all those who have taken the trouble of resorting to experiment have arrived at very nearly the same conclusions. These have been few in number. The majority, having once imbibed in the schools an erroneous view of the functions of the blood-vessels, and having, for the most part, but an imperfect knowledge of the laws of physics in general, continue, throughout life, to view

inflammation as an 'increased action' of the arteries. A moment's reflection would show the perfect incompatibility of some of the phenomena of inflammation—namely, the swelling and redness—with an increased action of the arteries, or, what amounts to the same thing, an increase of motion in the blood. Allowing, for a moment, that the arteries do act in the propulsion of their contents, the action has always been considered a propelling, not an attractive one. According to this view, every part of an artery would endeavour to send the blood out of itself into another part. The part which had the greatest action must, consequently, be that which would become least full. An inflamed part is generally circumscribed. It embraces the ramuscules of a great number of arterial branches. It is not connected with one branch only. Were it so, we might suppose that branch to assume an increased action all the way up to the main trunk, thereby deriving originally more than its due share of blood, and inducing more than the proportionable quantity to move through it, and through all its ramuscules. But according to the supposition, that the arteries tend to *propel* their contents, those portions of them which act most, or whose action is increased, must evidently be the parts which will show least redness and swelling, because they must contain less blood than the others. The experiments of Parry, Philip, Hastings, and several other pathologists, clearly prove that such views of the functions of the arteries are erroneous.

Haller and Spallanzani conceived that a part, in a state of irritation, or on the point of being inflamed, possessed an attractive property, by which it caused the blood to flow towards it from all the surrounding parts. When the mesentery of a cold-blooded animal was pricked, they thought they could discover the blood of all the neighbouring vessels directing its course instantly towards the irritated point. This they attributed to a morbific motion in the blood, or to an exaltation of the vital forces of the parts. M. Leuret, the author of the essay under present consideration, was desirous of witnessing this curious phenomenon. Curious it would have been, had it been found to exist. He placed a portion of the mesentery of a young dog under the lens of a microscope, and made a puncture in it with the point of a very sharp-pointed scalpel. The instrument wounded a part where there were no vessels. The blood in the neighbouring vessels continued to circulate as usual. He then pricked a vein; the blood flowed from the orifice which was made. He next pricked one of the anastomosing radicles of an artery; the same result took place. Not being able to

discover those morbific movements, spoken of by Haller and Spallanzani, to result from puncturing the part by a sharp-pointed instrument, M. Leuret had recourse to cauterization. Having procured another animal, the mesentery was exposed as before. The point of a stilet was made red hot, and an artery and a vein cauterized by it. These vessels, which were large, almost disappeared under the cautery. The blood remained in a fluid state on each side of the cauterized point; but no morbid engorgement took place. It is evident, therefore, both from the experiments of M. Leuret, and from those of other physiologists, that this morbid movement has no existence. It is probable that what Haller and Spallanzani observed, or thought they observed, was nothing more than the blood of the punctured vessel discharging itself at the orifice. If the blood were made to circulate against its own gravity in the exposed vessels, or if it were obstructed beyond the orifice, it would necessarily flow towards that orifice from both sides of it. This would give the fluid the appearance of moving towards the punctured part, as if by the influence of some attractive property.

The phenomena of inflammation are precisely such as might be expected to take place by those who have a correct view of the properties of the arteries. They are not dependent upon an *exaltation* of the vital forces, but upon a *diminution* of these forces. It is probable that this notion of exaltation of the powers of life has proceeded from the erroneous view, that the action of the arteries is increased in inflammation. If the arteries acted by means of their vital properties, it would be natural to infer that an exaltation of these properties would tend to increase their action. An exaltation or an augmentation of vitality, and an increased action of the coats of the vessels, would be perfectly compatible with each other. Not only would they be compatible with one another, but an *increased* action is precisely what might be expected to result from an *augmentation* of vitality. Nevertheless the facts are not as here assumed. The arteries are not endued with the property of acting in the manner supposed. From a series of experiments which we have ourselves performed on these vessels, which experiments agree perfectly with those of other physiologists, we rest satisfied that the arteries are not endowed with the active property of alternate contraction and dilation in the manner in which the pulse would lead us to suppose. This fact being established, the supposition that they assume an increased action in inflammation falls to the ground. That which *does not exist* in the natural state, namely, the ac-

tion or alternate contraction and dilatation of the vessels, cannot possibly *increase* in the diseased state. If the arteries of an inflamed part *act* at all, their action must be of a new kind. It must be a morbid action which they assume while under the influence of disease; not an *increase* of any action with which they are naturally endowed.

The only mechanical action connected with the arteries, so far as experiments prove, consists in gradual dilation and gradual contraction. Their dilatation depends upon the elasticity of their coats. Their ordinary calibre is below the point at which it would be placed by the elastic quality of their tunics. This quality or property gives them a constant tendency to dilate, and to increase their calibre. It is, however, opposed by a force strong enough to overcome it. This force, as being peculiar to living matter, may be called vital contractility. It is connected, in different degrees, with several of the living tissues. Its invariable tendency appears to be that of drawing all the parts towards the centre, or to induce all the molecules of which the tissue is composed to approximate one another. Acting thus on the coats of the blood-vessels, it imparts to them, in proportion to its degree, the power of contracting, in opposition to their elasticity. The immediate effect of an exaltation of vitality in the vessels would be a diminution of their calibre. On the contrary, a diminution of vitality must be the same as a reduction of the property of contractility, and the immediate effect of such a reduction would be dilatation or increase of calibre in the vessels. The reason of this is obvious when we consider that the coats of the arteries are ordinarily compressed below the medium of their elasticity, by that property or force which we have called vital contractility. We have elsewhere *(See Medical Repository, Vol. xxix.)* proved the existence of this property. Now, we maintain that it is not in the nature of disease to exalt or augment the powers of life. It appears to us perfectly contradictory to say that any morbid change in the condition of a part can be accompanied by an increase of vital properties in that part. The invariable tendency of disease is the reduction, and, in many instances, the destruction of the properties or powers of life. Living parts are stamped with certain characters which prove their vitality. What are the signs of the most perfect state of their vitality? We conceive them to consist in these parts being able to perform all the functions which they are destined to perform. The best sign that the vital properties of the stomach are in a state of perfection, consists in its being able to digest the food thoroughly. The more its vitality is exalted the more

perfect ought to be its digestive properties. But is this the case when the organ is in a state of inflammation? Certainly not. Instead of being able to digest the food more perfectly, the organ, when inflamed, will scarcely digest it at all. Again, a voluntary muscle, by its vitality, has the property of contracting in obedience to the will. The more perfect its vital properties are, the more readily will it obey the will, and the more energetic will it contract. But no sooner does this muscle become inflamed than it partly, or altogether, loses the power of contracting; its fibres are deprived of most of the power conferred on them by life, and it is no longer able to fulfil the office for which it was naturally intended. Analogous effects are produced by disease on the function of every organ. As the perfect performance of function is the only sign we possess of life being in a perfect state, so a suspension, derangement, or a cessation of function is the only proof of life being reduced, changed from its natural condition, or destroyed.

Now, the vital properties connected with the arteries confer on the coats of these vessels the power of contracting. An exaltation or an augmentation of those properties would necessarily add to the power of contraction, tending thereby to render the tubes narrower, or smaller in calibre. This is a state of the arteries perfectly the reverse of that which obtains in inflammation. The redness and swelling, which are two of the characteristic signs of a part being in an inflamed state, indicate an enlargement or dilatation of the vessels which supply it. And this is, indeed, the case. All the visible phenomena of inflammation are entirely dependent upon this enlargement of the capillary extremities of the arteries. Their pathological condition, as proved by the most correct examinations, consists in dilation. The immediate cause of the dilation is attributable, it may be inferred, to a diminution of the vital properties of the coats of the vessels, occasioned by disease, or by some other injury. The calibre of the tubes is now governed by the elastic quality of the tunics, this quality having no force, or a force weaker than natural, to oppose it. We shall not at present inquire into the modus operandi of disease on the vital properties, either of the vessels or of the other tissues. The facts are fully substantiated, that disease related with the capillary arteries (and most diseases are so related), occasions that state of the vessels commonly termed inflammation; and that the pathological condition of these vessels, in such a state, consists in dilatation or an augmentation of their calibre.

Let us next inquire into the effect of such a state of the vessels on the blood moving through them. The heart distributes

the blood to the arteries in equal proportions, according to the calibre of their roots. Thus, if we suppose the calibre of the two renal arteries to be exactly the same at their junction with the aorta, they must receive precisely the same quantity of blood. Let us next suppose one of the kidneys to become inflamed. Will the organ, because it is in a state of inflammation, be more plentifully supplied with blood than the opposite kidney, which we suppose to be healthy? The answer must evidently be in the negative; for, unless the dilatation of the artery of the inflamed kidney extend all the way to its junction with the aorta, no more blood can enter into that vessel than into the renal artery of the opposite side. The capillary vessels of the inflamed kidney will be found considerably enlarged, and the organ will contain perhaps, twice or three times as much blood as the other. This circumstance is easily accounted for. The velocity of the blood on the inflamed side diminishes in proportion to the enlargement of the capillary vessels. The columns of fluid will increase two or three folds in diameter, but the velocity will decrease in precisely the same ratio. Thus, if the dilatation of the vessel, as already remarked, does not extend to its origin in the aorta, the *quantity* of blood moving through the inflamed kidney, will be as near as can be on an equality with that passing through the healthy one, in the same given period. Hence, when the vessels of an inflamed part are examined with a microscope, the motion of the blood in them is observed to be remarkably slow. The more the capillaries dilate in proportion to the chief branch or trunk from which they derive their origin, the more the velocity of the blood within them will diminish. The visible phenomena of inflammation, then, depend upon the circumstance, that the part affected *contains* more blood than natural; not upon a preternatural quantity of blood *moving through it.* A knowledge of this fact is of some importance in pathology. Why is it that gangrene takes place as a consequence of inflammation? The cause of the death of the part may, in some measure, be the same as that of the inflammation itself, namely, the conversion of a great portion, or the whole, of the life of the seat into another form of existence by its union with the morbific principle: in other words, a destruction of the vitality of the inflamed part, caused by the disease. But the occurrence of gangrene as a consequence of inflammation may be accounted for upon a more mechanical principle, and in a way more consonant with the generally adopted pathology of the present day. We know that it is a property of blood to coagulate when allowed to remain at rest. We also know, that,

the velocity of its motion decreases in a ratio to the degree of the inflammation, or in proportion to the morbid enlargement of the vessels of the part. In the highest degree of inflammation, the fluid moves so slowly that a part of it has time to coagulate, and the coagulum then acts as a cause of *obstruction* to the motion. The greatest lentor must occur in that part of the arterial tubes where the area is greatest. This is in the capillaries, or at the point of junction between the arterial and venous tubes.

An obstruction here will necessarily cause a stagnation of the blood in the ramuscules leading towards the extreme capillaries, and a more extensive coagulation of the fluid must be the consequence. It is precisely upon the same principle that the blood coagulates in an aneurismal sac. When a portion of an artery becomes enlarged, as is the case in aneurism, the quantity of fluid which passes through that portion in a given time must be just the same as that which moves through another part of the vessel of the same length. This is quite evident, from the circumstance that no more can pass through the sac than what is conveyed into it by the narrow tube leading into it. The same quantity is also given off at the opposite end of the sac. As this is the case, the velocity of fluid within the enlarged portion must be considerably less than in the healthy part of the vessel. In fact, the velocity will be inversely as the diameter of the sac. When the sac has acquired a considerable magnitude, the blood moves so slowly within it that a part of it has time to coagulate, especially against its parietes, where the motion is slowest.

We have no room here to detail the experiments of M. Leuret, but it may be stated that, so far as they relate to the condition of the extreme vessels of a part in a state of inflammation, they tend to support the views which we have taken of the subject. The subjects of the experiments were young dogs, kittens, and rats. Solution of tartarized antimony was injected into the abdomen, and the mesentery was exposed in a few hours, and placed under the lens of the microscope. The vessels, both the arteries and the veins, were very large and red. The circulation had altogether ceased in the anastomosing branches. These were much larger than ordinary, and had the appearance of irregular bands, of a yellow, saffron colour. In the small number of arteries in which the blood still continued to circulate, the fluid appeared agitated synchronously with the action of the heart. The molecules were of a brown-red colour, which was darker in some veins in which it still continued to move, although very slowly. The coats of some of the vessels were

found to have given way, and slight extravasation had taken place.

Nothing can point out more satisfactorily the mistaken view that the calibre of the vessels is determined by their elastic property, or that they are ordinarily in a state of forced distention, than the fact that they dilate in a part undergoing inflammation. Elasticity is a property connected with the tissues of which the tunics are composed. It resides in them after death as well as during life. In fine, it is a quality common to both living and dead matter. If we examine, after death, vessels which had been inflamed, we shall still find them elastic. As, then, inflammation does not appear to destroy the elastic property of the arteries, how are we to explain the circumstance that the vessels become preternaturally dilated in an inflamed part, if we admit that this property determines their ordinary calibre, or that they are naturally in a state of forced distention? On the contrary, if we admit that their calibre is determined by a contractile property, acting in opposition to their elasticity, we can readily understand why they become enlarged and put on the appearance of inflammation as soon as the contractile force has been diminished by disease. They then approach the state of inanimate tubes; they are expanded by the elasticity of their coats, which power was before subdued by a superior force, and the expansion increases in proportion to the pressure of the blood within them.

ORIGINAL COMMUNICATIONS.

I.—*Observations on the Pulse.* By F. Bailey, M.D.

Much as I admire M. Laennec's '*Treatise on Diseases of the Chest*,' as well on account of its originality, as its practical value, this celebrated physiologist, has, I conceive, fallen into a serious error, on the important subject of The Pulse. After several observations in disparagement of this symptom, he at length comes to the bold and sweeping conclusion, 'THAT THE MOST SKILFUL CAN DERIVE FROM THE PULSE BUT A FEW INDICATIONS AND UNCERTAIN CONJECTURES.

This opinion is, indeed, so repugnant to experience and common sense, that were it not for the high authority from whence it proceeds, any formal refutation of it might justly be considered superfluous; but, as no errors are so mischievous as those which receive the sanction of great names, I trust my time will not be mis-spent if I very briefly allude to this most dangerous and unfounded proposition. After

all the inquiry I have been able to make, it would seem that M. Laennec's extraordinary assertion rests wholly upon the simple circumstance of a diminished pulsation of the arteries in peripneumonia, enteritis, and certain disorders of the heart. Now, with these exceptions, perhaps, there exists not a single instance of inflammatory affection, of what kind or degree soever, that is not characterized by a strength of pulse GREATER THAN NATURAL. The same may be affirmed of almost every species of febrile complaint, especially at its commencement. In all such instances, then, (and how great a sum of human maladies do they not constitute?) the pulse truly indicates their nature, measures their intensity, and thus serves the important purpose of determining the extent to which depleting remedies ought to be carried. And, yet, with all this evidence before him, our celebrated author rashly pronounces it ambiguous and useless. It is no marvel he should endeavour to maintain a position by a reference to ancient authority. Certainly, I could never have suspected so eminent a philosopher of falling into the palpable mistake of making THE EXCEPTION, AND NOT THE RULE, THE GROUNDWORK OF HIS CONCLUSION. But with this is he justly chargeable. Because two or three exceptions occur to the rule, therefore it is no rule; because the pulse is not absolutely and universally infallible in fevers and inflammations, therefore it is wholly undeserving both of credit and confidence. Such dialectics need no comment, and they can only be explained on the supposition of an overweening desire, in the author of them, to enhance the merit of his own stethoscopic inventions.

As for the authority of Celsus, which M. Laennec calls to his assistance, it is plainly irrelevant to his purpose. When that judicious physician speaks of the pulse as a 'res fallacissima,' it is obvious, from the context, that he does not, in the least, mean to derogate from its pathognomonic value; but that he uses the expression merely in reference to certain contingencies, which, if disregarded, might prove the sources of error. In such estimation, indeed, did Celsus hold the evidence of the pulse, that he ever assigns to it the foremost place in his list of diagnostic symptoms; and the particular manner in which he has endeavoured to guard it from the possibility of fallacy, can be considered in no other light than as a farther corroboration of this opinion.

Thus, then, it would appear, that the great authority, with which M. Laennec has attempted to bolster up his extraordinary doctrine, proves as unavailing as his arguments are weak and contemptible. And, for the honour of the profession to

which I belong, I rejoice to think he has neither reason nor probability on his side. To the pulse has that profession continually looked up in the hour of difficulty and danger, as its chief light and guide; and at the close of almost eighteen centuries, to be told that it has all along been deceived, that it has constantly mistaken the illusions of a phantom for the steady beams of truth, is a gross insult on the understanding of a body of men as distinguished for talents and acquirements as any other learned society. Happily for the medical world, however, its reputation will be in no hazard so long as it is assisted by weapons as impotent as the imbecile telum of M. Laennec, whose monstrous assertion respecting the pulse only serves to show how the most candid and discerning minds may sometimes be betrayed into absurdities by over indulgence in their darling speculations. In conclusion, may I be allowed to express a hope, that my brethren will not suffer themselves to be seduced from the path of safety and success by this ignis fatuus of the French physician, but that they will still regard the pulse as of primary importance in the investigation and treatment of diseases, and abide by its testimony as their best direction, as well in the routine of ordinary practice, as on the most trying and perplexing occasions.

Reading, Dec. 15th, 1828

II.—*Remarks on the 'Evidences against the System of Phrenology.* By Thomas Stone, Esq.'

*(Continued from p. 59 *.)*

Persisting still in the same career of imbecility and assertion, Mr. Stone proceeds to enunciate the following sciolistical riddle. "The size," he says, p. 37, "of the phrenological organs is *principally* constituted by the degrees of their development; nevertheless, we know that many animals of considerable intelligence have the brain *smooth*, and without any convolutions." Now, the size of the phrenological organs, like the size of every thing else in nature, is constituted, not *principally*, but entirely, by the quantity and extent of their essential elements. Again, and in opposition to his enigmatic notion, a brain may be *smooth*, and without apparent convolutions, and nevertheless be very large, or, in

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* At p. 49, l. 16, for *activity*, read energy; p. 50, l. 13, for *phrenological*, read unphrenological; p. 55, l. 43, for *preferred*, read pilfered; p. 59, l. 24, for *phrenology, exhibited*, read phrenology. Exhibited; and in the footnote, p. 59, for *describing*, read ascribing: the reader will be pleased to make these corrections with the pen.

other words, very much developed; smoothness, as children know, is not the converse of largeness; nor is flatness the opposite of greatness; nor can the absence of convolutions be an indication of tiny development; by taking the "arithmetical mean" of two diameters, a *hatter*, for instance, can ascertain that a smooth flat head *may* be a large one; it is, therefore, absolute hallucination to require our assent to the nonsense which would impute to phrenologists the absurdity, that cerebral grooves or convolutions, smoothness or flatness of brain, have any relation, in any degree, with deficiency or perfection of mental endowment.

On the same page, Mr. Stone displays another exemplification of his dogmatic philosophy. "The general size and configuration of the head," he declares confusedly, "cannot be regarded as indicative of any superior or inferior degree of intellectual capacity, excepting when it presents an appearance of malformation; in which case, some intellectual deficiency may be inferred, as it is not to be supposed that the organ can perform its functions." Before noticing the *three* very notable evidences—Mr. Stone's own assertion—a partial observation of Pinel's, and a "similar observation of Desmoulins"—selected as confirmation absolute of the axiom just cited, it may be stated preliminarily, that, if an apparent malformation of the head can be philosophically regarded as indicative of *some* 'intellectual deficiency,' it ought to follow, by the same rule, that perfect formation of the head must, in like manner, be regarded as indicative of intellectual perfection; and, consequently, by the self-same rule, and that also of the schoolmen—*extremis probatis media præsumuntur*—the general size and configuration of the head *can* be regarded as indicative of *some* superior or inferior degree of intellectual capacity. With respect to Mr. Stone's own assertion, and for the sake of withholding annoyance from the reader, it may be safely left for judgment by the evidences of his knowledge and veracity, as these have so frequently presented themselves to our attention. Let us, therefore, endeavour to appreciate the isolated sentence from Pinel, which, with the copyist's preface, stands thus:—"Hence, according to Pinel, idiots have the brain sometimes preternaturally large, and often disproportionately small." "*We meet,*" he *(Pinel)* observes, "*sometimes with the best possible formed heads associated with a very narrow discernment; and, frequently, singular varieties of conformation are united to every possible attribute of talent and genius.*" With reference to the prefatory statement, it may be sufficient to observe, that, what is *preternaturally* large in the head, or *preternaturally* small, cannot be judged by the laws

whereby the attributes of *natural* magnitude and proportion are defined; it is, therefore, worse than unreasonable to advance cavillings of this kind against phrenology, since its advocates and expounders universally restrict the practical application of their science to the heads of persons unquestionably in the prime of life, and free from every symptom denoting organic or functional lesion in the brain. Again, in the two-fold proposition of Pinel, we have an express confirmation of the logical maxim—that what proves too much, proves nothing; and, moreover, it is quite manifest that he pronounces these superlative sentiments in a manner as destitute of didactic precision as it is deficient in philosophical exactness. Without stopping to inquire—what is the distinctive peculiarity of "the *best possible* formed head," what the characteristic qualities of the person in whom exists "*every possible* attribute of talent and genius;" let us ask, simply, did Pinel himself, or any other observer, ever meet with a well formed head—a head, for instance, corresponding in size and configuration with Pinel's own—"associated with a *very* narrow discernment;" and, at the same time, in the same head, discern no trace of cerebral disease? Never! If, therefore, this exquisite assumption includes evidence of any kind, such evidence goes clearly to establish the accuracy of the cerebral and mental distinctions inculcated by phrenologists. Farther, if it be true, that "frequently *singular* varieties of conformation are united to *every possible* attribute of talent and genius;" the truth affords a perfect demonstration of the phrenological doctrine, that a *singularly formed* head is a sure indication of a *singularly constituted* mind. Whoever chooses, in fine, to examine M. Pinel's section, entitled—"*Cas incurables d'Aliénation par des vices de conformation ou d'autres causes**," will be surprised at finding so much inconsistency and vagueness in the discussion of a question so important. That illustrious physician, in the words of another physician, equally illustrious †, "after having delineated from nature, and in the most lively colours, the highest degree of mental imbecility; after having discriminated, in a precise manner, the remarkable smallness of head associated with perfect idiotism; after, in a word, having discovered the truth, had not the courage to seize it;" "*but*," says he‡, "*I must be on my guard against drawing too hasty conclusions; I confine my-*

* *Traité Médico-Philosophique sur l'Aliénation Mentale;* 8vo. Paris, 1809. p. 452-476.

† Dr. GALL: *Sur les Fonctions du Cerveau et sur celles de chacune de ses parties*, tome II. p. 325-326.

‡ *Traité Médico-Philosophique sur l'Aliénation Mentale*, p. 470.

self to historical details, without pronouncing whether there be any immediate and necessary connexion between the state of idiotism and the defects of conformation, which I have described."

Next in course is "the similar observation made by Desmoulins;" it comprises two sentences* gleaned from a work of that respectable physiologist. His words, in an English version, are: "I could mention a certain number of men known to be as remarkable for the largeness of their heads as for the dulness of their understanding, and the mediocrity of their talents. I could also mention others possessing a superiority or universality of understanding very decided, and in whom the head is *plutôt petite que grosse!*" Now, in making these observations, Dr. Desmoulins pronounces an indisputable truth; but this truth is no "evidence against phrenology:" it proves, on the contrary, an explicit confirmation of the axiom, that size of the head is an indication—not of "superior intellectual capacity," nor of "endowment with every possible attribute of talent and genius," nor of a "decided superiority or universality of understanding," but an indication simply of a corresponding mental *power*, a power which may be energetically influential in disposing to calumny, falsehood, dishonesty, and other infamous enormities, or to a practical display of the purest moral and intellectual excellency. Observations like those of Pinel and Desmoulins, can be gleaned from many books, and illustrate most appositely the error, involuntarily or wilful, of representing *general* size of the head as an indication of *particular* power in the mind, which error is usually, but senselessly

* They form part of an incidental foot-note in the fourth book of Desmoulins' work on the Physiology of the Cerebro-spinal System; from the fifth chapter of which book, Mr. Stone has helped himself to evidences, "without reference or acknowledgment," whereby he nearly proves that different degrees of cleverness are exhibited by monkeys as well as men. These garbled sentences from the French physiologist were, of course, deemed much more suitable to the objects of the "plain tale" than the following, which stand in the same chapter; "the size of the head represents exactly the size of the brain in man, and in fact the vault of the cranium is very nearly every where uniform"—"the number and perfection of the intellectual faculties, in the series of species and in the individuals of the same species, are proportionate to the extent of the cerebral surfaces: pathological anatomy proves that the intellectual faculties or powers reside in, *ou se passent aux surfaces mêmes du cerveau*, after the same way as the irritations of motion and sensation are transmitted by the surfaces of the spinal chord and nerves,"—"there can, therefore, be no other measure of the reach and perfection of the intellectual faculties, than the relative quantity of the folds of the cerebral surfaces, or, which is the same thing, the extent of these surfaces themselves"—"can there then, be a relation between a particular faculty or propensity, and a particular portion of the surface of the brain, or rather between such particular faculty and a development, more or less considerable, of the fold of such particular cerebral part? This is the opinion of Gall and Spurzheim, and to me the conjecture seems plausible." *Anatomie des Systémes Nerveux des animaux a vertébres. Tome II, p.* 596, 606, 608, 609.

exemplified among fablers, fact-makers and "eminent manufacturers," by the statement—that a particular individual wears a *large hat*, indicating a large brain, and, nevertheless, this same individual with the large hatted head, has no scope of understanding, little intellectual ability. Now, in stating such a case, the specific phrenological rule—that it is the size of each organ in proportion to the others *in the head of the individual observed*, and not their *absolute size*, or their size in reference to *any standard head* that determines the predominance of *particular* talents or dispositions; that, in short, we must look for the *power* in the *direction* of the *size*, is altogether disregarded by those sciolists who, ignorantly, or perversely, presume to dogmatize in opposition to its truth. Thus, for example, "if the large hat is requisite, on account of a great development of the *animal* organs, we must expect the individual to be only a *powerful animal*, and he may be this, and at the same time a *weak man*. If the size lay in the region of the sentiments, we may then look for greatness in moral worth; but it is only when great size pervades the whole three classes of organs, propensities, sentiments, and intellect, that phrenology authorises us to expect a general character, vigorous, comprehensive and profound*." Thus, then, the insignificance of Pinel's observation, and the irrelevancy of Desmoulins' "similar observation," as evidences against the system of phrenology, are absolute and manifest.

Distinguished still by their inherent characteristics of obliquity and infatuation, the "Evidences" next display a crazy effort to "put down" *the theory* which, according to Mr. Stone's version, p. 38, affirms—that "the predominant dispositions, and the abilities of the mind, may be discovered by the relative sizes of the phrenological organs" *in the same head*. Against this position, fashioned thus by himself, he directs, unavailingly, a narcotic diatribe, which, without contradicting "the theory" in express terms, consists entirely of the most paltry and cynical ungacity. It opens with an additional instance of the writer's *inveterate propensity to misquotation*. "On this subject"—*the theory* that the predominant dispositions and abilities of the mind may be discovered by the relative sizes of their organs—he asserts, p. 38, "Dr. Spurzheim speaks with less decision than Mr. Combe." "We employ," he says the former says, "the size of the cerebral parts to determine their functions; but the activity of the organs cannot be measured by the size

* Combe's System of Phrenology, p. 44, and p. 441.

alone *." Now, incredible as it may seem, there is no such sentence on the specified page of the phrenology, and that from the Lancet has been advisedly falsified. In that work, Dr. Spurzheim's precise expresions are: "we employ the size of the cerebral parts as a means to ascertain the *nature* of their functions; but different degrees of activity cannot be measured by the size alone." Again, the size is sufficient to determine the *nature* of the function of the brain, but the size is not the *only* condition which contributes to the activity of the brain;" and again, in the Phrenological Journal †, "the size alone of the organs is sufficient to discover the *nature* of their functions; but the size does not explain the different degrees of *activity* of the organs." To an extent equally criminal, has Mr. Combe's proposition been mutilated. In the "Evidences," p. 38, this perspicuous and candid writer is represented as having "laid it down as a *rule*, that every faculty desires gratification with a degree of energy proportionate to the size of its organ; and those faculties will be habitually indulged, the organs of which are largest in the individual." Notwithstanding this appears in the "Evidences" as a faithful citation from "*Mr. Combe's Elements*, p. 185," it is nothing other than a purposely vitiated exhibition of this candid and perspicuous writer's definite rule. At the specified page, *one hundred and eighty-five*, no such sentiment or sentence exists: this error of reference, however, may have been unintentional; nevertheless, from errors of the same kind being so numerous in the Evidences, and from this work being so thoroughly saturated with misquotation, it does certainly require no ordinary share of charity to repress suspicions unfavourable to this practice of the antiphrenological polemics. But let that pass; and on turning to p. 196, of Combe's Elements, and to p. 442 of his System, we shall find the rule distinctively stated;—but, in both places, it is accompanied with a note, defining a fundamental and precise condition, which, in the Evidences, must have been deliberately suppressed. It it this—"*The condition*, CÆTERIS PARIBUS *is* ALWAYS UNDERSTOOD, *and therefore need not be repeated, in treating of the effects of size.*"—Thus, for example ‡, if all the animal organs are large, and all the organs

* Mr. Stone gives as his authority for this misrepresentation, "Lectures Rep. in the Lancet, April 22nd, 1825, p. 71.—Phrenology, 3rd Edition, p. 99;" to both which places the reader is referred for evidence of antiphrenological dishonesty.

† See Dr. Spurzheim's letter to the Secretary of the Phrenological Society in Glasgow: Vol. III. p. 219.

‡ See the rules for estimating the effects of differences in relation to size, occurring in the organs of the *same* brain, in *Combe's System*, p. 442—453.

of the moral sentiments and intellect small, the individual more than another, having the mental constitution different, will, *all other circumstances being the same,* be naturally prone to animal indulgence in the highest degree, and diposed to seek gratification in the directest way, and in the lowest pursuits. On the other hand, if the organs of the moral sentiments and intellect greatly predominate, the individual, more than another with a contrary endowment of mind, will, *all other circumstances being the same,* be naturally prone to moral and intellectual pursuits: persons having the mind so constituted, are "a law unto themselves." Let the reader compare the true, with the spurious version of Dr. Spurzheim's *principle* and of Mr. Combe's *rule;* and, this being done impartially, let him adjudge in his own mind the infamy due to such a misrepresentation of their doctrines.

Following in order comes a repetition of the often-repeated jargon, respecting the "*exact limits*" and "*individual sizes,*" of the "phrenological organs:" this, however, may be resigned to the fate of its own worthlessness, with the cursory remark—that the exact limits of the cerebral organs can be demonstrated as precisely by phrenologists, with the same means, as the *exact* limits between the trunk and the extremities, the neck and the head, can be demonstrated by their adversaries—namely, *with a good scapel.* Equally harmless, certainly, though much more detestable, is the next statement, p. 39, that—"the founders of the system acknowledge, that it is impossible to discover the limits of the several organs;" which is an impudent and absolute falsehood. Last of all, and with the air of something intended to be overwhelmingly conclusive, appears a flourish of maudlin prattle, wherein the trifler, half-whining, half raving, betrays the effervescent malevolence of his own emotions. "How is it possible," he exclaims, "to determine the exact size of their individual expansions?" The answer of the Oracle is, "they are to be recognized by experience"—*experience!*—that experience which has never failed to quicken the penetration, mature the judgment, and perfect the abilities of every practitioner in the art of divination, from the time of the earliest necromancers down to that of the *dilletanti* calliper professors of the present day." *Hui!*

More than once, have we found Drs. Gall and Spurzheim represented in the Evidences as possessing the indemonstrable notion—that the *activity* of the cerebral organs can be demonstrated by observation of their *size alone:* at p. 39, however, their true doctrine is inadvertently admitted, but, at the same time, debased by being consorted with this deceptory statement—"the activity of the *organs,* which can-

not, according to Drs. Gall and Spurzheim, be determined by their size and configuration alone, depends, we are informed, on *their internal* temperaments, four of which are particularly specified as increasing or modifying the *energy* of the several faculties." Now, although it be perfectly true that, according to Drs. Gall and Spurzheim, the activity of "the organs" cannot be determined by their size and configuration alone, it is, nevertheless, as perfectly true that these doctors do *not* inform us that the activity of the organs depends on their *internal* temperaments: *(what sort of thing is the* external *temperament of an organ—a "nice article" doubtless?* if they do so inform us, let it be shewn, in which of their writings, this recondite piece of absurdity has been communicated: with them, this activity depends on the size, exercise, mutual influence and structural constitution of the cerebral organs. Again, these doctors have not particularly specified four *internal* temperaments of the *organs* as increasing or modifying the *energy* of the several faculties; but, in common with other physiologists, ancient and modern, they specify certain primitive temperaments, or inherent peculiarities resulting from the functional predominancy of an organ, or set of organs, so as primarily to determine the distinctive constitution proper to each individual; and, secondarily, through the general system, to modify the natural activity and energy of such individual's cerebral organs; and, again, ultimately, through these, to modify the *manifestations* of the same person's mental faculties.

Notwithstanding the *mixed* and *acquired* temperaments obtain the most frequently, they have been carefully excluded from notice in the "Evidences," and those there declared to be "particularly specified" by the founders of phrenology, are the lymphatic or phlegmatic, the sanguine, the bilious, and the nervous, which "several temperaments," we are desired to remember, "are *supposed* to form part of our original constitution." By the same authority, however, this *supposition* is promptly denounced as inconsistent with "examination;" for, it is added, "that different individuals possess different idiosyncrasies, there can be no doubt; yet these, *on examination*, will be found to result from incidental causes, that affect the animal *functions* in general, rather than from any original difference or peculiarity of organization." Here, then, is an unqualified rejection of an established principle, not of phrenology merely, but of physiology and natural philosophy; and if the converse of this can be demonstrated, the new principle will authorize a twofold conclusion—that the most learned and experienced physiologists, of all ages, after suffering themselves to be seduced

into an admission of primitive temperaments, have contributed, by their eloquence and reputation, to betray their disciples into a similar delusion;—and that, in its origin and development, the animal organization is identical in "*different* individuals," so long as no change, in any of its properties, results from the operation of "incidental causes."

Having thus denied the existence of dissimilarity in man's "original constitution," Mr. Stone forthwith pronounces each of the four particularly specified primary temperaments to be an absolute nonentity; and then, with the vivacity of inebriated dulness, engages in an extravagant attempt to prove, what the veriest novice in physiology knows to be indisputable, that a *Primitive* may be changed into an *Acquired* temperament by the effects of "incidental causes." "Luxuriant living and sedentary habits," he begins, "may more especially be considered as giving rise to that lymphatic or phlegmatic state of the system, wherein the repletion of the cellular tissue gives the body a degree of *robustness* and corpulency which appears, in every respect, unfavourable to muscular *exertion.*" Next and under the influence of that *robustness* which is *unfavourable* to *exertion*, he undertakes to show—that "this" (*the lymphatic temperament*) "will not be found to result from any innate or organic constitution:" thus, *negatively*, because "we do not find that it ever *affects* strangers to the indolence and luxuries of civilized society;" because "we do not find it prevail in the early history of nations;" because we do not find a stout gentleman directing the army of the early Britons;" because "we do not find eligible members for a *humorous club* of fat gentlemen chieftains of the Scottish clans;" and, *positively*, because we do find that "it is in more luxuriant times only that the turtle-fed Alderman enters the august presence of the phrenologist, and the phrenologist, with one fatal *coup d'œil* discovers the want of one "degree of activity" in the enchanted region of the thirty-five special faculties;" therefore, namely, for all these most decisive reasons, the lymphatic or phlegmatic temperament does not "result from any innate or organic constitution!" Such, then, is the general evidence against the reality of an original lymphatic temperament; and this evidence certainly might have been received as unanswerable, had not its author, with the ingenuousness of a gentle nature, reminded us that the thing altogether is *irony*—namely, an attempt to prove by meaning, what it seems to disprove by words! Considerably hebetated, however, by the effects of his ironical ecstacy, he here incautiously overlooks the circumstance—that some actual dissimilar state of the system must always pre-exist, until

"luxuriant living and sedentary habits" succeed in giving rise to the lymphatic or phlegmatic state, and thereby producing "fat gentlemen," "or turtle-fed aldermen"—and then confidently prepares to bring forward "*many facts* to substantiate the truth of the statement advanced against the phrenological *supposition.*" Let us examine the *multitude*, the *cogency* and the *reality* of those *facts*, whereby the truth of this statement is to be substantiated.

Fact the *first* is a dolorous tale respecting "Napoleon." In early life, it seems, the disposition of this "stout gentleman" was "*over-sanguine;*" but, when "the star of his destiny began visibly to decline," the "temperament of his constitution" yielded to the influences of external circumstances;"—*such, forsooth, as "the anxiety and remorse of a perturbed mind"*—and "he became, in every sense of the word, of a lymphatic temperament!" Now, this *fact* tends to substantiate a proposition which physiologists and phrenologists universally admit,—that "incidental causes" change the original temperament of animals; but, if evidence deduced from facts of the kind be held conclusive in disproving the doctrine of *primitive* temperaments, the same sort of evidence must be equally conclusive in proving, that "Napoleon" never was healthy, because he became diseased; that "the Emperor" never had life, because he died. External circumstances did alter this ambitious man's *over-sanguine* temperament; but on assenting to this truism, we meet the questions, What circumstances transformed his sanguine into an over-sanguine "state of the system?" and, was the sanguine an original or acquired idiosyncrasy, temperament, or constitution? Again, if it be true, as the "Evidences" affirm—that, "when the day of his disasters arrived, he became of a lymphatic temperament, and that then also his *habits, thoughts, feelings,* assumed a different tone," the *fact* evinces, to a demonstration, that his new temperament did *modify* the energy of his mental faculties; consequently, that if the manifestations of mental power can be debased by the action of external circumstances, these same manifestations may, also, by the action of external circumstances, be improved and exalted.

Fact the *second* is, "Montaigne and Dr. Johnson both lived under its" (*the lymphatic temperament*) "influence; yet, in either case, did it impair the vigour or activity of their mental powers." Perhaps not. But where is the evidence of truth in this assertion? The words of a pseudographer constitutionally liable to make singular oversights, frequent mistakes? Be it admitted as a *fact,* however, that the lymphatic temperament did *not impair* the vigour or activity of

the mental powers of these distinguished persons *, the circumstance conduces, in no degree, to prove that the vigour or activity of their mental powers would not have been greater if, instead of the lymphatic, they had possessed a neuro-sanguineous temperament: Neither does this circumstance contribute, in any manner of way, to evince defect in the imputed phrenological maxim—that such temperament occasions a weakness and slowness of the vegetative and intellectual functions: *constitutional* weakness and slowness of the *intellectual functions* are obviously things very different from *impaired* vigour and activity of the *mental powers*.

Fact the *third* represents a piteous monologue on the "calamities and despair" of Tasso, "over whose heart," we are told, wailingly, "the bitterness of grief, like the simoom of the desart, swept its withering influence!" According to this *fact*, p. 43, this Poet "was in early life endowed with a sanguine temperament, a too fatal vivacity;" but "his reverse of fortune, diversity of sorrow, and long captivity, subdued, at length, the ardour of his enthusiasm, the brilliancy of his imagination, and the generous fervour of his feelings. A change, physical and moral, was thus wrought in the essence of his bodily and mental constitution, and every feature of his mind and disposition assumed an absolutely new and different character." Here, then, is another

* "The easy Michael Montaigne, all whose passions were so moderate, who reasoned on every thing, even on feeling, was truly lymphatic. But, in him, the predominance of the lymphatic system was not carried so far, but that he joined to it a good deal of *nervous* susceptibility. In the lymphatic, from the excess of watery particles in the fluid which should carry every where heat and life, the circulation goes on slowly, the *imagination is weak, the passions languid;* and, from this *moderation* of the *desires*, spring, on many occasions, those *virtues of temperament*, which, to say it, by the by, should not supply their possessors with matter of quite so much self-complacency."—"Inconstancy and levity are, in fact, the chief attribute of this" (*the sanguine*) "temperament; excessive variety appears to be, to them, a necessity as much as an enjoyment; good, generous, feeling, quick, *impassioned*, delicate in love, but fickle; disgust in them follows close upon enjoyment: meditating desertion in the midst of the most intoxicating caresses, they make their escape from beauty, at the very moment she thought to have bound them by indissoluble chains. In vain he, whom nature has endowed with a sanguine temperament, will think to renounce the *pleasures* of the *senses*, to take fixed and lasting likings, to attain, by *profound meditation*, to the most abstract truths; mastered by his *physical* dispositions, he will be for ever driven back to the pleasures from which he flies to the inconstancy which is his lot; more fitted to the brilliant productions of wit, than the sublime conceptions of genius. His blood, which a vast lung impregnates plentifully, with atmospherical oxygen, flows freely in very dilatable canals, and this facility in the distribution and course of the humour is, at once the *cause* and the *image* of the happy *dispositions* of his mind." These doctrines are those of Richerand's, no phrenologist, from whose sections on Temperament, Mr. Stone has very quietly borrowed all the facts which demonstrate the indisputed efficacy of "incidental causes" in changing primary temperament; but where, at the same time, he could not find one solitary *fact* whereby the pre-existence of innate, natural, primitive, or original temperament can be questioned or disproved.—*Elements of Physiology*, 1824, p. 520. 527-8.

of the *many facts* advanced against the doctrine of primitive temperaments! Nothing short, however, of the blindest and most headlong prejudices can prevent any person from perceiving in this tale of Tasso the admission of four explicit propositions;—that the Poet really had an *orginal* temperament, the sanguine;—that incidental causes produced in him an *acquired* temperament;—that the causes of acquired temperaments can work a change in the *essence** of the *mental* constitution, and give an absolutely new and different character to every *feature* of the *mind*;—and that, no more possessed of the sanguine temperament, the persecuted visionary lost the ardour of his enthusiasm, the brilliancy of his imagination, and the generous fervour of his feelings. How antiphrenologists can admit such statements to be *facts*, and, at the same time, deny pertinaciously, that temperament "modifies the energy of the several faculties," is explicable only by regarding this as one of their many notional extravagances, from which every trace of reason, truth, and consciousness is excluded.

Fact the *fourth* pretends to be an exemplification of the true and beautiful *apothegm*, that "hope deferred maketh the heart sick," in the experience of Rousseau, the "apostle of affliction." This exemplary person, according to the Evidences, p. 43, "was, in early life, remarkably sanguine, ever cheerful, generous, and happy;" but "he fell into the fatal error of fondly picturing to himself hopes that were too lofty to be realized, and indulged in visions of future fame and honour that were only the flattering creations of a too fervid imagination!" At first, as is stated on the same page, "difficulties and misfortunes overclouded his expectations, then perplexed, and, in the end, overwhelmed him: mortified pride, hopelessness, and a sense of remorse, urged him, in the bitterness of his vexation, into gloom and solitude: he retired from the world, became a hermit, and in his mi-

* This statement comprises the new and somewhat startling proposition, that the essence and features of the mind are knowable and known. Phrenologists hitherto have not made any discovery at all equal to this; on the contrary, they declare their inability to investigate the subject. "Inquiries," says Dr. Spurzheim, "into the nature of the soul, its origin, seat, mode of action on the body, and final destination, are beyond the reach of the physiologist: we merely observe the affective and intellectual manifestations and the organic conditions under which they take place; and, in using the word organs, we mean only the organic parts, by means of which the faculties of the mind become apparent, but not that these parts constitute the mind."—*Phrenology*, p. 16. Phrenologists institute no inquiry into the *substance* of the mind, or into the question, whether the mind fashions the organs, or the organs constitute the mind: the only object of their science is to discover the faculties of the human mind, the organs by means of which these are manifested, and the influence of the organs on the manifestations. Combe's *System of Phrenology*, 1825, p. 26.

serable seclusion, ever contemplated human nature in its darkest and most unfavourable aspect: his disposition became cold, calculating, distrustful, and misanthropical; a morbid sensibility sapped the vigour of his mental and bodily constitution; he pined himself gradually away; and, after having unbosomed all his own sins and frailties, died wretched and neglected." Like all the rest, this *fact* shows that temperaments may be changed, but it advances nothing whatever having the remotest tendency to invalidate the physiological doctrine of their primary distinctive nature. So long as Rousseau retained his sanguine temperament, "he acted with all the qualities belonging to it *; gentle, loving, generous, feeling, though inconstant: his fertile imagination shows him nothing but gay images, and, in this illusion of happiness he lives on agreeable chimeras; but, gradually undeceived by the hard lessons of experience, afflicted in the depth of his heart, with his own wretchedness, and the wrongs of his fellow-creatures, his *bodily* vigour wastes and decays; *with it* his *moral* nature changes, and he may be referred to as the most striking proof of the reciprocal influence of the moral on the physical, and the physical on the moral, part "of our being;" in simpler phrase, external and internal impressions successively altered the tenor of his organic functions, and, in this way, determined the successive differences of his temperament.

Fact the *fifth* is a piece of the most jejune and incomprehensible trumpery about the bilious temperament. This, we are assured, is characterized by great general and functional activity; always *excited* by those circumstances that, at particular periods, *call forth* great bodily and mental exertions; found, consequently, to prevail with those men who have, by a certain concatenation of events, been enabled *to raise* themselves to high situations in the public state, to preserve which they have, in a manner, been obliged to signalize themselves by superior energies; and exemplified in the persons of Alexander, Julius Cæsar, Brutus, Charles XII., Cromwell, Richelieu, and such like philanthropical

* *Richerand's Elements of Physiology*, 1824, p. 525-6.—Mr. Stone, with the object, perhaps, of shewing by evidence that temperament is a *morbid* condition, quotes from Richerand the following sentence:—Rousseau's "history is a proof beyond reply, that the melancholic temperament is less a peculiar constitution of the body than a real disease, of which the degrees may infinitely vary, from a mere originality of character to the most decided mania:" on which it may be observed, that when M. Richerand represents the melancholic temperament as a real disease, he uses a vague and gratuitous expression, as well as contradicts his own definition of a temperament and idiosyncrasy; that there is such a thing as *originality* of character, and that it is as difficult to distinguish the "exact limits," by "lines of separation," between the degrees of a real disease, as between the cerebral, or, so-called, phrenological organs.

worthies. Now, whatever is intelligible in this *fact*, may be quite real, and, nevertheless, the doctrine of primitive temperaments remain perfectly unaffected by such testimony. Had such persons been originally destitute of the *power* of making great bodily and mental exertions, these could not have been "called forth" by circumstances; because, although they may *call forth* exertion, circumstances can never create or import the power and energy from which all great exertions, whether bodily or mental, unquestionably result; such power is a primary endowment, susceptible of deterioration or improvement by the agency of suitable means. Again, nothing short of anti-phrenological fanaticism, that fetid stifler of truth and probity, could have prompted the inditement of the nonsense about men having, by a certain *concatenation of events*, been enabled to raise themselves to high situations; and, to preserve which, been obliged, in a manner, to signalize themselves by superior energies: such men raise themselves to high situations by the exercise of their superior energies; by exercise of the same energies they preserve those high situations; and a "certain concatenation of events" is concomitant with, or results from, the means whereby they raise themselves to such situations in the *public state!* Moreover, taking the specified personages as genuine "examples" of the bilious temperament, where is the evidence that, in them, this temperament was not innate, original, primitive? Not a trace of such evidence, however, has been adduced; but, in its stead, comes this enigmatical paralogy; that character results from causes which place man in a condition capable of originating propensity: and, consequently, that such character is the offspring of causes adequate to the subversion of his free agency, by making him the imbecile puppet of chance, causality, events! Thus, "the determinate characters of such men are unquestionably the *result* of those peculiar and varied *causes*, which contribute to place them in those conditions of life that *give rise* to, and modify, their *after* dispositions."

Fact the *sixth* presents an application of the discursive process, quite inimitable in itself, and leading to deductions prodigiously conclusive. "Thus, (p. 45) from its generally affecting only a certain class of people—from its being more prevalent at one time than another—from its being frequently the consequence of some perceptible and accidental derangement of the organic *functions*—and from its being excited by long continued or violent *mental emotions*, as *love, anxiety, fear*, and *grief*,"—therefore the nervous temperament is "occasioned by *external* causes;" and, "even

in those cases where this *habit*"—the nervous temperament—" appears *hereditary*, it should be considered as a modification of disease!" Again, because it predominates in the fashionable circles of society; because self-indulgence, indolence, and luxuries occasion excess of sensorial excitement; because nervous affections were numerous among the Roman ladies during the decline of the Roman empire, when the habits of society had become exceedingly vitiated; because they prevailed to an unusual extent during the eighteenth century, and at the dissolution of the French monarchy; because the works of Whytt, Raulin, Lorry, and Pomme appeared at that epoch; because Montesquieu, Voltaire, Frederick, and most eminent men of these times, possessed this habit in a high degree; and because the history of their agitated lives sufficiently explains the causes of its *development;* therefore, the nervous temperament is occasioned by *external* causes. By the evidence of this *fact*, then, every physiologist must be convinced that the origin and " development" of the nervous temperament can never be co-existent with the origin and development of a person distinguished, from birth, by the attributes of this " *habit!*"

Let us now weigh the induction from this group of *facts*, with the attention due to a thing in all respects so exquisite; it is this—" these several temperaments cannot, therefore, be considered as originally forming a *part* of the organization of the *brain.*" Here, phrenologists are charged, by imputation, with entertaining a most preposterous conceit, which, however, is just as gross a misrepresentation of their doctrine as it is an exact representation of the oafishness of their adversaries. Phrenologists do not teach the absurdity, that temperament *forms* a *part* of the *brain:* with them, as with other physiologists, temperament is a state, condition, mode of existence, not a constituent or integral thing. " Temperament," says Dr. Gall *, " is the general constitution of the body; individual constitution and the natural state of health modify the exercise of the mental powers; it is incontestible that proportionably to the circumstances of our health we are active and susceptible of impressions; the manner in which the faculties of mind are manifested is, therefore, modified by temperament; but to admit this modification, is not to admit that particular faculties of the mind are derived from particular temperaments." According to Hallé †, " tempera-

* *Sur les Fonctions du Cerveau*, tome II. p. 140—151.

† *Mémoires de la Société Medicale d' Emulation*, tome III. p. 342: *Dictionnaire des Sciences Medicales*, tome LIII. p. 285, LIV. p. 460.—Professor Hallé, in sketching the distinction between Primitive and Acquired Temperaments, remarks —" That, according to all observers, there is evidently a *something* in the differences whereby mankind are individually distinguished, a *something* which is

ments are personal distinctions, constant, compatible with health, characterized by adversity in the proportions of the constituent organic parts, and so important as to influence the powers and faculties of the whole economy." With Moreau ‡, temperament or individual nature, denotes and comprehends the complete totality of the differences which distinguish each person, give him a manifest natural character, and constantly appear in the type and progress of his diseases, in his physical constitution, *(sa tournure physique)*, and in the nature of his mind and affections."

Next follows the second part of this spurious induction, " and their influence, as physically co-existing with the phrenological organs, appears obviously a chimera;" as if, forsooth, it were not a chimera to surmise, that temperament, in man, could exist, physically or otherwise, without a brain! Again, and joined to the induction, is the misrepresentation—" it is on the hypothesis of their being " organic constitutions" only, that phrenologists have been led to endow them with the occult power of exciting different degrees of activity in certain parts of the encephalon." The hypothesis of temperaments being organic constitutions, is an antiphrenological hallucination, and has no place in any work wherein phrenologists have explained the principles of their science; with them, the brain, or its constituent parts, has an organic constitution or determinate modification of structure, partial or general, predisposing it to defective, perfect, or excessive activity in the execution of its functions. It is added—" thus the phrenologists have fallen into the error of mistaking the effects for the cause, inasmuch as these temperaments are the *effects* of the mind acting on the body, and not themselves organic causes, that excite a mechanical activity of the material substance with which they are supposed to be physically connected." Here, however, is another misrepresentation, prefaced by a palpable self-contradiction; temperaments are not organic causes, and it is wild nonsense, emanating from wine or witlessness, to talk of any cause whatever exciting a *mechanical* activity in the brain,

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born with each person, and the development of which undoubtedly results as a necessary consequence (" *de la manière d'etre*") of such persons' original distinctive circumstances. Although placed in the same condition, surrounded by the same influences, pursuing the same manner of life, possessing the same relations of kindred, example, habit and education, men have not an identical nature: often, whilst subjected to impressions every way capable of changing the tenor of their being, individuals succeed in perfecting the characteristical proportions, dispositions and determinations of their physical and mental systems, in spite of all obstacles; in them, therefore, there exists a primitive and peculiar ground work (" *trame*") whereon the fabric of their life and their existence is constructed:" p. 485—6.

‡ Dr. J. L. Moreau de la Starthe:—*Histoire Naturelle de la Femme*, 1803 tome I. p 414.

all the functions of which are pure *vital* actions. Farther, if phrenologists have fallen into the error of mistaking the effect for the cause, their lapse is not unparalleled "inasmuch, as these temperaments" are declared, in the Evidences, to "result from incidental causes that affect the animal functions"—"to arise from external circumstances that affect the constitution generally"—"to be occasioned by incidental circumstances that effect a complete revolution in the system"—and to be *excited* by those circumstances that call forth great bodily and mental exertions; consequently, according to this evidence, temperaments are, and are not, "the *effects* of the mind acting on the body!" Next, we find a tissue of incongruity and misrepresentation, and, last of all, a mewling epilogue, the consonance of which it would be ungracious to disturb. In the former, it is asserted—that "the absurdity of this," the phrenological "theory consists more especially in the fact of *every* organ being endowed with its *own* constitutional temperament; so that there are as many temperaments in the brain as there are organs, all of which being peculiar conditions of organization are independent of external circumstances, and those states of the health may subsequently affect the body." Now, the notion, that every organ is endowed with its own constitutional temperament, is not advocated by phrenologists, because the thing, though not impossible, cannot be proved; the proposition, that there are as many temperaments in the brain as there are organs, is held to be indemonstrable, and forms no part of the phrenological system; the statement, that temperaments are independent of external circumstances, implies a theory which phrenologists disclaim, and which the "Evidences against the System of Phrenology" conclusively disprove; and the assertion, that "it appears that there is no *possible* mode of judging of the activity of these organs," constitutes a deviation from truth; for, says Dr. Spurzheim *, if we examine the different degrees of activity of the cerebral organs, it is necessary to consider, not only their size and organic constitution, but also the exercise every faculty has undergone, and the mutual influence of the whole." Thus far have we retraced the "plain tale;" and, instead of deriving instruction from its pages, have experienced the mortification of finding almost every leaf polluted with absurdity, misrepresentation, forgery or falsehood.

(To be continued.)

[NOTE.—The next paper will consist chiefly in an analytical review of the New Theory of Temperaments, by Dr. F. Thomas, de Troisvèvre, which Mr. Stone characterizes as being "more consistent and plausible" than the old, but nevertheless an "extravagant absurdity."]

* *Phrenology; or, the Doctrine of the Mind*, 1825, p. 99.

III.—*Remarkable Case of Stone.*

DEAR ———, —The gentleman whose case we talked of when you last favoured me with a call, lived to be upwards of sixty years old. In early life he had a good constitution, and was perfectly free from all disease; but, as he got into years, he became affected with gravel, and frequently passed small particles with his urine.

About three or four years before his death, it was thought, by his medical attendant, that he had stone in the bladder, and as he had plenty of money and a strong attachment to life, he consulted almost all the eminent surgeons in London. He was sounded by several of them, each of whom proposed the operation, and on more than one occasion, he had very nearly made up his mind to undergo it. He, however, never mustered up sufficient courage: to do something for him, the surgeons at length called to their assistance a physician, famous for his knowledge of chemistry and skill in dissolving stones in the bladder. He was not long under their joint care when he died, and it being the wish of the executors and friends, that his body should be opened, I was requested to assist the apothecary in examining the morbid parts. The deceased was rather a corpulent man, and apparently had lost but little flesh from his disease. On passing the common sound into the bladder, it hit at once against the stone, and from the noise, which was easily heard by every person present, and from the tact as well, it was my opinion that the stone was very large. Such, I understand, had also been the opinions of every surgeon that sounded him during life; but we were all mistaken, as the calculus was not larger than a small chesnut, which it very much resembled in shape. The coats of the bladder were very much thickened, and the mucous membrane had evidently suffered a good deal from inflammation. When the bladder was opened the stone was seen, apparently confined in a sac, or imbedded in the substance of the bladder, and in such a manner as scarcely to be removed by the finger and thumb, without enlarging the opening for its exit. On a closer examination, I ascertained that the stone was not in a sac, or imbedded in the coats of the bladder, as at first sight it appeared to be, but lodged in the ureter, with a small segment of it looking, as it were, into the cavity of the bladder, and exposed to the contact of the sound or any similar instrument passed into that viscus. From the shape of the stone I had some difficulty in extracting it from its bed, where, from the sound state of the kidney and upper part of the urethra, as well as from its perfect adap-

taton to its contents, I had no doubt the calculus was originally formed. Had this patient submitted to the operation, the surgeon would have been placed in a most awkward situation, as he would have found it quite impossible to get hold of the stone with the forceps, or any other instrument used in surgery; thus, he could hardly pass any of them into the bladder without knocking against it. From the history of the case, I thought the preparation worthy a place in the Museum of the College of Surgeons, to which institution I presented it, and where, I presume, it is preserved and may be seen by your readers if you think the substance of this detail worthy of being noticed in your Journal.

Very faithfully yours,

GARRETT DILLON.

Fitzroy Street, Jan. 1829.

IV.—*Method of stopping the Bleeding from Leech Bites.*

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

GENTLEMEN,—After the application of leeches, especially in young children, most troublesome hemorrhage sometimes continues, for which a variety of remedies have been used, as flour, fur, acids, muriate of iron, pressure, &c., but all of these, in many instances, have failed. The most effectual plan I have found to be the use of lunar caustic; this should be scraped to a point, the surface of the bleeding vessel dried for the moment, and the point of the caustic applied to the mouth of the vessel, taking care to apply immediate pressure to prevent the skin from being discoloured by its spreading.

HENRY STORER.

3, Grenville Street, Brunswick Square.

V.—*Case in which the Symptoms of Angina Pectoris were present, successfully treated by Repeated Bleedings and a Seton.* By JOSHUA MANTELL, Esq. Surgeon, Newick.

MY DEAR SIR—I herewith forward you the case of W. C., the person whom you saw on the 23d September last, labouring under symptoms of angina pectoris. On referring to my notes I find the patient, a hard-working man, applied to me on the 28th August. For some months he has enjoyed the most perfect state of health; 'never better in his life,' as he says, except that on walking up a hill he complains of being suddenly seized with a severe pain in the region of the heart, extending across the chest, and shooting down both arms, with extreme violence. This paroxysm is

immediately succeeded by sense of suffocation, accompanied by intense horror and agitation of mind; the face and limbs being bathed with cold clammy perspiration. After a short time he is enabled to proceed slowly on his journey, and after an interval of a few hours, experiences no farther inconvenience until another ascent, or violent exertion induces a renewal of the distressing symptoms just described. The paroxysms have occasionally recurred as often as two or three times in the course of twenty-four hours. The patient, a fine, tall, athletic man, is about 45 years of age, having a short, thick neck, and particularly broad chest. The pulse is strong, full and bounding, and accompanied with that peculiar *thrill*, so indicative of aneurismal disease. On applying the stethoscope to the regio cordis no diseased manifestation can be detected, although the heart's impulse is much stronger than is consonant with perfect health. Venesection was immediately had recourse to, without reference to quantity; ℥xxviij were abstracted before the least impression was made on the heart's action. The pulse then fell, and a blister was ordered to be applied over the region of the heart, and the discharge to be kept up by means of the ung. sabinæ. As the bowels were constipated, a brisk cathartic was prescribed the following morning, and a regulated diet, with the recumbent posture, strictly enjoined.

30th. Somewhat better; the paroxysms less severe on their recurrence. September 6. Paroxysms less frequent. The tongue slightly furred, the bowels constipated, and the fæces of a clay colour. V. S. ad ℥xii.; ℞. Pulv. Jalapæ ℈j; Hyd. Submur. gr. iv.; Pulv. Cinnamon, gr. iij.; Ft. Pil statim sumend. ℞. Pil. Hydrargyri, ℈j.; Pulv. Rhei, ℥ss.; Pulv. Ipecacuanhæ, gr. vj.; Ft. Pil. xij Cap. ij Alt. Noct. h. s. 13. Called upon me to-day, in great agitation of mind; his countenance extremely pallid and anxious; the face and hands bedewed with cold, clammy perspiration. He informed me that he had just had one of the severest paroxysms he had ever experienced, whilst ascending a hill close to my residence. He was so much agitated that his tottering limbs could scarcely support his body, whilst a chair was provided for him to sit down; his pulse was very rapid, irregular, and intermitting; and as he appeared faint and exhausted, I gave him twenty drops of the Spir. Ammon. Arom. in a glass of water, and he soon rallied from the attack. 14. V. S. ℥xx. 18. Much better; the paroxysms less frequent, and much slighter. 20. Still improving, V. S. ad ℥xviij. 22. He was seen by Dr. Epps, and at his suggestion, a *seton was applied over the region of the heart*. 26. Much better, the paroxysms very slight. Rep. Pil. alterativeæ. 28. V. S. ad ℥xiv. Oct.

Greatly better; V. S. ad ℥x. 13. V. S. ad ℥viij. Rep. Pulv. Cathart. cras mane sumend. 20. Paroxysms so slight on walking up hill as to be scarcely perceptible. V. S. ad ℥vij. 29. Only one slight paroxysm since the 25th. V. S. ad ℥vij. Nov. 4. Has had no recurrence of the fit since the 25th. 10. Quite well, and the seton withdrawn. Jan. 8, 1829. I accidentally met my patient this day, he is in excellent health and spirits, and has not experienced the slightest return of the complaint since I last saw him.

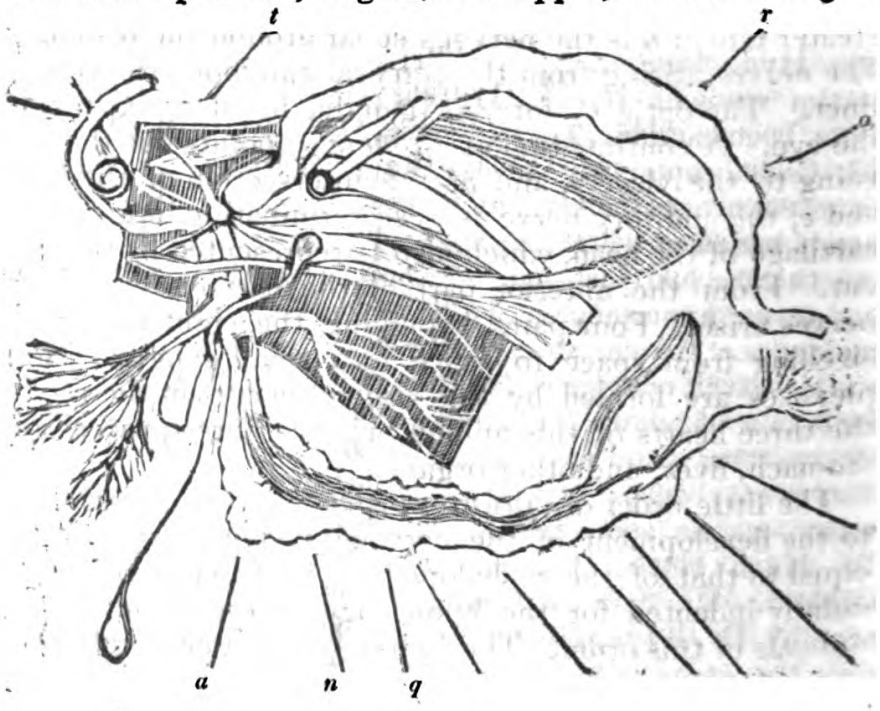
This case is interesting, inasmuch as it proves that the symptoms termed angina pectoris, are not always the result of structural disease, but may, as in the present instance, occasionally arise from functional disorder. The rapid improvement that took place after the application of the seton, shows also the value of this agent in this class of disorders, and, from facts that have fallen under my own knowledge, induces me to hope, that this agent will materially tend to arrest the progress of diseases of the heart itself.

Newick, near Uckfield, Jan. 8, 1829.

VI.—*Essay on the Gradual Development of the Nervous System, from the* Zoophyte *to* Man. By John Epps, M.D.

(Continued from Page 46.)

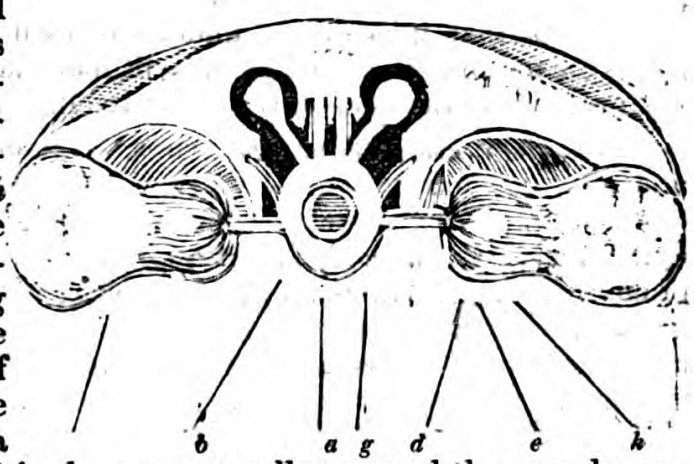
In the helix pomatia, Fig. 7, the upper, or cerebral gan-



glion sending off the optic nerve *t*, the larger and inferior ganglion *a* sending off the right pulmonary branch *n*; the left pulmonary being at the intersection of the lines *r*, *o*. Besides these there is a ganglion in the direction of the line *q*, situated below the mouth formed by two nerves coming from the cerebral ganglion.

Here is another progression in the transmutation of the *single* ganglion into *two lateral*, and also in the number of the ganglions; a change made more clearly evident in the cephalopoda.

As an exemplification of the nervous system of this order, the sepia may be taken. In these animals, Fig. 8, the nervous circle is larger; the ganglion on its abdominal surface is absent; whereas the cerebral ganglion *a*, is much more developed, its *upper surface being marked with striæ*, like a true brain; the central mass being situated on the *dorsal* * side of the body. There is, moreover, a greater unity: *b* is the nervous collar around the œsophagus. The nerves arising from the cerebral ganglion are very distinct. The optic *d*, forming ganglia in their expansion in the eye. A continuation of the line *g*, points out the nerves going to the viscera, and at the intersection of the lines *k*, and *e*, the auditory nerve is seen terminating in a sac in the cartilage of the head, which also is represented by this woodcut. From the anterior part of the nervous circle, other nerves arise. Four pairs, supplying the eight feet or arms, swelling from space to space into small ganglia. Several plexuses are formed by the visceral nerves in the region of the three hearts of this animal, whence fibres proceed to the stomach, liver, and other organs.



The little order of CIRRHIPEDA claims a rank with respect to the development of the nervous system in some respects equal to that of the cephalopoda. To Cuvier we are particularly indebted for the knowledge of the structure of the animals of this order. The Lepas L. has a cerebral ganglion

* This is the side in which the nervous system of man is situated.

consisting of four lobes, placed transversely above the œsophagus, giving off four principal nerves to the muscles and viscera. It has two lateral lobes in addition, which form the nervous circle, and swell below into two ganglia, whence originate the nerves of the first pair of legs. The two cords proceed along the abdominal surface, forming at intervals double ganglia, from which the nerves of the legs proceed.

Having thus proceeded through the different orders of the class mollusca, and having found a gradually progressive development of the nervous system, the question arises, is an equally progressive complication of apparatuses and functions therewith connected? The answer is in the affirmative; and, in order to limit the proof, the illustrations, after noticing a few generalities, will be restricted to the senses of the animals belonging to this class.

The distinction between the order acephala and that of cephalopoda is sufficiently clear; thus the acephala have no head, no eyes, no jaws, and never have connexion to reproduce their species. Whereas in the cephalopoda, head, eyes, and maxillæ exist, and they reproduce their species by connexion. View these nervous systems in relation to these differences. In the acephala it approaches very near to that of some of the animals of the last order of the class zoophyta, consisting simply of the nervous collar, firmer, indeed, and larger, and ganglia distributed to the different parts of the animal; whereas in the cephalopoda, we have a cerebral ganglion, the ganglion on the abdominal surface being absent; we have the central nervous mass situated on the dorsal side of the body; and, finally, we have the nerves of the senses more completely developed. Having noticed these general distinctions, the more particular may be considered in reference to the senses. First, with respect to the sense of TOUCH.

This may be considered as modified. Its first modification is called the DERMOID, enabling the lowest orders of animals to distinguish between themselves as individuals, and the objects external to themselves. As an instance the mya pictorum (the fresh water muscle) may be taken. This animal has been observed distinctly to touch objects near it with the point of the foot, the fleshy mass already described. It will be remembered that the fourth and largest ganglion found in this animal, is situated in this part. For the next modification, a multiple row of short tentacula is added, serving to examine the water as it pours through the layers of the gills; and which, when large substances come in contact, close together to cover the opening. In the gasteropoda the tentacula about the head serve the office of this sense; and nerves,

it was stated, were sent to these from the upper or cerebral ganglion. In the cephalopoda, the head is surrounded with long arms, and serve for the purposes of touch and of prehension; and the reader need only be reminded, that from the nervous ring encircling the œsophagus of one pair of nerves proceed to supply these parts.

Now, with respect to the sense of *hearing*. It was noticed, that auditory nerves are found only in the cephalopoda, the third order of the mollusca, in which order it is a remarkable coincidence, that the first rudiment of an internal skeleton, the *ring-shaped cartilage of the head* is met with. In the inferior part of this ring are two depressions, containing membranous bags, placed together, each containing some small solid body besides a fluid. This is undoubtedly the membranous labyrinth, for on these membranous bags the auditory nerves are expanded. In this sense also, increase of function, with increase of the nervous system, go hand in hand.

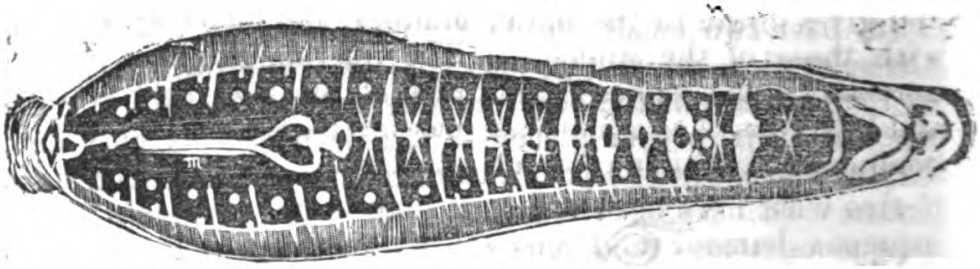
Of the mollusca, the cephalopoda afford us the most perfect condition of the sense of SIGHT. It is to be discovered in the order gasteropoda, as connected with two little black spots, which are situated on the tentacula, and which, from their structure, it is perfectly evident, are eyes. The helix pomatia, already noticed as having optic nerves, given off from the cerebral ganglion, has very minute eyes, situated at the points of the two larger feelers. In these eyes Swammerdam 'found an external membrane, a choroid coat, much black pigment, an aqueous humour, an exceedingly small crystalline lens, and a vitreous humour; the two latter being inclosed in exceedingly fine membranes.'

But in the cephalopoda, wherein the OPTIC nerves were more distinctly developed, the eyes are more considerable. They have two small muscles for their motion; which, with the sclerotica, which they also possess, and also with the aid of the cartilage of the head, already noticed, serve to fix the eyes in their proper place. There is a choroid coat also, having a pigment of a purple colour. Its reflection, anteriorly, forms what have been named in man ciliary processes. The aqueous humour and lens are both wanting; the vitreous humour is present. From this statement, it is evident, that the apparatus of vision is, considering the moderate elevation of rank which this animal possesses in the animal kingdom, very perfect; and it has been pointed out that the optic nerve in this animal, after entering the external layer of the sclerotica, forms a swelling larger even than the cerebral ganglion, and sends off innumerable fibres to form the retina.

No organ of smell has yet been detected in the mollusca; neither has any nerve; and thus, so far as our present knowledge goes, apparatus and function go hand in hand.

The third class, articulata, may now be examined in reference to the development of the nervous system in the individuals thereof.

The first is that of VERMES, in which, with the exception of the intestinal worms, the characteristic type *is a chain of ganglia;* a characteristic of the articulata in general. This, if we take the hirudo medicinalis, an animal placed under the second sub-order of this order, vermes, namely, those animals without external organs of respiration, we find immediately above the superior extremity of the œsophagus, a small two-lobed ganglion, giving off nerves to the surrounding parts, and connected with an inferior roundish ganglion, by a nervous circle surrounding the œsophagus. So far the hirudo in its nervous system resembles the snail. But an addition takes place; for the body of the leech is composed of several segments, each possessing a separate intestinal expansion; a separate set of vessels; respiratory and sexual organs. Each segment may be considered separate; and, hence separate nervous organs exist in each; each nervous organ being a repetition of the first nervous ring, with the exception that in the posterior and less perfect nervous rings, but one ganglion exists, whence issue two branches, running upwards on the parietes of the body, and distributed to the viscera and muscles. All these ganglia, about twenty, are connected with each other as well as with the inferior ganglion of the nervous collar, by means of a double nervous cord. Here will be seen an analogy between the spinal cord in man, and this nervous cord in the leech.



In the earthworm, the lumbricus terrestris, no distinct ganglia are found, but swellings of the nervous cord, extending down the abdominal surface of the whole body; from these swellings two pairs of nerves uniformly proceed; whereas, from the intermediate spaces, only one. Here is presented another progression, namely, the *consolidation of the two fibres connecting the chain of ganglia.* That this is a progressive step

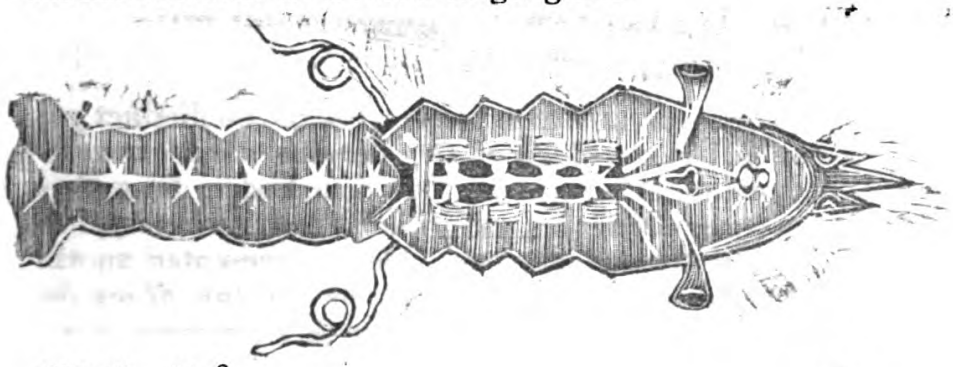
in development, is proved by the circumstance, that, in the ascaris lumbricoides, the two nervous cords are completely separated, and is further established by the well-known fact, that concentration and high development of nervous system are always united.

In the aphrodita aculeata, one of the animals belonging to the sub-order of the order vermes, having external organs of respiration, the cerebral ganglion is of a heart shape, and is situated immediately above the mouth. From its point two small filaments proceed to the tentacula, and, from the sides, branches to the mouth and parts adjacent. The long and slender branches, constituting the nervous collar, form a large ganglion below the anterior extremity of the œsophagus; this ganglion is connected with one immediately behind, which is succeeded by a series of twelve ganglia placed at greater distances, and giving off three nerves on each side. In the remaining posterior third of the body the cord is simple, having no swellings, though sending off nerves from space to space.

We now come to the second order, CRUSTACEA, of the class articulata.

Speaking of the crustacea, Lamarck has the following passage:—'De grands changemens dans l'organization des animaux de cet classe, annoncent qu'en formant les crustacés, la nature est parvenue a faire faire à l'organization animale des progrès considerables.' The nervous system, as a part of this organization, is increased also; the *individual ganglia being more perfectly formed, and the nerves of sense being still more distinct.*

Let us take for an example of this order, the astacus fluviatalis, the craw-fish. The nervous circle around the œsophagus exists: the cerebral ganglion is divided into four lobes, and gives origin to the optic, auditory, and olfactory nerves, with those of the antennæ. The inferior ganglion of the nervous circle supplies the muscles of the jaws with nerves, and by means of two filaments, passing backwards, forms the commencement of a chain of ganglion.



The progression here consists in the division of the *cerebral ganglion into four lobes*, the existence of the olfactory nerve, and the peculiar formation of the commencement of a chain of ganglia.

The third order, the INSECTA, are a most interesting family, they are so very numerous: the habits of some are very peculiar; the functions possessed are more numerous; and, consequently, it is to be inferred that their nervous system will be proportionally augmented.

As affording an exemplification, the nervous system of the spider (aranea) may be described. The cerebral ganglion is, in this animal, peculiarly large; and in the chest there is a peculiar angular medullary mass, whence the nerves supplying the legs radiate conically; in continuation of which is the double nervous cord, extending through the abdomen, forming, at its termination a ganglion, called the abdominal, from which nerves ramify most abundantly to the intestine, and the organs of respiration and generation.

A considerable concentration and unity of the nervous system are herein perceptible; indeed, there is a considerable approximation to this system as found in the higher orders of animals.

One circumstance, that, perhaps, more than any other, shows the principle that we are endeavouring to illustrate is, that the nervous system varies in insects, in a way correspondent to the peculiar conditions of the different stages of their growth. Thus the papilio goes through the three stages of caterpillar, pupa, and butterfly; and it is a remarkable fact, that in each of these stages the nervous system varies, gaining, in each stage, an increase in concentration, and, consequently, in unity; approaching, in its first stage, very nearly to the nervous system of some of the vermes, to which order the caterpillar may be, without much derogation of honour, said to belong.

Thus, Mr. President, we have traced the nervous system in the progress of its development through the different animals belonging to the first division of Carus; namely, THOSE WITHOUT BRAIN AND SPINAL MARROW, AND WITHOUT A VERTEBRAL COLUMN. In our next we shall enter upon Carus's second division.

MONTHLY SYNOPSIS OF PRACTICAL MEDICINE.

1. *Case of Lithotomy, which was the subject of the Trial of Cooper, v. Wakley*.*—The following is the case of lithotomy, as reported by Mr. B. Cooper, which has occasioned so much noise of late in the medical world. It is published in the Medical Gazette. We shall copy it in full.

'Stephen Pollard, æt. fifty-three, of a plethoric habit, but pourtraying want of constitutional power, admitted into Job's Ward, Guy's Hospital, March 7, 1828. He states that he has been subject to a gravelly deposit in his urine for seven years, and a twelvemonth after its first appearance he was attacked with excruciating pain in the region of the right kidney, which was constant and severe, and confined him to his bed for three months; at the end of which time he voided a stone with his urine, about the size of a barley-corn. Subsequent to this his health became re-established, suffering but a slight inconvenience from the sediment in his urine, which remains unaltered. In three years, a second attack, similar to the first, took place on the opposite, or left, side; the same symptoms supervened, and at the end of a fortnight he voided another calculus, of nearly an equal size with the first. He soon recovered his health, and the gravelly sediment, though continuing, has latterly been much diminished in quantity. About a twelvemonth ago, unusual irritation in his bladder attracted his notice, which rapidly increased, causing a difficulty in micturition, the urine suddenly stopping, and the complete evacuation of the bladder inducing intense suffering, At length he was obliged to apply to a surgeon, who advised his coming to Guy's Hospital. Upon his admission, he stated that his journey to town, from Sussex, in a cart not hung on springs, gave him great uneasiness, producing repeated inclinations to void his urine. Walking also increases the symptoms. The pain is most considerable when the bladder is empty. The extremity of the prepuce is not much swollen, neither has he ever passed bloody urine. The sound being introduced, indicated the presence of a hard calculus. His general health not much impaired, but suffering from a slight catarrh, from exposure during his coming to London.

The operation was performed on Tuesday, the 18th of March. The sound being introduced, the calculus was felt with difficulty: and then only while withdrawing the instrument. The narrowness of the perineum excited attention. The straight staff being introduced, the external incision was purposely extended beyond the usual length, to compensate for the natural deformity. The groove of the staff was cut into, and the knife readily passed into the bladder, as indicated by the flow of a small quantity of urine. On passing my finger into the wound, the extent of the section of the prostate could not be ascertained, in consequence of the depth of the perineum; and upon introducing the forceps the stone

* Guy's Hospital.

could not be felt: I was, therefore, induced to enlarge the opening by means of Sir Astley Cooper's beaked knife. I then withdrew the straight staff, passed a curved one into the bladder, and detected the stone in the concavity of the curve, and, to secure the passage into the bladder, passed the cutting gorget (which was necessarily furnished with a beak), and used this as a guide to the introduction of the forceps; but still, though the forceps passed readily into the bladder, as was experienced by Mr. Callaway as well as myself, the stone eluded detection. A female staff was then passed into the wound, but could not be brought in contact with the stone. A male sound was next introduced through the incision into the bladder, and with some difficulty indicated the stone *above* the prostate, and consequently *behind* the pubes; and at length the blades of the forceps (the handles being directed downwards and backwards) were brought in contact with the calculus, which, immediately on being felt, was extracted without any force; although, from the circumstances above detailed, the operation had unavoidably been tedious. When he was replaced in bed, he felt depressed and exhausted; forty drops of laudanum were given, which produced slight composure, but no sleep. Five o'clock.—Complains of very acute pain in the lower part of the abdomen, especially in the left iliac region; this increases on pressure. No tension of the abdomen is discernible. (Apply thirty leeches and hot fomentations.) Ten o'clock.—The pulse has increased in number to 116, and is tremulous. The pain of the abdomen unrelieved by the leeches. The breathing is hurried, and the skin bedewed with a clammy perspiration. The countenance is natural. Answers questions with great composure. Ordered Hyd. Sub. gr.iij. Ext. Opii gr.ij. M. To be taken directly. A large emollient poultice to cover the whole of the abdomen.) March 19, One o'clock, *a.m.*—Has not had any sleep. The tenderness of the abdomen undiminished; pulse 120, small, with a degree of hardness. For the last half hour has had nausea, and inefficient efforts to vomit, which greatly distress him, by increasing the pain. (Repeat the Cal. and Op.) Five o'clock.—The pain in the abdomen is increased; the pulse 120, small, and hard; respiration difficult; nausea unabated. (V.S. ad ℥x.) This relieved the urgency of his symptoms, but was followed with depression. (Ordered Hyd. Sub. gr. iij. Opii Ext. gr.j. stat. Continue the cataplasms.) Ten o'clock.—The pain in abdomen continues; pulse as quick as in last report; tongue covered with a white fur, but moist; nausea still present, even rather more urgent. A sinapism ordered to be applied to the pit of the stomach, and thirty leeches to the abdomen. These gave immediate relief, to such an extent as to enable him to sleep. One o'clock, *p.m.*—Pulse 156, and irregular as to power, but constant in number. The anxiety of countenance indicates a fatal depression, and has a peculiar yellow hue, the lips being pale. The nausea has returned, and the pain of the abdomen is only complained of during the spasm. The respiration is short, hurried, and attended with pain. (℞. Ammon. Carb. gr.iv. T. Opii. gtt. xxiv. Infus. Serpent. ℥iss. F. Haust. to be taken directly.) After hav-

ing taken this draught he slept two hours, when the respiration was twenty-six in a minute. He awoke in an alarming state of depression; the countenance anxious and pallid; he reluctantly answered questions, but said he was entirely free from pain. He took a small quantity of brandy and water with the julep of ammonia, but continued gradually sinking, until half past seven, when he died. It may be worthy remark, that this patient felt convinced in his own mind that the operation would prove fatal; and so strong was this impression that he persuaded two patients in the same ward to shew him the burial ground of the hospital. He visited this, and expressed his conviction that it would be *his* resting-place.

Examination of Body, sixty hours after Death.—(From the Notes of Dr. Hodgkin.)—The peritoneum, at the lower part of the abdomen, as well as that portion which lines the parietes, and that covering the intestines, was minutely injected. In the pelvis there was some sero-sanguineous effusion, very slightly puriform, and mixed with lymph, or flocculi. Behind the peritoneum, in the posterior part of the left iliac region, there was some ecchymosis. The cellular membrane behind the peritoneum in the pelvis, was extremely lacerable, readily breaking down under the finger, and scarcely requiring the use of the knife for the removal, except under the pubes. There was a free division of the prostate, and a clean cut into the bladder, the mucous membrane of which was generally healthy. Immediately behind the meatus urinarius there was a small tongue-shaped body, which on the opening of the bladder, and when obscured by coagula, was considered to be the third lobe of the prostate; but a more careful examination proved it to be a small flap, composed of a portion of bladder and prostate, and which had been formed by another incision communicating with the first, about an inch in length, and a third of an inch behind the opening of the meatus. There were a few spots of ecchymosis and abrasion comprehended in a space of about the size of a shilling around the orifice of the meatus. The edges of the incision, from the external opening to the bladder, were ragged and intermixed with adherent coagula of blood, a state which was unavoidably produced by the repeated introduction of the forceps and other instruments which were had recourse to in the attempt to remove the stone. In the preparation a passage exists at the side of the bladder: this was not noticed by Dr. Hodgkin till after it had been in the hands of the reporter of the Lancet; and from the extremely lacerable state of the part, it might easily have been formed after its removal from the body. That it was either formed then, or in the act of removing them, is an idea which the absence of coagula tends strongly to confirm. Besides the injection of the peritoneal coat of the small intestines, the internal membrane was of a diffused red. The rectum was perfectly sound and healthy, with the exception of a very slight appearance of piles. The kidneys were of moderate size, soft and flabby, and in an advanced stage of the light mottling deposit described by Dr. Bright.

This case resembles all those of unsuccessful lithotomy which I have myself had an opportunity of examining, both in the peritoneal inflammation and in the extensively lacerable state of the cellular membrane behind the peritoneum: similar results have, I believe, invariably been found by Mr. C. A. Key in this country, and by my friend, Harvey de Chegoin, in Paris. The peculiar derangement of the kidney observed in this case, was likewise met with in a patient of Mr. C. A. Key's, who died after an operation for the stone, and has likewise been found in others who have sunk after the operation or accident.'

2. *Hereditary Hare-Lip* *.—On the 4th of December last, Mr. Key performed the operation for hare-lip, on a child a few months old. The father of the child had congenital hare-lip, for which no operation had been performed; and of his six children two were born with this malformation. We have noticed a similar circumstance in a poor family in the country. We do not at present recollect the exact number which showed the defect, but we believe that out of five children, two or three had the malformation. Facts of this nature are too few to admit of any physiological point being established upon them. Indeed, the circumstance that the greater number of children born of hare-lip parents are without the malformation, proves it to be accidental in the rest. By the term accidental, we do not mean to say that it takes place without a cause; but we doubt that this cause is connected with the generative process. Lambs have their tails cut off at an early age, throughout successive generations, yet it is not a common thing to see a lamb brought into the world without a tail. According to the supposition, that the nisus formativus is derived from every part of the bodies of the parents, every defect in them would necessarily lead to some defect in the corresponding parts of the offspring. This, however, happens so seldom, as to render it probable that, when it does occur, the cause is not attributable to the faculty of generation.

3. *Irreducible Scrotal Hernia, with Symptoms of Strangulation* *.—J. Wilmot, aged sixty-five, was admitted, on the 19th November, at 9 *a.m.* under the care of Mr. Vincent. He had an irreducible scrotal hernia of the right side, which was attended with symptoms of inflammation. The hernia had been in an inflamed state for the last twenty-four hours. The tumour was painful and tense, extending upwards towards the ring, and he made attempts to return it, but was unable to reduce it entirely; though, after a repetition of the taxis, he got some portion of the tumour to return through the groin, and the man felt somewhat, but not much, easier. He was sick, and complained of pain in the abdomen. Finding that the symptoms did not subside after the first application of the taxis, and that no more of the tumour could be returned, a strong tobacco clyster was injected, and after this he was bled to syncope; but no further alteration took place in the size of the tumour. It was less tense since the first portion had been

* Ibid. † St. Bartholomew's Hospital.

returned, and his bowels had been freely open. Soon after he came in he was placed in a warm bath, and bled until he felt faint : and while he was in the bath the taxis was again employed without success. When Mr. Vincent saw him, he observed that, as there had been relief from the bowels since his admission, and as there was not a great deal of pain or sickness, and scarcely any tension of the tumour, it would be unnecessary to resort to any immediate operation. Mr. Vincent then ordered an iced lotion to be applied over the parts, but the pain very much increased in the course of two hours, and he was ordered to have twenty leeches applied. The pain seemed to be increasing, and the pulse, which had been all along small, was now gradually sinking ; the face and lips were blue, and the countenance very anxious. At five o'clock, the hernia was again examined by Mr. Vincent, and as the symptoms were getting more urgent, it was thought fit that an operation should be performed, as he was evidently sinking under his present circumstances. Mr. Vincent, however, remarked, before the operation, that there was no stricture, but as there was a great portion of protruded omentum which could not be returned, the reduction of this might lead to the mitigation of the symptoms. There were, however, little hopes of his recovery either way. He was accordingly removed to the operating theatre, and Mr. Vincent immediately cut down to the protruded viscus, which proved to be omentum, as he had anticipated.

The canal of the groin being in this case destroyed, it was necessary to make a direct incision from about opposite to the internal ring. There was some fluid in the sac ; and a lump of omentum, the size of a double fist, was collected together, in such a way that one portion could not be returned without the whole. Mr. Vincent introduced his index finger, and upon this a director, and with a probe-pointed bistoury divided the parts which formed the covering of the hernia, up to within an inch of the internal ring. On passing the finger up to the ring, there was no stricture to be found, but the omentum could be returned, so that Mr. Vincent thought it necessary to remove nearly all of it with a scalpel. No hemorrhage took place from the cut surface, and one ligature was applied. The wound was closed by a single suture, and some adhesive plaster brought the edges of the wound together ; a compress was placed over this, and he was put to bed ; bnt the pulse was fast sinking, and he died about half an hour afterwards.

Post-mortem Examination.—The body was much deformed from a lateral curvature of the spine. Very little farther developed itself in the dissection of the hernia than what has been mentioned. Nearly all the great omentum had been in the sac, and the small portion that remained was at the mouth, and appeared to be twisted upon itself. The omentum did not look so much inflamed as the intestines, which were red, but more especially in the line where their opposite surfaces came in contact. The colon was drawn down in the direction of the right groin. The peritoneum had marks of recent inflammation, and there were about two ounces of a thick fluid, like pus, in the pelvis.

4. *Severe Compound Fracture—Amputation* *.—A man, aged sixty-five, was brought in on the evening of the 10th of December, with a severe compound fracture of the lower part of the left femur. The bone was very much comminuted, and the limb was considerably distorted. The fracture was suspected to extend to the joint. A kind of oily fluid escaped from the wound, which was supposed to be synovia. The accident was caused by a hackney-coach knocking the patient down in the street, and the wheel running over the knee. When Mr. Stanley saw him, about an hour after the accident, his pulse was firm and steady. He examined the wound, which was on the lower and outer side of the thigh, about two inches in extent, and found that there was considerable mischief done to the parts around the joint; so much so, that he was led to propose the immediate amputation of the limb. To this proposal the man did not object, and he was forthwith carried to the operating theatre. The limb was removed in the usual way. The muscles divided were considerably bruised. Upon cutting open the joint of the amputated limb, the lower end of the femur was seen to be split between the two condyles into the joint, where there was a great effusion of blood. The lower portion of the shaft of the femur was also broken into several pieces. After the patient had been in bed about half an hour, his pulse being small and very weak, and the countenance pallid and dejected—and as also he had a tendency to twitching in the stump; he was ordered two table-spoonfuls of brandy and thirty drops of laudanum, in some hot water; after which he was better. Two hours after this the pulse was still very small and flagging. He seemed to be quite overcome by the operation. The brandy was repeated, with twenty drops of laudanum. During the night he had occasion to take more brandy, and he had a little arrow-root mixed with it. 11th. At seven o'clock this morning his pulse was feeble; the twitching in the stump had quite gone off, but he had not closed his eyes during the night. It was thought fit that the brandy should be repeated, after which he slept for two or three hours, and at mid-day he was considerably refreshed: the skin was warmer, the pulse had risen, and the stump felt much easier. *Vespere.*—Pulse quite quiet; is doing very well, but complains very much of a pain in his side, where he received a blow from the fall. The bladder had not been emptied since the operation, and an instrument was passed this evening. This inability to pass his water resulted from the position in which he lay. (Ordered a wine-glassful of brandy: a pint of arrow-root with isinglass dissolved in it, and forty drops of laudanum.) 13th. Was pretty well yesterday, and had a very fair proportion of sleep last night. No pain; skin moist; complains of being a little thirsty; tongue brown. Stump dressed to-day for the first time, and looks well. Pulse 100, very firm; bowels confined. (To have some opening medicine.)—*Vespere.* The bowels were not open until a clyster had been administered. Much the same otherwise. (Ordered Brandy,

* Ibid.

℥ss. occasionally.) 14th. Had a bad night, wandering at intervals, although this morning he expressed himself better. Tongue dry and brown in the centre, moist at the edges; pulse 84, irregular, but not very weak; countenance flushed, and rather anxious. The surface of the stump looked in some parts inclined to slough; it was more swelled, and there was a bloody discharge. The edges were not inflamed. (Ordered brandy every half-hour, in arrow-root and isinglass.)—*Vespere.* Much the same; pulse 80, weak and irregular. A lotion of the chloruret of lime was injected under the flaps of the stump, which was well fomented with warm water, and a poultice was applied over the whole of the lower part of the limb. (Ordered to take arrow-root, a wine-glassful of brandy, and forty drops of laudanum: some isinglass to be mixed with it.) 15th. Slept well, and is considerably refreshed; pulse 88, fuller, but still irregular; stump looking better, a thicker secretion, and less swelling of the limb. Had no opiate ordered at night. 16th. Had a good night; no pain in the stump, which looks healthy; discharge more purulent. After this he had no occasion for more opium, though he has taken eight ounces of brandy daily. The stump is now looking quite healthy, there is a thick white discharge, and the pulse is tolerably firm, having ceased to be irregular. At present (Dec. 23) he bids fair to recover.

5. *Phlegmonous Erysipelas of the Hand and Arm* *.—A brick-maker, aged twenty-eight, of a spare habit, was admitted on the 17th of September, under the care of Mr. Vincent, with considerable swelling and inflammation of the right hand, forearm, and arm, extending to the shoulder, occasioned by a slight scratch on his thumb, inflicted by his wife with her nail, about ten days previous to his admission. Stated that he went to work the day after he received the scratch. In the evening the thumb began to inflame, and the greater part of the hand and forearm the day after. By the time he was admitted into the hospital, the inflammation had gradually extended to the shoulder, and ulcerated openings were formed about the hand and finger for the discharge of pus. Tongue brown, and dry; skin hot; pulse 100, full and hard.

Calomel and jalap, with house-physic in a few hours afterwards, and the saline mixture with antimony every four hours; a bread and water poultice, and fomentations, to the arm. 19th. Complains of less pain in the arm; has less heat of skin; tongue moister; pulse 90, and less full; bowels open; fluctuation was discovered on the outside and middle of the forearm. Mr. Vincent made an opening of about an inch in length, and let out about an ounce of pus. In a day or two subsequently, Mr. Vincent made two more small openings, one on the inside of the forearm, and another on the inside of the arm, and pus was evacuated. Afterwards matter formed in the axilla, which was also let out. Although pus was evidently fluctuating within the integuments covering the triceps muscle, Mr. Vincent, unwilling to encourage the incising practice, forbore to make an opening for its exit; it therefore made one for

* Ibid.

itself, and sloughing of the skin and cellular tissue followed, to the extent of rather more than a crown-piece. 23d. Has little or no pain in the arm; tongue moist; pulse feeble; perspirations; appetite bad; pus is discharged from the different openings in the arm. (Omit the saline medicines, and take infus. cascaril. with tinct. cinchon. ℥ss., ter quotidie. ℥iv. of wine daily, and nourishing diet.) 30th. Mr. Vincent, thinking there was a want of tone and action in the arm, ordered the lotio zinci to be applied, and Dover's powder, gr.ix. to be taken at night, the patient having been rather restless the night before; otherwise he seems stronger and better than when we last saw him. The arm discharges but little pus. October 9. The patient has been going on well till within these last few days, during which the arm has again begun to inflame, and all his former symptoms to return. (Discontinue wine and meat. Take milk diet; cal. and jalap, saline mixture; bread poultice, with fomentations.) 14th. Much relieved by the antiphlogistic measures. Very little discharge from the arm; pulse natural; tongue clean, and appetite good; no perspirations. 18th. The granulations of the arm appearing to want vigour, the ung. zinci was used. 23d. The ung. zinci was discontinued after a day or two's use; simple dressing is now applied, the arm rolled, and the patient doing well.

6. *Phlegmonous Erysipelas of the Face and Scalp, treated by Stimulants—Death—Post-mortem Examination* *.—A coal porter, aged forty-three, stoutly made, and a great porter drinker, was admitted, December 8th, with phlegmonous erysipelas of the upper part of the face and forehead. The integuments of the nose and eyelids are exceedingly swelled, red, tense, and shining in appearance, so that he is unable to open his eyes. The inflammation extends upwards over the forehead, and downwards on the cheeks, the integuments of which are also much swelled. States that the swelling commenced about six days ago, after having felt unwell for a few days previously. Tongue brown and dry, skin hot, and pulse frequent. Complains of pain in the head. Ordered by Mr. Stanley, who attended for Mr. Vincent, hot and moist flannels to the part; cal. gr. iiij., jalap gr. xv. statim, and to be repeated in four hours, if necessary. Head to be shaved. Mr. Burnett, the house-surgeon, had previously ordered Ammon. carb. gr.v.; Mist. camphor, ℥iss. omni 4ta horâ. (but it had not been taken.) 9th. Passed a very restless night and became delirious towards the morning. No complaint of pain in the head. The inflammation and swelling have extended over the scalp, and around the ears, but seem rather diminished below the eyes. Pulse frequent, feeble. Tongue not so dry as yesterday, but covered with a clammy adhesive mucus. Bowels moved last night after the cal. and jalap had been repeated, and have acted copiously this morning, after taking some house-physic. *Catapl. sinapis* applied to the nape of the neck last night. (Ordered to begin with the ammon. carb., and mist. camph., and to have the catapl. sinapis repeated to-night.)

* Ibid.

10th. He became so violently outrageous towards yesterday evening, that it was necessary to have the strait-waistcoat put on, to confine him to bed. Has been talking incoherently, at intervals, during the night, yet answers reasonably when questioned loudly, and puts out his tongue when desired. The catapl. sinapis was applied both to the throat, and nape of the neck. Two doses of the ammon. carb., and mist. camph., have been taken, and it is now ordered to be omitted. This morning, by Mr. Burnett's direction, a blister was applied to the summit of the head, and an injection of house-physic given, which has acted freely. The bowels were not moved before, since yesterday morning. Subsequently, the dresser ordered cal. gr.iij., *pulv. Jacobi.* gr.iv. *statim sumend.* The inflammation has not extended, unless slightly backwards. Pulse full and quick. Tongue dry. Mr. Stanley saw him about mid-day, and ordered a blister to be applied to the nape of the neck, and the powders to be continued every five or six hours. Continued outrageous and struggling till about ten minutes before twelve o'clock, *p.m.*, when he became suddenly calm, and died at twelve.

Sectio Cadaveris, two hours and a half after Death.—The scalp was excessively thickened, and a thin, turbid, serous fluid oozed plentifully from the surfaces, when divided. Slight purulent deposition was discovered over the left temple, on cutting into the substance of the scalp. The vessels of the dura mater were gorged with blood. The arachnoid membrane was very opaque, and elevated by serous effusion into the cellular texture of the pia mater. The substance of the brain excessively vascular. The ventricles contained a considerable quantity of fluid. Mr. Stanley, on examining the abdomen, discovered a *double hernia* on the right side; one sac opened through the external, the other through the internal, ring, and the epigastric artery ran upwards between them. The liver was dark-coloured and soft.

Neither Mr. Vincent nor Mr. Stanley appears to have much faith in the mode of treating phlegmonous erysipelas by incisions, or by punctures. The former method is not so well adapted for the face as for other parts, owing to the scars which must necessarily follow the incisions. It is better, however, to disfigure, in some measure, the patient's countenance than to let him die. But why not have recourse to punctures in cases like the above? Surely the plan is worthy of trial.

7. *Compound Fracture of the Leg, followed by Gangrene—Amputation—Death.* A carpenter, aged fifty-seven, fell on 1st December, from a scaffold, twenty feet high. He was immediately taken to the hospital. The house-surgeon found, on examination, a compound fracture of both bones of the right leg, three or four inches above the ankle. The fracture was oblique, and appeared to be comminuted, whilst the lower extremity of the upper part of the tibia, projecting through the wound, and not being readily replaced, was sawn off. The wound itself was moderate in size, and situated

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* St. George's Hospital.

in front of the tibia, immediately over the fracture, by which it appeared to have been caused. Very little bleeding had occurred. The patient was far from a healthy looking man; and although he had not led a very temperate life, yet he owned he was accustomed to get 'moderately drunk' about once in a month, or perhaps a little oftener. The wound was dressed lightly, and the limb put up in the common junk. In the course of two hours after his admission; he lay pretty quiet, but the expression on the countenance was that of much depression; and the pulse had that full round beat commonly produced by an ossified artery. (Liq. Op. Sed. gutt. xv. Mist. Camph. ℥iss. hâc. nocte.) He slept pretty well that night, and next day presented nothing remarkable. The pulse was about 90; the tongue dry and red; the leg easy, the bowels once open. Towards evening the prelude of a great and alarming change was observed; the manner was hurried; the countenance sallow and depressed; and the patient evinced altogether a morbid anxiety and restlessness. He passed a restless night, attempting several times to rise from his bed, and showed more than one of the characters of what has lately been termed, by M. Dupuytren, the delirium traumaticum. In the short interval of one day, it was perfectly astonishing to see how great an alteration had occurred. The leg, from the instep to the knee, and a little above it on either side, was mottled in appearance, and covered, about its middle third, by modena-coloured vesications, varying in size, and irregularly scattered on the surface. The foot was œdematous, but not discoloured, nor lower than natural in temperature; which latter was also the case with the limb in general. The hue of the leg above the vesications was dusky and brown, similar to that which attends the diffuse inflammation and sloughing of the cellular tissue. On pricking the vesications, serum, of a port-wine colour, escaped, and the cutis beneath had a dark and mahogany tint. The largest vesication was in front; and on making an incision through the cutis there, it bled scarcely any, and was evidently dead. On the inside and outside of the leg similar incisions were made with the lancet, each of which disclosed the cutis and subcutaneous cellular membrane more or less disorganised. The limb, the patient said, was somewhat numb, though sensation was far from being totally lost. The countenance was much collapsed; the pulse small and quick; the tongue dry, and brown in the centre. Remembering the issue of a former case, and believing that without amputation the present must be lost, Mr. Brodie, with the concurrence of Mr. Keate, proposed the operation to the patient, who readily yielded his assent. He was therefore transferred as soon as possible to the operating theatre, where every requisite preparation had been made. Previous to actually removing the limb, Mr. Brodie and Mr. Keate made several incisions to satisfy themselves and those around of its immediate condition, which having been done, and 'assurance rendered doubly sure,' Mr. Brodie performed the amputation, some three or four inches above the knee. A good deal of bleeding followed the incision, although merely that blood which was in the

limb was lost. The parts divided by the knife were apparently sound, but Mr. Brodie suspected that the deep-seated cellular tissue was affected. The femoral artery had been cut across at the spot where one or two middling sized branches arose from it; on which account more than one ligature was used, and ultimately the femoral vein was secured. The patient bore the operation well, but his manner was suspicious; and the pulse at the end was weaker, if any thing, than before. A circular bandage was applied round the thigh, and the lips of the stump brought together in a line running transversely from side to side. A single strip of plaster was passed across the centre, but on either side of that a small piece of lint was placed between the edges, and over the lint the straps were applied. Compresses, dipped in cold lotion, were employed, and the patient finally removed to bed.

On examination of the severed limb, the subcutaneous cellular membrane, from the instep to above the knee, was generally sloughy and disorganized. No suppuration had occurred, at least to any perceptible extent, the tissue being merely *dead.* The cutis and skin were not, for the most part, actually dead, but they were dying; whilst the muscles, the tendons, the inter-muscular cellular texture, the periosteum, and, in short, the deeper-seated parts, were as healthy as might be. The cellular membrane, on the dorsum of the foot, was infiltrated with serum, but otherwise natural in structure, and the skin above it was perfectly sound. The fractured bones were a good deal comminuted. Liq. Opii sedativ. M. xx. Haustus Salini ℥iss. statim. He slept for an hour after the operation; and told Mr. Lane, in the evening, that he felt pretty easy. His countenance, at this time, though anxious, was improved; pulse 90; tongue moist. Haust. Salin. ℥iss. Liq. Ant. Tart. M. x. Syrup. papav. alb. ℥j. 6tis horis. He vomited in the night, was restless and slightly delirious, and appeared on the 4th very ill indeed. The cheeks were sunk; the manner preternaturally calm; the pulse quick and feeble; tongue brown in the centre rough and dry; skin warm. The artery beat strongly on the face of the stump. The former mixture, containing antimonial wine, was now changed for six minims of Battley's tincture in saline draught every six hours. Sago, eggs, and brandy, were liberally ordered. In the evening the symptoms of sinking had made progress, and the saline, with the sedative, were discontinued, the patient merely taking the brandy, &c. In the night of the 4th he had a rigor, and was afterwards affected with delirium, so fierce as to need the strait-waistcoat. Next morning the breathing was laborious, the face hippocratic, the surface of the upper part of the body cooling, the pulse with difficulty felt at the wrist. Although the circulation was thus failing above, the femoral arteries, especially that in the right thigh and stump, were beating with a very disproportionate force. He was evidently sinking, but lingered, notwithstanding, till two *p.m.*, of the 6th, when he died.

Sectio Cadaveris.—The stump and thigh were somewhat more swollen than the opposite limb. The face of the stump was smear-

ed with a dirty greenish brown secretion, beneath which the parts had a similar sloughy hue. This sloughy appearance penetrated the muscles to the depth of three or four lines from the surface, but extended for an inch, in the cellular membrane, between the muscles, and even for more than that in the more superficial cellular structure. The cancelli and medullary matter of the bone had likewise this slonghy aspect for half an inch or more within its cavity. On cutting down to the femoral vessels in the groin, and following them on from that to the face of the stump, they presented no unusual appearance from without. Mr. Brodie removed them from the limb, and laid them open. Both were more or less filled with dark and semi-fluid blood, and both presented on their internal coats a deep, and nearly a blood-red dye. This was totally unlike the *injected* and rosy appearance produced by inflammation, and was clearly a *staining* of the coats in contact with the semi-fluid blood, similar to that which is frequently observed in those who die of inflammation of the veins. The extremity of the artery next to the ligature was filled with a firm and sufficient coagulum; the coats of the vessel were thin and brittle, the internal parts converted into rings, half-ossified, half-cartilaginous. The lining membrane of the heart, especially the right chambers of the venæ cavæ, and even of the aorta, was more or less tinged, the blood being in all fluid, or nearly so. The whole arterial system had a tendency to 'ossification,' and the formation of the atheromatous deposits between the internal and middle coats. The liver, the abdominal viscera in general, and the lungs, were as healthy as they well could be. The head was not examined.

8. *Case of hypertophy of the Heart* *.—The subject of this case was a man, twenty-nine years of age, who stated that he had been subject to palpitation of the heart for the last year. He had been bled five times with temporary advantage. The excessive action of the heart was evident both to the eye and to the ear. The impulse was felt all over the chest, and the sound was so loud that the contraction of the auricles could not be heard. He occasionally felt pain across the chest, and had cough and difficult respiration. He lay most easily on the left side. He was fatigued by the slightest exertion. The pulse was 96 in a minute, and strong. His countenance was natural. He was again bled to the amount of sixteen ounces; and, the bowels having been opened by aperients, he was ordered fifteen minims of digitalis twice a day, in mucilage. Under this treatment the symptoms abated in some degree, for a few days, but they soon returned as violent as ever. He continued in the hospital from the 26th of March, until the 6th of July, gradually getting worse. He was several times bled during this period, without any great advantage. He latterly had occasional expectoration of blood. On the morning of the 6th of July, on making an effort to reach the close-stool, he suddenly lost all sense and power of motion. The face became livid; pupils

* Westminster Hôpital.

dilated; respiration stertorous; and he expired in a few minutes after the commencement of the paroxysm.

Sectio Cadaveris, thirty hours after Death.—The mucous membrane of the larynx was rough and thickened; the trachea and brachiæ of pretty natural appearance, except that the smaller branches of the latter contained a few clots of blood, and much inspissated mucus. The lungs crepitated, nearly throughout; they did not become collapsed on opening the thorax, and were found engorged with bloody serum, which flowed out in great quantity when the lung was cut into. The branches of the pulmonary artery appeared dilated. The heart was found of enormous size; at its base, the diameter was six inches, the circumference fifteen, and from the tip of the right auricle to the apex of the left ventricle, were seven inches; none of the cavities were greatly dilated. The walls of the left ventricle were, probably, an inch and a half thick; all the valves appeared healthy, except the semi-lunar valves of the aorta, which were thickened, and puckered up into fringed edges. The inner membrane of the arch of the aorta was tinged with a deep blush, rough, and thickened, and containing numerous minute ossific points; the area of the vessel was not enlarged. The abdominal viscera appeared healthy, except the liver, which was of larger than ordinary size.

9. *Penetrating Wound of the Abdomen* *—A stout, muscular butcher, twenty-five years of age, was admitted Nov. 11, under the care of Mr. Guthrie. Being intoxicated, he fell down, and a knife, which he carried in his pocket, pierced his abdomen immediately below the left inferior rib. About five inches of omentum protruded through the wound. This was returned with some difficulty. The external wound was about an inch in length; that in the peritoneum scarcely a third of an inch. A suture and sticking-plaster were applied, to keep the lips in apposition. He was at midnight carried to the hospital, where he was placed in bed. He soon became very cold, but was relieved after a while by warm drinks and mustard cataplasms. At three, *a.m.* he was left to the care of the nurse. At six, *a.m.* his pulse was 100, full and strong; great pain and tension of abdomen existed, and pressure from without, or the compression occasioned by an inspiration, were hardly endurable. Twenty ounces of blood were abstracted by Mr. Lant Smith, and the tension was relieved. Twenty-five ounces more were taken away, when syncope supervened. Upon recovering he expressed himself much relieved. Pulse 110, smaller and soft. Eight, *a m.* He is free from pain, except in the neighbourhood of the wound; pulse perfectly soft and compressible. (Calomel, gr.v. Opium, gr. i. to be taken immediately, and a common clyster to be given two hours afterwards.) Two *p.m.* The pain in the abdomen has recurred with violence. Pulse 110, full and strong. (Venesection to sixteen ounces. Two table spoonfuls of castor oil to be taken immediately. A clyster to be injected every four hours. Hot fomentations considerably alle-

* Ibid.

viated the pain.) 12th. Slept a good deal till about five o'clock this morning, when the pain returned in the region surrounding the wound. He has now constant pain. Pulse 112, small and compressible. Thirty leeches to be applied to the part. The bowels freely moved. At one, *p.m.*, he was seen by Mr. Guthrie, who ordered sixteen ounces of blood to be taken from the arm. The pulse became feeble, 90. In an hour after, the pain and difficulty of breathing continuing, he was cupped to eight ounces. After this the patient expressed himself relieved. (℞. Magnes. Sulph. ℥j. Aq. Menthæ pip. ℥iv. M. Cap. Cochl. j. mag. omni semi-hora.) At eleven *p.m.* complains of pain round the umbilicus. Pulse 96, small and hard. (Applicentur Hirudines, xxx. parti dolenti. An enema of gruel and common salt to be given in the course of the night.) 13th, at seven in the morning. He has slept at intervals during the night. Pulse 116, small and hard. Bowels open. Severe pain in the hypogastrium, extending along the dorsum penis. He can bear pressure on the other parts of the abdomen. Respiration rather laborious; countenance anxious. (Twenty leeches to be applied to the hypogastrium. ℞. Calomel, gr.iv. Opii, gr.j. Conf. q. s. fiat bolus statim sumendus.) Five, *p.m.* Seen by Mr. Guthrie. Countenance strongly indicates nervous irratibility; lips pallid; pain below the navel; dysuria; frequent desire of micturition. Bowels confined; great irritability of stomach; pulse 120. (Repeat the Calomel and Opium bolus. Castor Oil to be taken every two hours.) 14th. Passed a restless night; sickness has continued; and he now rejects every thing that is given. Abdomen tense, pulse frequent and thready. At noon he died.

Sectio Cadaveris, twenty-eight hours after death.—A careful scrutiny was made of the whole alimentary canal, in the expectation of meeting with an aperture; the transverse arch of the colon was accidentally punctured by the gentleman who conducted the examination, but no other solution of continuity was found. The peritoneum, both visceral and parietal, was slightly inflamed in patches, most considerably in the transverse mesocolon, and the plica splenis, which were minutely injected. Adhesions of the omentum had taken place round the margin of the wound. The other viscera of the abdomen, and those of the thorax, were sound.

10. *Case of Lithotomy, attended with some difficulty.* By Mr. Wickham *.—George Lock, æt. four years, was admitted with calculus in the bladder, into the Winchester County Hospital, November 12th, 1828. The symptoms of stone had commenced when he was about fourteen months old; his health was otherwise good, but he was somewhat emaciated from continued and very great suffering. Nov. 25. The process of sounding being duly accomplished, and the existence of a stone having been distinctly ascertained, the operation proceeded as follows:—By one plunge of the knife the first incision was effected, and the urethra opened near the prostate gland; the beak of

* Medical Gazette.

the gorget was at once lodged in the groove of the staff, and passed onwards into the bladder. The arrival of the gorget in the bladder was not announced by a gush of urine, as it had been voided entirely on the introduction of the staff. Mr. Wickham now passed his finger at once into the wound, and felt the stone at the fore and upper part of the bladder, towards the pubes. He then introduced the forceps, and felt the stone in the situation he had found it with his finger, but it was not bared, a substance evidently intervening between the forceps and the stone. He withdrew the forceps, and again passed his finger, but did not feel the stone exposed. At the moment he conceived that the forceps and his finger on its second introduction, had found their way between the bladder and rectum. He next introduced the staff, and passed his finger along it into the bladder, by which he was immediately conducted to the stone; but he thought the opening had not been made sufficiently large by the gorget, therefore dilated it by a very slight effort with his finger; the stone being completely exposed, he passed in the forceps again, and took away the calculus without any difficulty. The time occupied by the operation was eight minutes. The boy bore it well.

No untoward symptom occurred afterwards until about the eighth day, when the water returned to its accustomed course, which was attended by severe pain, the boy screaming very loudly at each effort to make water. This continued till the fourteenth day, the wound having appeared foul, and the surrounding parts inflamed for two or three days previously, when a substance came away from the wound, having the following appearance:—It is a cyst, apparently of the same structure as the bladder; its size is sufficient to contain the calculus, which weighed two drachms; the opening into it is just large enough to admit of its exit, and its whole internal surface is lined with calculous matter, in fact, studded with large pieces of calculi. Since the coming away of the cyst, the wound has continued to improve in appearance daily, and is now (December 27) nearly healed. The water passes in its natural channel.

Mr. Wickham has no hesitation in pronouncing the substance voided by the wound to be a cyst, in which the stone was contained previous to the operation. Its appearance, its size, its being lined with calculous matter, and the opening into it being ragged, and just large enough to admit of the stone passing out of it, are circumstances decisive of its nature. By every examination the stone was found to be in the same situation, and by several surgeons in the country, previous to his admission, it had been pronounced that no stone existed. The existence of the stone in the cyst, by which it was almost wholly covered, produced the embarrassment in the operation. It is evident that the gorget opened the bladder *sufficiently*, or the stone could not have been taken out. It is also clear that the forceps and finger were *really* passed *into the bladder*, and not, as *feared*, *behind* it, but that they overreached the only part of the stone which was exposed to the cavity of the bladder.

The difficulty in this case was much increased by the youth of the child, and consequently the incomplete development of parts, by which one part could hardly be distinguished from another. The urine also escaped before the introduction of the gorget, which rendered its entrance into the bladder doubtful.

11. *Case of Transfusion.*—We will not say that transfusion may not be usefully employed in some extreme cases; nay, we will admit that it may probably be beneficial in cases which are not extreme. It appears to us that the remedy may be resorted to with advantage in several affections besides exhaustion from hemorrhage. If it may be employed beneficially in exhaustion from loss of blood, why not in cases of exhaustion from fever, diarrhœa, and many other maladies? But while we admit that transfusion may be used to advantage in such affections, we must be allowed, at the same time, to state, that we are not satisfied that the operation was absolutely required in a single instance, in which it has been hitherto performed. We mean so far as the cases which have been published are concerned. It may have been had recourse to necessarily and advantageously in cases of which we have seen no account. In all these, of which we have read an account, where transfusion was employed, the impression on our mind has been, that the administration of brandy would have answered the purpose equally well. In cases of uterine hemorrhage, in which transfusion is likely to be had recourse to, the flooding must either be still going on, or it must have ceased. If it be still continuing, the quantity of blood which ths operator is able to inject into a vein, must bear a very small proportion to that which is lost by the vessels of the uterus. The patient will very soon sink, in spite of the few ounces of blood thrown into her vessels. Stimulants, under these circumstances, might induce the uterus to contract; whereas transfusion is not calculated to do so. We have, in numerous instances, administered brandy, under circumstances of this nature, and we have never seen it increase the hemorrhage. On the contrary, it generally induces a contraction of the uterus. The organ at first expels the blood which it already contains, thereby making it appear as if the hemorrhage increases in consequence of the administration of the stimulants. But the hemorrhage will generally diminish, after some minutes, under the use of the remedy. In very few cases, indeed, is transfusion required when the hemorrhage has already ceased. Under a judicious use of stimulants and mild nutritious diet, it is surprising how rapidly patients generally recover their strength, after exhaustion from uterine hemorrhage. It is in cases where they have been too much debarred from nourishing food and a moderate use of stimulants, after flooding, that we find anasarca, headachs, permanent debility, and the usual train of affections consequent on exhaustion from loss of blood, take place. The rationale appears to be, that the digestive and nutritient functions are generally healthy, and the system free from any actual disease in parturient patients. They only require the elements of blood, namely, nutritious food, to enable them to repair the loss sustained from the

hemorrhage. The solids have suffered no loss; the tissues are perfect and healthy; the system is not reduced by interstitial absorption, and the exhaustion, if not more apparent than real, will, at all events, admit of cure in a much less time than debility brought on by almost any other cause. We have been induced to offer these remarks, from noticing the following account in the *Lancet*:—

'Dr. Blundell, on the 7th inst. performed the operation of transfusion on a lady at Walworth, assisted by Mr. Poynter (of Somerstown), Mr. Davies, and Mr. Lambert. The circumstances of the case were briefly as follows:—The patient, a delicate woman, twenty-five years of age, the mother of two children, was taken in labour on the morning of the 7th; Mr. Poynter had been engaged to attend her, but it was found necessary, before the arrival of this gentleman, to call in Mr. Davies. There was nothing remarkable in the labour; the child presented naturally; the placenta came away entire in the course of a few minutes, and the patient remained for about an hour and a half, to use her own expression, "quite comfortable." An alarming state of collape somewhat suddenly ensued, and it was found that considerable hemorrhage had taken place from the uterus; pressure was made on the abdomen; ice was introduced into the vagina, and various means employed. No further discharge of blood took place, but the patient was in an extreme state of prostration, blanched, and perfectly bloodless in appearance; the pulse not higher than 120, but sometimes almost imperceptible. Stimulants (brandy and port wine) were freely given, but with no marked benefit. In this state of affairs Dr. Blundell arrived, and determined on transfusion, observing, that although there were some symptoms absent, which were necessary to make the case one of an extreme kind, namely, a greater rapidity of pulse, and restlessness; and although there was a *possibility* of the patient recovering, as the hemorrhage was restrained, yet looking to the exhausted state of the patient, and the slight temporary benefit that had accrued from the use of stimulants, he thought the balance was against her, and that it was desirable to give the pabulum vitæ,—*blood*. About eight ounces, procured from the arm of Mr. Davies, were injected at different times—the whole operation occupying upwards of three hours. It was not until the whole quantity had been thrown in, that there was any decided amendment in the condition of the patient; she then rallied, and became, in every respect better. Her convalescence has been gradual, and at this time, eleven days after delivery, she is doing well. The lochial discharge has returned within the last three days, and she says that she feels stronger and better than in the same lapse of time, after her two previous labours. There has been some tumefaction, and likewise pain of the arm, in which the transfusion was made; but these have subsided. It is worthy of notice, that the patient expresses herself very strongly on the benefits resulting from the injection of the blood; her observations are equivalent to this—that she felt as if *life* were infused into her body.'

12. *Bleeding in the Cold Stage of Intermittent Fever.* — Dr. Stokes, in the Edinburgh Medical Journal, gives an account of several cases in which bleeding was practised in the cold stage of ague. These cases are accompanied by some remarks on the general effect of the remedy on the different stages of the disease. *Effects of Venesection on the rigor*—checking the rigor altogether; momentary suspension of the rigor; checking the rigor, after a certain quantity of blood was drawn; its return in a mild degree; diminution of its intensity, but not of its length; relief of the local symptoms alone; prolongation of the rigor without diminution of intensity; no apparent effect; disappearance of the rigor on the fourth pyrexial day after the operation, but persistence of the symptoms indicative of internal congestion. *Effects on the Hot and Sweating Stages.*—The effects of bleeding in the cold fit upon the subsequent stages were—the hot stage being rendered milder; hot stage not distinct; sweating rapidly succeeding; increased severity of the hot fit; increased length of the hot fit; sweating stage rendered milder; non-appearance of the sweating stage; increased length and severity of the sweating stage; non-appearance of either hot or sweating stage; no apparent effect on either stage. *Effects on local Symptoms.*—The local symptoms indicative of internal congestion yielded invariably, with great rapidity, to venesection; and often, before the operation was finished, they totally disappeared. The patients who had dyspnœa, cough, oppression about the præcordia, or bronchitis, the remedy had also a very decided effect.

But the practice was followed by some untoward circumstances in some cases. These were the occurrence of *new local inflammatory symptoms*, and the *supervention of a low irritative fever*. The inflammatory affections were gastritis, tonsilitis, inflammation of the submaxillary glands, and pneumonia. In one case in which bleeding was resorted to in the cold stage, the patient died 'with symptoms of pneumonia and softening of the brain.' The following is the detail of the case:

John Casey, aged forty, a labourer, was admitted on the 18th of July, suffering under a severe quotidian fever of four days standing, which was preceded by symptoms of continued fever for a week. He complained of severe cough, which affected him during the apyrexial state, and in the rigor. On the following day, he was bled to sixteen ounces in the rigor, the effect of which appeared to be a great increase of the severity of the paroxysm. The rigor continued for an hour after the operation, the hot stage for half an hour, and the sweating for three hours. Next day, however, the rigor did not appear; his pulse was regular; the cough trifling; and his appetite had returned. The disease appeared to be cut short completely. On the 22nd, he complained of cough at night, accompanied by sweating; his tongue was whitish. By percussion and the stethoscope no disease of the lungs could be detected. 24th. Great debility since yesterday; pulse 88, soft, full, and vibrating; tongue white; perspired copiously this morning.—*(Capiat. Sulph. Quinine gr. decem.)* 25th.

Cough severe; other symptoms as yesterday; respiratory murmur in postero-inferior portion of right lung marked by the crepitating râle. (Omittatur Quinina. Venesectio ad uncias duodecim. Tart. Antim. semi granum omni hora. Hirud. duodecim lateri dextro.) 26th.—Much relieved; has not coughed since the bleeding; crepitus greatly diminished, with return of the respiratory murmur.—(Vesicat. lateri.) 28th. Dejection and great debility; extreme unwillingness to move or answer questions; tongue clean at the edges, furred in the centre.—Extract Hyoscyami grana sex.—Beef tea. 29th. Considerably better; pulse 72; tongue clean. 30th July. Same state as on the 28th. From this day he gradually became worse; the feet swelled; his cough returned with severity; his respiration was hurried; abdomen tympanitic. He became nearly insensible on the 5th of August; his eyes were fixed; skin cold and clammy; pulse small and weak. He frequently was observed to place his hand on the right side of his head. On the following day he was found paralytic in the left upper and lower extremities. He still, however, retained a slight power of motion; lower extremity much swollen; temperature diminished; speech inarticulate; respiration high and hurried; right sterno-mastoid acting strongly; left, apparently paralyzed; no difference in the pupils, but the sight of the left eye appeared lost. He died on the 8th.

Dissection, thirty-six hours after Death.—But little emaciation; skin of a dirty yellow tint; œdema of left lower extremity continues; no appearance of putrefaction. *Head.*—No increased quantity of blood on raising skull-cap; dura mater healthy; some serous effusion in arachnoid; pia mater vascular. The substance of brain in left hemisphere perfectly healthy; no effusion in ventricles; optic thalamus and corpus striatum healthy. Extensive ramollissement of the right hemisphere, the two anterior thirds of which are converted into a substance of the consistence of thick cream, and of a dirty greyish colour. The convolutions were not destroyed on the surface of the brain, but the alteration commenced at about a quarter of an inch below the arachnoid, engaging the corpus striatum and subjacent cerebral substance. Optic thalamus healthy; no disease in the cerebellum, pons varolii, or medulla oblongata. *Thorax.*—About a quart of serum on each side of the chest; lungs collapsed. Right lung, superior lobe completely solidified. When cut into, its substance soft, friable, and of an ash-grey colour; when broken down, a quantity of fluid of the same colour and consistence of cream exuded; no trace of tubercles; middle lobe perfectly healthy; posterior portion of the inferior lobe solid, firm, and red. Left lung, posteriorly, greatly engorged with venous blood; anteriorly, œdematous; trachea filled with red frothy fluid; its mucous membrane vascular in the intercartilaginous spaces. Heart enlarged, upwards of a pint of serum in the pericardium; left ventricle considerably enlarged, its capacity increased; left auricle dilated; no disease of the valves. *Abdomen.*—Peritoneum healthy; some reddish serum in the pelvic cavity; liver hardened, universally mammillated;

its concave surface presenting a black colour, affecting the hepatic substance to the depth of a quarter of an inch, and extending from the edge two and a half inches upwards. Omentum of a black colour. This appearance is produced by the existence of small solid bodies between its layers; these are larger than the head of a pin, and resemble dried ink. Spleen hard and black on its concave surface, but becoming soft and red towards the convex; some red spots in the large end of the stomach, the mucous membrane of which is thickened and soft. Duodenum, jejunum, and ileum healthy; mucous membrane of colon thinned and softened.

Effect of the practice on the type of the Intermittent.—In all the instances in which the type of the malady was altered, after the bleeding in the cold stage, it was changed either to a continued fever, or to a form in which the paroxysms were more frequent than in the original type. Dr. Stokes is disposed to think that the practice, when it does change the type of the disease, has a tendency to convert tertian into quotidian, and quotidian into remittent or continued fever. He never saw an example of the converse, or in which quotidian was converted into tertian.

13. *Puerperal Fever* *.—Dr. Cusack divides puerperal abdominal inflammation into three species. The first is one of decidedly phlogistic character, resembling in every respect the ordinary form of peritonitis arising from wounds or other similar causes; accompanied by fever of a highly inflammatory type. The second is inflammation of a low character, accompanied with great prostration of strength, and with fever of the lowest typhoid nature. The third consists in inflammation of a character intermediate between the two above-mentioned, in some particulars resembling, and in others differing from both.

The first, or inflammatory form of the disease, is met with among patients of sound constitutions, who have, perhaps, previous to parturition, enjoyed unimpaired health. It may be brought on from cold, the use of food unsuited to the patient's condition, or from various other causes. It has, according to the author, two characteristic symptoms, which are constant and uniform in their occurrence. One of these is extreme hardness and incompressibility of the pulse; the other, abdominal pain and tenderness. The morbid appearances found on dissection, in this form, are chiefly, but not exclusively, seated in the abdomen. On laying open that cavity, a considerable quantity of inodorous gas usually escapes. The most remarkable feature is the large quantity of serum effused. This fluid is of a wheyish colour, mixed with an immense quantity of lymph, either diffused through it in small flakes, or in large soft masses. The quantity is enormous, amounting sometimes to quarts. The intestines are coated with a thick layer of lymph, by which they are often agglutinated together, so as to form cavities containing this mixture of lymph and serum, or a fluid of a sero-purulent nature. Those appearances are usually more remarkable in the vicinity of the uterus than elsewhere; they are

* Dr. Cusack.—Ed. Med. and Surg. Journal.

not, however, confined to any one part of the abdomen, even the peritoneal investment of the liver and draphragm being often found coated with lymph.

The second, or low form of the malady, differs materially from that just described, being of the typhoid character. Patient's among whom it occurs, are usually quite differently circumstanced from those who are the subjects of the first. It is much more prevalent at one season of the year than at another, being sometimes quite epidemic. All the exciting causes which tend to give rise to typhoid fevers and erysipelas, are also favourable to the development of this species of abdominal inflammation. Its symptoms are very different from those of the first form. There is sometimes a complete absence of pain. The pulse is excessively weak and compressible. All the symptoms indicate extreme exhaustion. The countenance shows signs of great suffering. Its expression is characteristic. It differs from that observable in the first species, being indicative of exhaustion and anxiety, rather than of pain. The pathology of this form of inflammation is quite characteristic, being of a nature totally different from that of the foregoing species. In this the copious effusions of lymph, which present themselves in the other species, are not to be met. The effusion into the peritoneal cavity is moderate in quantity, amounting sometimes not even to a pint. Its nature is peculiar, being sometimes of a dark aqueous appearance, perfectly free from any traces of lymph, presenting somewhat the appearance of stale beer; sometimes it is of an oily purulent appearance; but the peculiar and remarkable seat of disease which has been observed in some of the best marked cases of this low form of inflammation, is the subserous and the pelvic cellular tissue. Two kinds of effusion are met with in the cells of those tissues, one a reddish serum, occasionally so copious as to pervade not only the cellular tissue about the uterus, the pelvic cavity, and the iliac regions, but even sometimes to distend the cells of the delicate cellular tissue, which connect together the two layers of the mesentery. The other species of effusion is not of so fluid a nature, resembling jelly in appearance and consistence. This also occupies the cellular tissue, and is most conspicuous where the looseness of the peritoneum admits of freer effusion. Thus the lax nature of the cellular tissue connecting the layers of the peritoneum, which form the broad ligaments of the uterus, admits of its being poured out in considerable quantities in that situation. The uterus frequently is softened and flabby; that diseased state, just described, extending to its interstitial cellular structure. Darkly coloured, softened patches are often observable in different parts of both small and large intestines. The ovaries in some instances undergo a remarkable change, becoming much enlarged and quite altered in appearance, and converted into a soft mass, of the consistence of coagulated blood, so that those bodies seem to undergo a process resembling the *ramollissement* of other parts. This softening takes place to such a degree that it is almost impossible to take them in the hand without destroying their texture; and this softening is not the only morbid

appearance in the ovaries, as they often are much enlarged, equalling the size of a large apple.

The third form of the disease resembles the first in being characterized by the violent abdominal pain and tenderness on pressure, a symptom never absent, and which may be considered as the essential one of this form of the inflammation. It resembles the inflammatory form of the disease also in the increased temperature of the body, and by the absence of that sensation of weakness and collapse which ever accompanies the second or typhoid form. It differs from each form in the character of the pulse, which neither possesses the hardness and imcompressibility peculiar to that of the first, nor sinks into the weakness and compressibility of that of the second. The condition of the tongue and of the digestive system is the same as in the inflammatory species.

The following three cases afford an example of each of the three varieties of the disease, and of the plan of treatment adopted for each variety:—

Case 1.—E. Cuming, aged thirty, a robust healthy female, was delivered on Wednesday, at five, *p.m.*, after an easy natural labour. She remained perfectly well till Friday morning, when she was attacked with rigors and violent abdominal pain. When visited, although under the influence of opium, which had been injudiciously administered, she was painfully sensible of the slightest pressure on the abdomen. Her limbs were drawn up on the abdomen, which felt exceedingly full. The pain was much aggravated by motion of any kind. Her countenance flushed; tongue white and loaded; bowels had not been evacuated since delivery; skin hot and dry; pulse 160, small, incompressible, and vibratory. Venesection was performed without altering her position (supine). When about twenty ounces of blood had been abstracted, she was raised into the erect posture; and when about five ounces more of blood had flowed she became quite faint. The vein was then closed, and she was placed in the horizontal position. A powder (fifteen grains of jalap and ten of calomel) was administered, and followed in two hours by a draught of the infusion and tincture of senna and sulphate of magnesia. In the evening her pulse was 120, full and soft; bowels not yet acted upon, but were freely during the night; and on the following morning did not complain of pain, but only slight tenderness in the abdomen on pressure; pulse was of the same frequency and character as the preceding evening; tongue beginning to become clean round the edges. She was ordered to take three grains of calomel every third hour. In the evening there was not any return of abdominal pain, but she complained of intense headache; the surface of her tongue, wherever the white coating was absent, was of a florid redness. The hair was removed from her head and cold applied; calomel continued during the night, and was followed in the morning by a draught of castor oil. The next day she was perfectly free from pain; pulse 85, soft and full; slight ptyalism. From this period she gradually recovered.

Case 2.—Mary Litton, aged thirty, was delivered, after a natu-

ral labour, on the 21st of April. This was her first pregnancy. Her health had, for some time previous to her confinement, been considerably impaired, and she had also suffered considerable mental anxiety. The practitioner who attended her, struck with her miserable appearance, gave directions that he should be instantly summoned in the event of hemorrhage, or of any other change of importance. On visiting her the next morning, he was surprised to learn that, in the course of the night, there had been considerable hemorrhage, followed by nausea, chillness, and great prostration of strength. She did not complain of any pain, and was merely directed to take some mildly aperient medicine. On the third day after her delivery the author visited her for the first time. The ghastliness and sunken expression of her countenance were strikingly remarkable; her skin was of a dull sallow colour; the tongue a light brown shade, but without any coating. On inquiring into her ailments, she did not complain of pain, but only of weakness and exhaustion, and total deprivation of sleep since her delivery. She had vertigo, unaccompanied, however, by headach; was much distressed by flatus. On making rather strong pressure, some uneasiness was caused in each iliac region. Her bowels had been freed by the medicine; pulse 130, small, and excessively weak; occasional chills; skin covered with a cold clammy moisture. Twenty leeches were ordered to be applied to her abdomen, to be succeeded by a blister immediately on their ceasing to bleed; five grains of calomel, with half a grain of opium, to be taken every second hour, and small quantities of wine in arrow-root and whey to be used frequently in the course of the day. The leech-bites did not bleed more than usual; but at the next visit on the following day (the fourth after her delivery) the patient appeared to have been much weakened. Pulse scarcely perceptible; extremities cold; clammy moisture, diffused generally over the surface of her body; stomach regurgitates without effort all ingesta. At ten o'clock, *p.m.*, she expired.

Post-mortem Examination.—Large spots, resembling those seen in purpura, were scattered over the integuments of the anterior surface of the thorax, and of those parts of the body which were most elevated as the patient lay in bed. On opening the abdomen the intestines were found much distended with an inodorous gas; but there was not any vascularity observable either in their structure or in the peritoneum of the abdominal parietes; neither was there any effusion of lymph. Towards the lower part of the abdomen, within the peritoneal cavity, about one pint of an oily purulent fluid was found. The reflections of the peritoneum, which form the broad ligaments of the uterus, were completely separated by a transparent gelatinous fluid; and the peritoneal investment of the iliac and psoæ muscles was detached from those muscles by a similar effusion. The pelvic cellular tissue was distended by the same substance. On making incisions for the purpose of ascertaining the nature of this effusion, it did not escape in a fluid form, but was of the consistency of jelly. The cellular tissue of the other parts of the body which were examined was quite free from this effusion, or from any morbid appearance. The ovaries had undergone a most remarkable change; they were much enlarged,

and altered in appearance; they were of a dull brown colour, and so much softened, that in taking hold of them for the purpose of removal, one was broken in the hand.

Case 3.—Mrs. Campbell was delivered of her first child on Thursday, 6th March, at nine, *a.m.* The child was born at the expiration of the fourth hour from the commencement of labour, but the placenta was retained for more than an hour, and at length removed by the hand. On Friday she suffered a good deal from after-pains, but in other respects was quite well. The following day, slight tenderness in the abdomen was perceived on pressure, but it was not looked upon as very serious. She was directed merely to take some purgative medicine. On Sunday she was exceedingly ill. Much pain in the abdomen was complained of. In every part it was exceedingly tender to the touch, and the uterus was felt much enlarged; pulse frequent, but not hard; tongue furred; countenance languid. Twenty-four leeches were ordered to be applied to the abdomen, and three grains of calomel to be taken every third hour. This night the pain was so violent, notwithstanding the leech-bites had bled profusely, that a fatal result was anticipated. On Monday a remarkable improvement had taken place; the pulse considerably less frequent; abdominal tenderness and pain much diminished; bowels much affected by the pills. She was ordered a draught of castor oil, with peppermint water and oil of caraway. On Tuesday the pain was still further diminished, and the pulse lessening in frequency. The calomel to be used in combination with opium. From this time the pain gradually subsided, and the use of colomel continued till ptyalism was produced; the cervical glands became swollen, and her general health was much impaired. She was ordered to the country, and has since returned in perfect health.

14. *Case in which the passage of the Fœtus was obstructed by a Stone in the Bladder* *.—On the 25th of June, at nine o'clock, *a.m.*, Mr. Threlfall, one of the Surgeon-Accoucheurs to the Liverpool Ladies' Charity, was requested by his colleague, Mr. Batty, to visit Ellen Griffiths. It appeared that the midwife had been sent for on Friday evening, when she was informed that labour pains had come on the night before. The woman, however, expressed herself as then easier, refused to submit to examination, and requested the midwife to go home. At three o'clock, *a.m.*, Saturday, she was again called, and found the pains strong. She discovered a large tumour occupying the whole pelvis, the lower part of which (the tumour) seemed firmly adherent, the upper moveable. The mass was soft to the touch, but, on pressure, a hard substance, 'the size of a tea-cup,' was distinctly felt. She could not reach the *os uteri*. Pain on pressure was much complained of; and, indeed, the whole examination was accompanied with great uneasiness. At four o'clock the membranes were ruptured spontaneously, and a considerable quantity of water was evacuated. The pains now became very strong, the hard tumour was pushed very low down, and the soft part of it was no longer perceptible. The head of the child

* Mr. Threlfall. ibid.

was first felt about seven o'clock, *p.m.* The pains continued frequent and forcing; and the head was pushed with such force against the tumour, as to occasion considerable pain to the finger if interposed. The midwife now endeavoured, but ineffectually, to push back the tumour above the brim of the pelvis; and this state of things continuing, she gave fifty drops of laudanum at two o'clock, *a.m.*, on Sunday, 25th, without, however, producing the slightest effect. At first sight of the patient, Mr. Threlfall was much struck with her blanched and emaciated appearance. She said that she was thirty-four years of age, and had suffered much for years from ill health. This statement her countenance fully corroborated. On examination, he found an irregular hard tumour, about four inches long, three broad, and of considerable thickness, occupying the lower part of the pelvis, and in direct apposition with the head of the child; it was very slightly moveable; but all attempts to raise it above the brim of the pelvis (after pushing back the head as far as possible) were completely futile. There might exist a space of about two and a half inches for the passage of the fœtus. The tumour was on the right side, in the situation of the sacro-sciatic notch; and he was fully inclined to conclude with his colleague, that it was an induration, probably scirrhous of, the right ovarium. It appeared possible that by the action of the pains, which were pretty strong, it might be pushed down into the soft parts, and the head thus allowed to pass, especially as Mr. Batty was decidedly of opinion that it had made considerable progress since the preceding evening. If their hopes in this respect should be disappointed, it only remained to use the perforator, or *perhaps* remove the tumour. As the woman's pulse was good, the pains were regular, the urine was evacuated (at least there was no tension in the region of the bladder, and she was reported to pass her water freely), they agreed to wait some hours. At ten o'clock, *p.m.*, things were in the same state. The medical attendants agreed to give the patient 100 drops of laudanum, and to meet at eight in the morning. But they were summoned an hour before that time by the midwife, who informed them that the patient was sinking. Nothing short of opening the head of the child and delivering immediately appeared likely to afford a chance of saving her. This, however, failed: she died at six in the evening. It was found, on examining the vagina, after death, that the supposed tumour was a stone within the bladder. The calculus measured $3\frac{1}{8}$ inches in length, $2\frac{7}{8}$ in breadth, and $2\frac{1}{4}$ in thickness. It weighed 6 oz. 5 dr. 34 gr.

15. *Operation for Imperforate Anus; and subsequent extraction of an Alvo-urinary Calculus from the Rectum* *. In January, 1821, Mr. Miller delivered Mrs. M. of a healthy looking male infant, in whom nothing was observed wrong for thirty hours after birth, when the child becoming very fretful, and having had no passage in its bowels, the nurse discovered, to her great alarm, that there was no anus. Mr. Miller was instantly sent for, and on a minute examination, found not the vestige of an anus, or the smallest mark

* Mr Miller, ibid.

of its situation. The meconium, too, was passed by the urethra, proving positively that the rectum terminated in the bladder. With such an unusual complication, there seemed very little hope of the child surviving. With the parents' consent, however, an operation was immediately resolved on ; and having procured the assistance of a medical friend from Perth, Mr. Miller made an incision with a scalpel in the usual situation of the anus, upwards of an inch in length, and as much in depth. A trocar, of the size for piercing the abdomen, was then pushed upwards in the supposed direction of the gut, and, fortunately, on the second trial, the meconium flowed freely by the canula, and gave rapid relief to the sufferings of the child. The canula was retained for some time in its place, but soon seemed to give the infant so much pain as to necessitate its removal. The anus thus formed executed its functions remarkably well, only requiring very close attention to keep the passage free. Sponge tents were frequently tried, in the hope of keeping open and enlarging the aperture ; but the constant suffering the infant seemed to undergo, from their use, rendered it impossible to persevere in their employment ; and the substitution of clysters of warm gruel, for a time, answered the purpose well enough. Very soon, however, in spite of every precaution, the passage contracted so much through its whole extent, as to require to be again opened with a bistoury, and that not merely at its orifice, but for some inches within the pelvis, otherwise the artificial anus would have been shut up altogether. This operation was repeated ten times before the child was eight months old. The hemorrhage, on two occasions, was rather alarming, but was soon suppressed by the use of styptics. Tents were attempted to be employed, to keep the passage open, but the child cried so bitterly every time they were used, that it was requisite to give them up.

As soon as the child began to walk, he showed an unusual propensity to eat coal cinders ; which, sticking in the passage, caused very much trouble in extracting them ; and, notwithstanding every precaution by his parents, Mr. Miller had to operate on him repeatedly from this cause alone. In operating he was careful (for fear of wounding the bladder) to turn the edge of the knife towards the sacrum, but, on one occasion, the stricture seemed so wholly in the upper side, that he was tempted to enlarge the opening a little in that direction. In doing so the bladder was slightly wounded, and ever since a portion of urine has been discharged by the anus, though the greater part has been discharged by the urethra. As his parents decidedly objected against any attempt being made to heal up this opening in the bladder, and as he seemed, in other respects, to be doing well, Mr. Miller was glad to let him alone. In fact, he continued, for a series of years, to thrive wonderfully, and, although somewhat thin, was as tall as most boys of his age, requiring no other attention than the frequent use of laxatives and occasional clysters. He possessed complete power over the *sphincter ani* from the very first ; and the anus had so much of a natural appearance, that the most minute examination of the parts failed to discover that there had been originally any

malformation. About three years ago his mother was sensible of some hard substance occasionally opposing the introduction of the clyster-pipe; but, dreading a renewal of the operations, merely mentioned it casually, so that no particular notice was taken of it; and although she was aware that the difficulty was regularly increasing, it was cautiously concealed until a few weeks ago, when, finding it impossible to procure him relief herself, and the boy having had no passage in his bowels for several days, and suffering dreadfully from pain, Mr. Miller was sent for. To his no small surprise he found, on examination, a calculus concretion, of a very large size, completely shutting up the passage, and easily felt with a probe through the orifice of the anus. As the anus would only admit a goose-quill, he enlarged it sufficiently to allow of a full examination with his finger, when, finding the stone almost to fill the hollow of the sacrum, it was useless to think of extracting it entire, as he felt satisfied that the bones alone would absolutely frustrate every such attempt. Mr. Miller provided proper instruments for drilling it to pieces, by boring in different directions. After much trouble, he succeeded in extracting the stone. Upon examining the portions which were extracted, it was found to be at least of the size of a turkey's egg, very hard and rough on its external texture, composed of three distinct substances, a stony nucleus, a superimposed spongy layer of interlaced fibrils, and an outer crust of earthy matter. It was examined and analysed by Dr. Christison, who found that the stony nucleus was a rolled *pebble of primitive greenstone*, the hornblende of which was quite distinct. It was encrusted with a very thin earthy layer. The stratum next to this was loose, velvetty, spongy, and composed almost entirely of very fine silky fibres, about a line in length, which burned like vegetable matter, and did not swell or dissolve in caustic potass. They were the *fibrils of the pencil of the oats*, discovered by Dr. Wollaston to form the spongy portion of the human alvine concretions that occur in Scotland. The external earthy crust was from half an inch to three quarters of an inch in thickness. In chemical composition it was similar to the fusible calculus or mixed phosphates. The child soon recovered after the operation.

16. *Case of Rupture of the Pulmonary Artery* *—A seaman, aged forty-six, complained, on the 2d of June, of pain in the head, principally on the right side, extending down the neck and arm to the hand, which was benumbed. He complained of having been unwell for some time, and unfit for duty. His pulse was weak but regular; countenance sallow and expressive of anxiety. There was a particular vacancy observed about the eyes. They appeared to have lost all their animation. Under the use of aperients and diaphoretics all the symptoms disappeared, and, on the morning of the 6th, he felt almost well, and wished to go to his duty. He was accordingly discharged from the sick list. In the afternoon he was carried into the sick-birth in a state of insensibility; his body was covered with a clammy perspiration; and his extremities were cold. There was no pulse to be felt at the wrist or temple, and, on

* Assistant-Surgeon Gunn, R.N., ibid.

applying the hand to the chest, the heart's action could not be perceived. Respiration was very hurried and irregular; the mouth was widely open, and surrounded with foam; and the lips were livid. By degrees the respiration became more hurried and faint, and he continued to gasp for a few minutes, when he expired.

Sectio Cadaveris.—On removing the sternum, the left side of the thorax was found completely full of blood, more or less coagulated, and the lung was collapsed from the pressure of the fluid. On removing the blood from the cavity of the thorax, it was discovered to have proceeded from the pulmonary artery. This vessel was found ruptured, about an inch and a half from its origin in the ventricle. The breach was large enough to admit the point of the little finger. Upon slitting up the side of the vessel, opposite to that on which the rupture had taken place, it was perceived that there was a circular spot of the artery, nearly the size of a shilling, much diseased, and that the rupture was situate exactly in the centre of this diseased portion. The muscular and internal coats of the vessel were completely destroyed, and nothing remained but the external tunic, which was thin and of a brown dusky appearance, clearly showing that it was diseased in structure. There was no line of elevation or distinction to be observed upon the internal surface of the vessel to mark the exact spot where the destruction of the internal and middle coats had ceased to extend, but, by holding this portion of the vessel up to a lighted candle, the disease was distinctly seen to be of the extent and appearance stated above. The piece of ruptured vessel was of an angular form, having its base still attached, so that when laid down in its natural situation, it covered the opening as a valve.

17. *Singular Case of Insanity Caused by a Fall on the Head* *.—A teacher of gymnastics fell from the top of a high stair, head foremost. He was stunned by the fall, but on the following day he complained of nothing more than pain in the head. He was in the full possession of all his senses. He continued in this prosperous state for two nights and a day, when matters suddenly took a different turn, without any fresh cause. In the course of an hour he lost his reason completely; it was impossible to fix his attention to any thing, or rather he was constantly absent in mind; in twenty-four hours more he lost the power of speech. Bloody serum issued at the same time from the ear. He continued in the same state for three days, when he was suddenly seized with a fit of epilepsy, for which he was bled without any relief. The fits recurred frequently for three days. At the end of that period tartar emetic was ordered on account of some gastric symptoms. After the operation of the emetic the fits became milder; and another emetic on the following day removed them altogether. The patient, also, for the first time, appeared to attend to what was going on around him, and he attempted to speak. The emetic system was continued for a fortnight, so as to excite vomiting three or four times a day. During this period he recovered, but with the following singular phenomena. When he first tried to speak, although he evidently had an accurate conception of what he wished to say, he could not find the

* Rust's Magazine.

correct expression, or even a single proper word; but when any one spoke the sentence articulately to him, he repeated it, and with evident satisfaction. He had exactly the appearance of a person who struggled to make himself understood in a foreign language which he spoke but imperfectly. In fact, he had lost, not the power of speech, but the knowledge of language; and, what was very remarkable, the languages which he formerly spoke most fluently he had now forgot most completely. A Pole by birth, he spoke Polish most fluently before, and had been in the daily practice of conversing with his countrymen in that tongue; but now he understood much better his German friends than his Polish countrymen. Much less could he speak Polish, while nevertheless he spoke a little German, though not without help. With the Latin tongue he seemed still better acquainted; that is, he had not forgotten it so entirely: with Greek it was different, he had forgotten it as completely as the Polish. He could read Latin or Greek authors with whose works he was formerly acquainted; but he could not translate Greek at all, or Latin without assistance. Every day, however, his command of language increased rapidly; so that passages in Latin and Greek, which were unintelligible one day, he could easily translate the next. His former facility in understanding various languages returned in the following order:— First, he recovered his command of German, then he regained his knowledge of Latin, next that of Greek; and in the last place, he recovered his command of Polish. It was also remarkable, that in no other respect was any weakness of memory observed, or diminution of judgment, or of any other faculty of the mind. The discharge from the ear bore no relation to his progress; for both when his illness was at its height, and during convalescence, it occasionally ceased for twenty-four hours without any injurious effect. It is added in the narrative, that for some years before this man was of a gloomy disposition of mind, had a timid look and yellow complexion, and often thought himself sick, but that now his expression is clear, and his temper of mind cheerful.

18. *Remarkable Symptoms produced by Belladonna**.—A gentleman who had been accustomed to take occasionally a purgative mixture, containing forty-six grains of jalap, sent to his apothecary, instead of his physician's French recipe, a translation of it by himself into Latin, in which he had used the word Belladonna as the proper equivalent for the French name of jalap, *Belle-de-nuit*. The mixture was faithfully prepared according to the formula, and taken by the patient about six in the morning. The first effect was most violent headach, commencing about an hour afterwards, affecting chiefly the orbits, and accompanied ere long with excessive redness of the eyes, face, and, subsequently, of the whole body. In a few minutes the entire skin presented a uniform redness, exactly like that of scarlatina. The patient was also affected at the same time with intense redness of the throat, and great heat, which seemed to spread throughout the whole alimentary canal. Another symptom, no less remarkable, was an extremely painful irritation of the whole urinary passages,

* Nouv. Bibl. Med. Julliet 1828.

and especially of the neck of the bladder; in consequence of which the patient, amidst a continual talkative delirium, that always bore reference to the suffering he experienced in that quarter, was constantly demanding the chamber-pot, yet each time succeeded in passing with difficulty only a few deep-red sanguinolent drops. The physician who was summoned to his assistance at ten, after discovering the error which had been committed, immediately directed a copious blood-letting, emulsive drinks, and emollient fomentations of the whole belly. The pain in the region of the bladder nevertheless continued without abatement; and the patient, fatigued by his suffering and the fruitless efforts he constantly made to pass urine, insisted that the catheter should be introduced, although he was assured that his complaint was a suppression, and not a retention of urine. In fact, during the physician's absence, he actually sent for a surgeon, and had the operation performed, but of course without receiving any benefit; a few drops only of bloody urine were withdrawn. Twenty leeches were subsequently applied to the hypogastrium; and from this treatment he experienced much relief in a few hours. He passed a quiet night, and next morning complained only of a general feeling of discomfort. M. Jolly, the relater of this case, states that he has repeatedly seen the powder and extract of belladonna cause a similar scarlet efflioresence; and puts the question whether its tendency thus to induce an affection of the skin and throat, parallel to that caused by scarlatina, will not account for the property lately ascribed to it, especially by some German physicians, of protecting the system from the infection of that disease.

19. *Incipient Hemiplegia cured by the application of Cupping-glasses along the course of the Spine**.—Madame Prota, aged twenty-four, of a nervoso-sanguineous temperament, with the catamenia irregular, consulted Dr. Beaufils in the month af January. She complained of great weakness of the upper and lower extremities of the right side, accompanied with a pricking sensation and numbness. There was loss of appetite, want of sleep; respiration frequent and diaphragmatic. The patient complained also of an insupportable pain in the right side of the head. She was bled largely from the arm, and was ordered edulcorated lemonade for drink. Dr. Beaufils, on the morrow, prescribed an aperient, from the effect of which she derived great benefit. Fifteen days, however, after this time, Dr. Beaufils was called to her again, and found her in the following state: the right thoracic member cold; so was also the inferior extremity of the same side, and so extremely weak that the patient, in attempting to walk, was obliged to drag the limb. Dr. Beaufils ordered the patient to lie down in bed, and he scarified the back, and applied glasses all the way from the cervical region to the sacrum. A considerable quantity of blood was obtained. When the operation was finished, Dr. Beaufils was greatly astonished to find his patient get out of bed, and walk without difficulty about the chamber. Some days after this she called upon him, and assured him that she felt in better health than she had ever been.

* Biblioth. Med.

GENERAL MISCELLANY

OF THE ACCESSORY SCIENCES.

1. *Pyrothonide, Mode of Preparing, and Use of.*—M. Ranque, Physician of the Hotel Dieu, at Orleans, has introduced into the materia medica, a substance produced by the combustion of linen, hemp, or cotton cloth, in the open air. He considers it useful in various inflammatory affections of the mucous membranes, and more especially in ophthalmia, urethral, and vaginal catarrh, uterine hemorrhages, and chilblains. Many physicians of the hospitals have repeated these experiments with varied results.

To prepare pyrothonide, take a handful of cloth, old or new, place it in a shallow basin, set fire to it, moving it about so that the basin do not become too hot; after the combustion is finished, throw out the ashes; at the bottom of the vessel will be found a semi-aqueous, semi-oleaginous product, of a reddish brown colour, and possessing a pungent odour. Pour upon this five ounces of cold water, which will dissolve it entirely, forming the solution of pyrothonide, which is used in a more or less diluted state, as may be requisite, for collyria, fomentations, injections, &c.

2. *Account of Christenings and Burials in London.*—Within the City of London and bills of mortality, from December 13, 1827, to December 12, 1828.

Christened, Males, 13,360.	Buried, Males, 11,112.
Females, 13,185.	Females, 10,597.
Total, 26,545.	Total, 21,709.

Whereof have died under two years of age, 6,389; between two and five, 2,326; five and ten, 878; ten and twenty, 861; twenty and thirty, 1,488; thirty and forty, 1,790; forty and fifty, 1,985; fifty and sixty, 1,845; sixty and seventy, 1,891; seventy and eighty, 1,540; eighty and ninety, 615; ninety and a hundred, 100; one hundred and seven, 1.

3. *Coffee of Acorns.*—Coffee made of acorns (says Hufeland) is less stimulating than the cinchona; hence it possesses the advantages without the inconveniences of the astringents—the stomach bears it better. In fact, it is an excellent stomachic, and its effects are not limited merely to increase of tone in the digestive organs and obstructions kept up by debility. The acorn coffee also has the property of being nutritious as shown by the *embonpoint* of those who take it.

The infusion of acorns is one of my favourite remedies in mesenteric atrophy, incipient rachitis, glandular engorgements, asthma, and cough. Continued for a long period, it is one of the most powerful means in our reach for destroying even the deepest rooted scrofulous disposition. I have often caused it to be taken six months in succession, with a success so complete that, by it alone, I have dissipated mesenteric obstructions of the worst character.—*Hufeland on Scrofula.*

4. *Resolutions of the Westminster Medical Society, relative to Anatomy.*—The following resolutions were passed at a special meeting of the Society, held a short time ago.

Resolved 1st.—That it appears from the report presented by the committee on anatomy to the House of Commons in the last session of parliament, that, by the present state of the law, the only bodies which can be legally employed for dissection, are those of persons executed for murder; and that even the possession of a body obtained in any other way is a misdemeanour.

Resolved 2d.—That this state of the law is injurious to students, teachers, and practitioners in every department of medical and surgical science, and, in the opinion of the committee of the House of Commons, is highly injurious to the public interests also.

Resolved 3d.—That the measures recommended in the report are the repeal of any existing law which would subject to penalties those concerned in carrying the proposed plan into execution—the passing of an enactment, permissive but not mandatory, declaring that it shall not be illegal for the governors of work-

houses and other public institutions, to give up to dissection the bodies of those who die, without being claimed by their friends within a certain time; and the repeal of the clause of the act of Geo. II, which directs that the bodies of murderers shall be given up to be dissected.

Resolved 4th.—That it appears to this society that petitions should be presented to both Houses of Parliament, praying for some legislative measure, which may give effect to the recommendations contained in the Report presented to the House of Commons in the last session.

Resolved 5th.—That the committee be requested to draw up petitions founded on the preceding resolutions.—*Med. Gazette.*

5. *On Blistering Infants.*—The melancholy consequences which frequently arise from the application of blisters to young children, renders every suggestion which is probable may prevent them of great importance. We find that an hour or an hour and a half is a sufficient time for a blister to remain upon a child, and although at the expiration of that time no vesication is apparent, yet, if the part be covered with any mild dressing or a poultice, a sufficient degree of irritation will be observed in a few hours time, in fact quite sufficient for the peculiarly delicate and susceptible constitution of children. When the emplast. cantharides has been employed in this manner, we have never witnessed any alarming result.

6. *Menyanthes trifoliata, as a substitute for Hops.*—M. Yosy communicated to the Medico-Botanical Society, that the above-named plant is used in Germany as a substitute for hops, and contains the bitter principle in greater abundance than the humulus lupulus. The leaves should be gathered in the spring and dried in the shade.

It is also employed in brewing porter in Sweden, and it is said to have been introduced there by an English sailor, in 1789.

For this communication, the Society presented to M. Yosy their silver medal. —*Transactions of the Medico-Botanical Society, No.* 1.

7. *Duration of Human Life in Russia.*—Cases of longevity are not only much more common, but also more extraordinary in respect to a greater duration, in Russia, than in any other part of Europe; thus, from the report of the holy synod, published in 1827, it appears that there were living in 1825, among those who professed the Greco-Russian religion throughout the empire, not fewer than 848 males, who were 100 and more years old, among whom 32 had passed the age of 120; 4 others were between 130 and 135 years of age. Out of 606,881 males, who died in 1826, 2785 had passed the age of 90 years; 1432 that of 95; and 818 that of 100. Among the latter, 38 were more than 115 years of age, 24 more than 120; 7 more than 125, and one was 160 years old at his death.—*Medical Gazette.*

8. *Luminous Animalculæ, account of.*—Capt. Home, R.N. F.R.S. has communicated to the editor of the Quarterly Journal of Science, &c. the following interesting fact. The brilliant light which is often observed upon sea-weed thrown upon the beach, he has ascertained to be occasioned by a minute body adhering to the sea-weed called *Seratula volubilis* by Ellis, the *Clytia volubilis* of Lamoroux.

These little bodies are engraved and described by Ellis, in the *Philosophical Transactions*, Vol. VII, but they have not before been described as luminous.

9. *Astonishing Virtues attributed to Stachys Palustris, or Marsh Woundwort.* The roots of the stachys palustris have been recently introduced as esculent. The leaves of this plant formerly were very valuable in the surgeon's hands, if we may credit what old Gerarde states in his herbal; one of the cases he relates in the following words:—

"In the like manner I cured a shoemaker's servant in Holborne, who intended to destroy himself. First he gave himself a most mortal wound in the throat, in such sort that when I gave him drink it came forth at the wound, which likewise did blow out the candle; another deepe and grievous wound in the brest with the same dagger, and also two others in the abdomine or the nether belly, so that the zirbus, or the fat commonly called the caul, issued forth with the guts likewise, the which mortal wounds, by God's permission, and the

vertues of this herbe, I perfectly cured within twenty daies, for the which the name of God be praised."

The mode in which he used it, was by giving the juice of the leaves internally. and applying an ointment made from them to the wounds.

10. *On a New kind of Salad.*—M. Bosc states, that three or four years since some grains of Indian cress (*Sisymbrium Indicum.* Linn.) were sent from the Isle of France to the Jardin du Roi, and, having multiplied exceedingly, were tried by him as salad for the table, and have been judged of very favourably in consequence of their power of yielding salad during the winter.

Indian cress forms small patches on the ground about three inches in diameter; its leaves are very numerous, are irregularly pinnated, have nearly round folioles, and about three lines in width; the flowers are small, white, and disposed in axillary and terminal pannicles; they begin to fade about March.

The qualities which render this cress desirable for cultivation in our gardens, as a salad, are—1st. That it is eminently antiscorbutic and depurative; 2d. That its leaves are more tender and less acrid than those of other cresses, used as salads; 3d. That it does not suffer from the hardest winters; does not require watering to ensure or favour its growth; and will supply leaves during the winter, and especially in spring.

It is necessary that the seeds should be sown in ground in which none have been grown for some years preceding; its culture does not differ essentially from that of the corn-salad.—*Ann. de l'Agriculture Franc.* xli.

11. *Preservation of Eggs.*—Cadet indicated the preserving power of lime-water over eggs immersed in it, and suggested that a solution of muriate of lime would probably answer the same end. Dr. Hopff has verified this conjecture. He finds that eggs fully immersed in a solution of thirty grains of muriate of lime in one pound of water, and preserved in a cool place, were as good at the end of a twelvemonth as those preserved in lime water.—*Repertoire de Pharmacie*, xxvii. 427.

Relative to the preservation of eggs by immersion in lime-water, M. Peschier has given most satisfactory evidence of the efficacy of the process. Eggs which he had preserved for six years in this way, being boiled and tried, were found perfectly fresh and good; and a confectioner of Geneva has used a whole cask of eggs preserved by the same means. In the small way, eggs may be thus preserved in bottles or other vessels. They are to be introduced when quite fresh, the bottle then filled with lime-water, a little powdered lime sprinkled in at last, and then the bottle closed. To prepare the lime-water, twenty or thirty pints of water are to be mixed up with five or six pounds of slaked quick lime put into a covered vessel, allowed to clear by standing, and the lime-water immediately used.—*Révue Ency.* xxxix. 237.

12. *Combinations of the Nitrous Oxide with Salifiable Bases.*—The substances left by the partial decomposition of certain nitrates by heat are considered by M. Hess as compounds of the nitrous oxide or oxide of azote with the bases of the salts used. The compound with potash, for instance, may be obtained by heating nitrate of potash to redness in a silver crucible, so long as it disengages oxygen: when no more smoke rises from the crucible, and an inflamed body is extinguished upon immersion in its atmosphere, then the decomposition has been carried far enough, and the fused salt is to be poured out upon a plate of iron. When cold, its fracture is radiated; it is unaltered in the air, soluble in cold water, more so in boiling water, and crystallizes on cooling. It so much resembles nitrate of potash as not be distinguishable in appearance. It is insoluble in alcohol; fuses with the readiness of nitre. It includes no water of crystallization, but contains per cent. 61.14 potash, and 38.80 oxide of azote.

The soda compound is prepared in a similar manner from the nitrate of soda, but more readily. It crystallizes in rhomboids, insoluble in alcohol. The water included in the crystals cannot be dissipated by heat. It contains 84.52 of soda, 42.67 of oxide of azote, and 12.81 of water per cent.

The baryta compound is to be obtained in the same manner, but the heat must not be intense, nor of long continuance; the mass is then to be dissolved in water, evaporated and crystallized, after which it should be purified by a second crystallization from the carbonate of baryta mixed with it. It is consti-

tuted of 61.47 baryta; 24.07 oxide of azote; 14.46 of water. The water of crystallization cannot be separated by heat.

The combination with lime, obtained in the same way, gave per cent. lime 27.58; oxide of azote 28.98, and water 43.48.

The compound with silver was procured by becoming the baryta compound by sulphate of silver. During evaporation the liquid deposited long straw-coloured needles, which became black by sun-light: being slightly heated in a glass tube, they were decomposed, yielding metallic silver and nitrous acid. This compound was difficult to obtain.—*Ann. der Phys. und Chimie*, 1828, p. 57.

13. *Punch, Remarks on the History of.*—Punch was first made by the English at Nemle, near Goa, where they have the *Nepa die Goa*, commonly called arrack. This fascinating liquor got the name of *punch*, from its being composed of *five* articles—that word, in the Hindostanee language, signifying five. The legitimate punch-makers, however, consider it a compound of *four* articles only; and some learned physicians have, therefore, named it *Diapente* (from Diatesseron), and have given it according to the following prescription:—Rum, miscetur aqua—dulci miscetur acetum, fiet et ex tali fœdere—nobile Punch. And our worthy grand-fathers used to take a dose of it every night in their lives, before going to bed, till Dr. Cheyne alarmed them by the information, that they were pouring liquid fire down their throats. "Punch," said he, "is like opium, both in its nature and manner of operation, and nearest arsenic in its deleterious and poisonous qualities; and so," added he, "I leave it to them, who, knowing this, will yet drink on and die."—*Wadd's Facts.*

14. *Experimental Velocity of Sound.*—Experiments were made on this point in Acoustical Philosophy, by MM. Myrbach and Stampfer, between Untersberg and Moënchstein near Saltzbourg, from August 15, to September 30, 1822. The distance was 30,601 French feet. The difference of level 4198 feet. The mean of 88 observations gave 1025,9 feet as the velocity of sound per second, at the temperature of 32° F.—*Journal of Science.*

15. *Alteration of weight in Rock Crystal, by pulverisation between Agates.*—The following experiments are by M. Pajot Descharmes. A quantity of rock crystal was several times heated red hot and plunged suddenly into cold water; it was then dried, pulverized in an agate mortar, and after being sifted, weighed one ounce or 576 grains.

i. This portion was pulverised still further on an agate plate, with an agate muller, for twenty minutes. Being then collected, it was found more bulky in volume than before, and increased in weight 120 grains; the whole quantity now being 696 grains.

ii. 288 grains of this were pulverized anew, in the same manner, and for the same time: the volume increased a little; the weight increased from 288 to 342 grains.

iii. Two gros (118 grains) of the latter portion, pulverized again for the same time, increased in weight 31 grains.

iv. A third rubbing on the agate for nine minutes, caused an increase in weight of 6 grains.

v. A fourth rubbing for fourteen minutes increased the weight 10 grains, so that by successive pulverization, the two gros had increased in weight 47 grains.

vi. Another rubbing was given to the powder, but the matter seemed incapable of further division under the muller, and the increase was only 2 grains.

For the purpose of ascertaining to what the increase of weight was due, half an ounce of that mentioned in the second experiment was heated and stirred in a procelain basin; being then weighed, whilst warm, the excess of 54 grains was found diminished to 43 grains. The weight of the plate and muller were not sensibly changed in these experiments, and the surface was scarcely altered. —*Recueil Industriel.*

16. *Intense Light.*—The intense light produced by igniting lime in the oxy-alcohol flame, is well known, and has been beautifully applied, in the construction of geodesical signals, by Lieutenant Drummond. It is said, that a very ready mode of exhibiting it on a small scale is, to place a small piece of lime on charcoal, lighted, at the spot by a little piece of tinder, and throw a jet of oxygen from an ordinary blow-pipe aperture upon it.—*Journal of Science.*

(*Continued from page 96.*)

17. *Formulary of the* HOTEL DIEU, *at Paris.*—The quantities are expressed in Troy weight and English fluid measure

Decoction of Sarsaparilla.—Take of the Root of Sarsaparilla ʒj. Water 0ij. Boil.

Decoction of China.—Take of China Root ʒj. Water 0ij. Boil.

Infusion of Valerian.—Take of Valerian Root ʒj. Boiling Water 0ij. Infuse.

Decoction of Dulcamara.—Take of Stems of Solanum Dulcamara ʒj. Water 0ij Boil. Employed as a mild narcotic in Cancer.

Infusion of Cinnamon.—Take of Cinnamon Bark ʒss. Boiling Water 0ij. Infuse. In like manner are prepared, infusions of Mint, Balm, &c.

Decoction of Parietaria.—Take of the Leaves of Parietaria Officinalis ʒj. Water 0ij. Boil.

Infusion of Hops.—Take of Hops ʒj. Boiling Water 0ij. Infuse.

Bitter Tisan.—Take of the dried Leaves of Teucrium Chamœdrys, the Tops of Chironia Centaurem, and of Artemisia Absinthium, of each ʒijss. Boiling Water 0ij. Infuse.

Vulnary Tisan.—Take of the dried Leaves of Sage, Thyme, Wild Thyme, Hyssop, Water Mint, Wormwood, and Marjoram, each of ʒj. Boiling Water 0ij. Infuse.

Cough Infusion, or Bechic Tisan.—Take of Dates, with the Stones removed, Jujubes, Figs, and Raisins, of each ʒij. Boiling Water 0ij. Infuse.

Antiscorbutic Tisan.—Take of Bitter Tisan 0ij. Spirit of Scurvy grass f.ʒss. Mix.

Sudorific Tisan.—Take of the Roots of Sarsaparilla of China, and of Guaiacum Shavings, of each ʒss. Sassafras ʒij. Water 0ij.

Diuretic Tisan.—Take of Gum Arabic ʒv. Hard Soap ʒss. Nitrate of Potass gr.xxiv. Subcarbonate of Potass ʒiss. Infusion of Juniper Berries 0ij.

Spirituous Lemonade.—Take of Rectified Spirits of Wine f.ʒj to ʒij. Honey ʒj. Simple Syrup f.ʒij. Water 0ij. Tartaric Acid, sufficient to make it agreeably acid.

Formulary from the Pharmacopié Françoise for some of the articles mentioned in the Formulary of the HOTEL DIEU.

Balsam of Fioraventi.—Take of pure Turpentine ʒxvj. Gum Elemi G. Tacamahaca, amber Galbanum and Myrrh, of each ʒiij. Liquid Storax ʒij. Ginger, Zedoary, Galanga, Cinnamon, Cloves, and Nutmegs, of each ʒiss. Aloes and leaves of Origanum Dictamnus, of each ʒj. Bay Berries ʒiv. Spirit sp. gr. from 0.923 to 0.868 0vj. Macerate six days and then draw off in a water bath 0v.

Rose Ointment.—Take of fresh Lard, several times washed in rose water, and Flowers of pale Roses, with their calices, equal weights; bruise the Rose Leaves and mix them with the Lard; allow the mass to remain in this state several days, then melt over a gentle fire, and strain with pressure; let a fresh quantity of Roses be treated with this; let it remain two days, when liquify it in a water bath, and press it off, and colour with alkanet.

Hyacinth Confection.—Take of Terra Sigillata, Crabs Eyes, of each ʒiv. Cinnamon ʒxi. Leaves of Origanum Dictamnus ʒiss. Yellow Sanders ʒiss. Myrrh ʒij. Reduce the whole to a fine powder. Then take Honey, Syrup of Capillaire, Fine Sugar, of each ʒviij. Water a sufficient quantity. Boil these to make a Syrup when cold. Mix into it very carefully and intimately, Saffron in Powder ʒiij. Red Sanders in Powder ʒiij. Afterwards add gradually the other Powders; and, finally, six drops of Essential Oil of Orange Peel.

Almond Lohoch.—Take of Sweet Almonds, blanched, ʒiv. Bitter Almonds, No. 2. White Sugar ʒiv. Bruise them in a marble mortar, with a wooden pestle, and add gradually, Water f.ʒiv. Make an Emulsion. Then take Gum Tragacanth in the Powder gr.xvj. Oil of Almonds f.ʒss. White Sugar ʒij. Mix these s. a. with the Emulsion in a mortar, and add Orange Flower Water f.ʒij.

18. *Test of the presence of Oxygen.*—This test, which is recommended by M. Kastner, consists of a protoxide of iron. A stoppered flask is to be filled with hot water, and the water then boiled by a spirit lamp; five parts of recent protosulphate of iron for every 100 of water is to be added, the ebullition con-

tinued for a minute, and then ammonia added until in excess; the flask is then to be closed, the precipitate allowed to fall, when the liquid must be removed by means of a glass syphon; the precipitate is to be washed with boiled water. and finally hot alcohol poured into the flask until it is full.

When this test-oxide is to be used, a small quantity is to be taken out rapidly in a little spoon and put into a jar filled with water, previously deprived of air by ebullition. The gaseous body to be tested is then to be passed into this jar; if there be only 1000th of oxygen present, it will be indicated by the ocraceous colour communicated to the oxide of iron.—*Bull. Univ.*

19. *Decomposition of Boracic Acid by Hydrogen.*—The opinion that boracic acid is not decomposed by hydrogen is not quite correct. M. Varvinski passed hydrogen through a porcelain tube, heated to redness, and containing boracic acid in scales. The result was a brown vitrified boracic acid, which being acted upon by boiling distilled water, left a flocculent olive coloured residue undissolved. This substance being separated, washed and dried, was examined. Being heated on platina, it burnt into a vitreous substance. Another portion, heated in nitric acid, caused the evolution of nitrous acid, and by evaporation gave a vitreous substance, which, dissolved in water, produced a flocculent precipitate with baryta water. The olive substance, in fact, was found to be boron, and the product of its combustion boracic acid.—*Bull. Univ.*

20. *On Amber.*—M. Berzelius adopts the opinion that amber is of vegetable origin; that, like ordinary resins, it has flowed from vegetables in the state of a balm, and has afterwards acquired hardness gradually. "Amber," he says, contains *five* substances: 1, an odoriferous oil, in small quantity; 2, a yellow resin intimately combined with this oil, dissolving freely in alcohol, ether and alkalies; very fusible; and resembling ordinary vegetable resins; 3, a resin soluble with difficulty in cold alcohol, more freely in hot alcohol, from which it separates on cooling as a white powder soluble in ether and alkalies. These two resins and the volatile oil, if removed from amber by ether, and then obtained by evaporation of the latter on water, form a natural viscid balm, very odorous, of a clear yellow colour, and which gradually becomes hard, but retaining some odour. There is every reason for supposing this to be precisely the substance from which amber originates; but at the same time rather poorer in essential oil than at first, and that the insoluble substances in amber have been gradually formed by a spontaneous alteration of this balm, but at the same time have developed one part of it, and so preserved it from entire decomposition or change; 4, succinic acid, dissolved with the preceding bodies by ether, alcohol, and alkalies; 5, a body insoluble in alcohol, ether, and alkalies, and analogous in some points to the substance found by John in gum-lac, and called by him the principle of lac. This is formed in large quantities when a solution of gum-lac in alkali is precipitated by chlorine.—*Annalen der Physik.*

21. *Method of preserving Seeds fit for Vegetation.*—Fill an old cask half full of earth, put the seeds as near as possible to the middle of the cask, then fill the latter entirely with moist earth, pressing it down, and finally closing the cask so that neither air nor water may enter it. Keep it from contact of sea water. In this manner seeds may be brought from the East Indies or New Holland in a state of perfect preservation and fit to vegetate.—*Gardener's Mag.*

22. *Change of Colour in Leaves.*—M. Macaire Princep has published the account of a series of experiments on the autumnal colouration of leaves, and draws the following conclusions from them: 1st. All the coloured parts of vegetables appear to contain a particular substance *(chromule)*, susceptible of being changed in colour by very slight modifications. 2d. The autumnal change in the colour of leaves is due to the fixation of oxygen, or a kind of acidification of the chromule in them.—*Ann. de Chimie.*

23. *New Compound of Silica and Potassa.*—This compound, which has been prepared and described by M. Fuchs, is intermediate between glass and the oil of flints. It may be prepared by saturating a boiling solution of potash with recently precipitated silica; but better by the following process. Fuse a mixture of ten parts carbonate of potash, fifteen of quartz, and one of charcoal; pulverize the product, and dissolve it in four or five parts of boiling water, which will slowly take up nearly the whole. The solution, evaporated until of a specific

gravity of 1.24, will be a viscid, opalescent liquid, which, whether evaporated further, quickly or spontaneously, will become a solid, vitreous, transparent mass, fixed in the air, and resembling ordinary glass, except that it is less hard.

This substance has an alkaline action, it dissolves with difficulty in cold water, more easily in boiling water. It is somewhat hygrometric, and in many weeks will attract moisture from the air, which penetrating, it does not however destroy its aggregation, but causes the surface to become covered with scales or powder. Alcohol precipitates the aqueous solution; acids decompose the substance; many salts form insoluble precipitates with it. This new silicate of potash is composed of sixty-two parts silica, twenty-six of potash, and twelve of water. It may be employed as a coating for wood and other objects to preserve them from fire, and also as a lute in the laboratory.—*Kastner's Archives.*

24. *On Artificial Incubation, by means of Hot Mineral Waters.*—This curious process is described very briefly in a letter by M. D'Arcet. The following are extracts from this letter:—

'In June, 1825, I obtained chickens and pigeons at Vichy, by artificial incubation, effected through the means of the thermal waters of that place. In 1827, I went to the baths of Chaudes-Aigues, principally for the purpose of doing the same thing there. Finding the proprietor a zealous man, I succeeded in making a useful application of this source of heat to artificial incubation.

'The advantage of this process may be comprehended, when it is known that the invalids who arrive at Vichy, for instance in the month of May, find chickens only the size of quails, whereas, by this means, they may be readily supplied six months old.

'The good which may be done by establishing artificial incubation in places where hot springs exist, is *incalculable;* it may be introduced into these establishments without at all interfering with the medical treatment of patients, since the hatching would proceed in winter, at a time when the baths for other purposes are out of use.

'There is no other trouble required in raising chickens, by means of hot baths, than to break the eggs at the proper time; for, when the places are closed, the whole of the interior will readily acquire a sufficiently elevated and very constant temperature.'—*Ann. de l'Industrie.*

In addition to these details by M. D'Arcet, a letter has been received from M. Felgeris, the proprietor of the baths at Chaudes-Aigues (Cantal), in which he describes the success he has had in following M. D'Arcet's process. This consists in putting the eggs into a small basket, suspending the latter in one of the stoves heated by the hot mineral water, and turning the eggs every day. The very first trial was attended with success, and no failure was experienced in four repetitions of it.—*Jour. des Conn. Usuelles.*

25. *Prevention of Death from Poison.*—A memoir on very simple and effectual processes in some cases of poisoning has been read by Dr. Vernière, to the Academy of Sciences at Paris. His views are founded on the experiment in which M. Magendie entirely prevented absorption in a dog, by throwing warm water into the veins, and thus forming an artificial plethora.

Three grains of the alcoholic extract of nux vomica were put on a wound in the foot of a young dog, and then a ligature placed above the articulation of the humerus. Warm water was then slowly injected by the jugular vein, until the animal could bear no more without great suffering: after which the vein of the poisoned limb was opened beneath the ligature, some ounces of blood withdrawn, and these introduced into the jugular vein of another dog. The latter dog instantly died in convulsions; the wound in the former dog was well cleaned, a little blood drawn, and the animal set at liberty. There was no appearance of poisoning, and eight days after it was perfectly well.

Knowing that plethora prevents absorption, the explanation of the effects described is very easy: only that blood flowing from the vein could have been poisoned, for that vein and its neighbours were the only ones free from the general plethora. Another circumstance in this case opposed to poisoning was, that the current being only from the arteries to the vein opened, the poison introduced was forced with the blood out of the system.

As the production of plethora by the infusion of water is a serious inconvenience, M. Vernière was induced to ascertain whether a local plethora in the

poisoned member would not be sufficient, an effect readily produced by a moderate ligature, and thinks that it is. After applying the ligature, all that is required is to open the principal veins in the expanded part of the system, and allow the poisoned blood to flow out.

In an experiment of this kind, three grains of the extract of nux vomica were put over a wound in the right cheek of a small dog. The experimenter immediately compressed the two jugular veins with his thumbs for *six* minutes, after which that on the poisoned side was widely opened by a stroke of the lancet; the blood flowed freely, after which the animal, put upon its feet, experienced only a little weakness.

In another experiment, three grains of the extract were put under the skin, covering the tarsal surface of the right fore-foot of a young dog. A strong ligature was applied at the same time, and after five minutes, the poison was removed by repeated washing: the wound being cleaned, the ligature was removed, and the animal put upon its feet; it walked quietly at first, but was soon seized with violent convulsions, upon which an abundant bleeding of the jugular vein was effected, and in half a minute the convulsions ceased. The animal left at liberty walked quietly as before, with occasional soft inspirations, which, however, soon ceased. M. Vernière thinks, that in this experiment the ligature had been too tight, compressing the artery as well as the vein, and so preventing the plethora from taking place, which should have prevented the absorption. Hence, these two important conclusions—1st. The ligature should not be too tight—2d. Even when the poison has penetrated considerably into the system, large and abundant general bleedings may reach it, and cause its expulsion. It is easy to conceive, indeed, that whilst the poisoned blood is contained only in the large vessels, if these be opened, it will flow out rather than pass into the small vessels, which afford a greater resistance to its passage than the opening made by the lancet.—*Le Globe.*

BOOKS RECEIVED DURING THE MONTH.

1. Sketches of the most prevalent Diseases of India; comprising a Treatise on the Epidemic Cholera of the East; Statistical and Topographical Reports of the Diseases in the different Divisions of the Army under the Madras Presidency; embracing also the annual rate of Mortality, &c. Practical Observations on the Effects of Calomel on the Alimentary Canal, and on the Diseases most prevalent in India. Also, an Inquiry into Chronic Inflammations and Abscess of the Liver. Illustrated by Tables and Plate. By James Annesley, Esq., Madras Medical Establishment; lately in charge of the General Hospital, Madras; Garrison-Surgeon of Fort St. George; M.R.C.S., and M.R.A.S. Second Edition, with Corrections and large Additions. 8vo. pp. 501. T. and G. Underwood. London, 1829.

*** In the present edition of these Sketches, Mr. Annesley has greatly enlarged his practical observations on the Diseases embraced by the Reports; and he has added two Chapters on Chronic Diseases of the Liver. The full exposition which was given of the first edition of the work in all the Periodical Journals, render it unnecessary for us to enter upon a formal review of the present edition. We shall, therefore, only pass a general opinion of its merits, and so far as that opinion deserves any reliance, there is not a more valuable practical work published, on the Diseases of India.

2. Napoléon a Sainte-Hélène. Opinion d'un Medêcin sur la Maladie de l'Empereur Napoléon et sur la Cause de sa Mort: offerte a son Fils au jour de sa Majorité, par J. Héreau, Ancien Chirurgien Ordinaire de Madame Mère, et premier Chirurgien de l'Impératrice Marie-Louise. 8vo. pp. 228. Paris, 1829.

3. Analytic Physiology, treating of the Cure of Nervous Diseases, by External Applications to the Spine. By Samuel Hood, M.D., A.B. Second Edition, with an Appendix. 8vo. pp. 207. Whittaker and Co. London, 1829.

4. Horæ Phrenologicæ; being Three Phrenological Essays: 1, On Morality; 2, On the best Means of Obtaining Happiness; 3, On Veneration. By John Epps, M.D., Lecturer on Materia-Medica and Chemistry; Secretary to the London Phrenological Society, &c. &c. &c. 12mo. pp. 115. Simpkin and Marshall. London, 1829.

5. On Aneurism, and its Cure by a New Operation. By James Wardrop, Surgeon to His Majesty. Royal 8vo. pp. 117, and Seven Plates, with Explanations. Longman and Co. London, 1828.

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CRITICAL REVIEW.

I.—*On Aneurism, and its Cure, by a New Operation. Dedicated by Permission to the King.* By James Wardrop, Surgeon to His Majesty. Longman and Co., London, 1828.

It is extremely difficult, and often impossible, to trace causation through many grades in the moral world. Effects of the highest importance to mankind result sometimes from causes apparently very trivial. The reason of such a state of things depends, in all probability, upon the compound nature of the human mind, and the numberless varieties of modification displayed in its phenomena in different individuals. But to account for the apparent disproportion which subsists between many causes and their effects in many instances, we must take into consideration also numerous external circumstances. Some things excite interest by their novelty, although unimportant as regards the happiness or the misery of mankind; other things owe their interest to the influence which they are likely to exert over the welfare of society, to the pleasure or the pain, physical, or moral, which they tend to produce; the same causes affect the minds of different individuals, or different classes of individuals, in different degrees, or in different ways, according to the natural constitution of the mind, to its education, habit of thinking, and its relations with external circum stances. Good and evil are often reversed in their relations to the minds of different individuals. Death, although ge nerally considered as the *summum malum*, is viewed by some as an evil less than many others. Some of the paths leading to this goal, are looked upon as more gloomy than others. Although none of them appear to be inviting, still the ruggedness which they present, and the sense of danger which they impart to the traveller, differ in degrees. Diseases are not shrunk from, in all instances, in proportion to the length or intensity of physical pain which they pro-

duce. Some of them impart a feeling of horror to the mind quite independent of the pain which attends them.

The improvements which have taken place within the last half a century in the treatment of *medical* diseases, is, obviously, considerable; but this circumstance does not create such interest among the members of the profession as the improvement which has been brought about in the treatment of *surgical* diseases. There are few practitioners who would not regret the loss of a patient from a surgical disease, more than from a medical one: and death from the former generally presents itself to the mind of the patient in a more terrible form than from the latter. Although hundreds of individuals die of fever, phthisis, or any other internal complaint, for every one who dies of aneurism, or even hernia, still the two last, as well as every other malady requiring a surgical operation, are, from some cause or another, regarded by the profession as subjects far more interesting than the two first. This may be owing, in some measure, to the circumstance, that the causes of surgical diseases requiring operations are more palpable and more mechanical than those of maladies which require simply medical treatment. But, we conceive that the principal cause of the great interest excited by surgical cases depends upon the circumstance that the agency and skill of the practitioner in their treatment, become so manifest to the public, and that the most prejudiced cannot help admitting that death may, in some instances at any rate, be averted by the judicious interposition of art. The actions of most individuals, whether professional or not, are influenced in some measure by the opinions and views of society at large; and it is well, in general, that they should be, although, in some instances, this circumstance may lead to effects detrimental to society. A bold and successful operation is sometimes sufficient to establish the reputation of a medical man in the eyes of the public, and even to stamp his character as a skilful practitioner; whereas, he may treat, successfully, a hundred medical cases without gaining any extraordinary credit for his success. In some medical cases, even medical men themselves do not exactly know how much of the cure is to be attributed to nature, and how much to art, and it cannot be expected that those out of the profession can form a better judgment. In successful surgical operations, on the contrary, the skill of the practitioner is sufficiently obvious, and the preservation of life by his agency stands undisputed before the public. Young practitioners may sometimes be induced, from this circumstance, to resort to operations in cases where such are unnecessary. As the

public in general are apt to form their judgment more from the result of an operation than from the necessity or non-necessity of its performance, it ought to be most strongly impressed on the minds of students that capital surgical operations are only to be had recourse to in cases in which all other means have failed, or in affections in which experience has sufficiently proved the inefficacy of other remedies. Independently of the uncertainty of the issue of surgical operations, however simple or trivial, no one has a right to inflict unnecessary pain on his fellow creatures. But let us apply ourselves to the subject of the work before us.

Some months back, when the subject of aneurism, and the operation for its cure, by tying the artery *beyond*, or on the *distal* side of the tumour, were discussed by most of our contemporaries, we remained silent, because we did not consider ourselves in possession of a sufficient number of facts, to authorise us to *state* an opinion upon a subject so important in its practical consequences. The opinion which we then formed, though we did not state it, was, that the operation was calculated, not only to check the increase of the disease; but even, under favourable circumstances, to bring about a cure of it. We shall by and bye explain what we mean by favourable circumstances. Since the period already alluded to the operation has been performed in three more cases, in two of which the result was perfectly successful, and in the other it may be regarded as successful, so far as the cure of the aneurism was concerned. Mr. Wardrop has now collected, into one volume, all the facts extant relating to this interesting subject. Although these facts are not very numerous, still we consider them sufficiently so to authorise us to form and to state some opinion respecting the principle of the operation proposed by the author. Inference ought not to be allowed to take precedence of facts, but inference may be legitimately permitted to aid facts in leading the mind to form an opinion of things. Independently of the direct facts which tend to support our views of the operation in question, we infer its efficacy from other circumstances; namely, 1, from certain known properties of the arteries as living tubes; 2, from the properties of fluids in general, both in motion and at rest; 3, from the property which the blood possesses of coagulating when at rest, or approaching to rest. The modus operandi of these causes we shall endeavour to explain as we proceed.

Mr. Wardrop sets out with some observations on the pathology of aneurism. We are told that aneurism, properly so called, which comprehends the true and false, is formed

in two different ways; namely, either all the tunics of the artery yield and form an aneurismal tumour, or one or both of the internal tunics are ruptured, the external coat alone forming the parietes of the tumour and preventing the effusion of blood into the surrounding parts. Without denying that aneurism is generally formed in this manner, we may be permitted to remark that none of the arterial tunics, in the *healthy state*, are capable of such extension as they are supposed to undergo in aneurism. The elasticity of the innermost coat is very inconsiderable in the lateral direction. We doubt whether the middle tunic would admit of more stretching. To talk of the muscularity of this coat, as most authors do, is, in our opinion, talking of that which has no existence. The chief elasticity of the arteries, then, resides in the outermost tunic. But even this coat, in its healthy state, will not admit of being drawn out to the extent it appears to attain in large aneurisms. Its tissue would give way before it would reach half that extent. It is therefore questionable whether even this coat preserves its integrity in aneurisms of great magnitude. It is true that the external surface of the sac is formed of a rough, fibrous tissue, but probably this consists principally of the cellular membrane which previously surrounded the vessel, and which is now condensed by the internal pressure. Admitting, however, that this tunic preserves its integrity, that disease renders it more yielding than it exists in its natural state, and that the cellular membrane surrounding it becomes condensed and adherent to its external surface, as the tumour enlarges; still, we are inclined to the opinion, that the internal tunics give way before the aneurism can attain any considerable magnitude. Disease may induce these tunics to become dilatable to some extent, and they, probably, remain entire in what is commonly called aneurism by dilatation. But we consider their properties quite incompatible with the formation of a large aneurismal sac. According to Scarpa, the internal coat is ruptured in all aneurisms. Whether the fact be actually so in every instance, is doubtful; for, as we have already observed, disease may render this coat more elastic than natural in the transverse direction. But the resistibility or non-elasticity of this tunic in the healthy state, is very satisfactorily proved by the experiment of John Hunter, who 'laid bare the carotid artery of a dog, and afterwards skinned it with a knife even to transparency.' No dilatation of the vessel took place. Three weeks afterwards the animal was killed, and the artery on which the experiment was made, in place of being dilated, where the external tunic had been detached, was found thickened by the in-

flammation and subsequent adhesion of the adjacent cellular structure.' This experiment proves another point, namely, that the arteries are not naturally in such a state of forced distension as is generally supposed. Were they so the vessel 'skinned with the knife to transparency,' must have given way, for it is well known that the internal tunic will rupture under a very inconsiderable degree of traction.

Now, it may be asked, does aneurism ever take place without some previous disease of the artery? Is the force of the heart, in propelling the blood against any part of the vessel, (for instance an angle) sufficient to produce a dilatation of that vessel without any previous disease of its coats? This question is of some importance, but we are not in possession of direct facts for its solution. It may be observed that some parts of the arterial system are more disposed than others to become aneurismatic. We find the dilatation take place in the ham, groin, axilla, arch of the aorta, arteria innominata, and carotid, more frequently than in any other parts. It may be inquired, what are the chief causes which act in these situations, in particular, calculated to give rise to the enlargement. The popliteal artery is generally angular, because the limb is more frequently in a bent than in a straight posture. But the dilatation here cannot well be supposed to take place owing to the angular form of the vessel, because the point of the angle against which the current exerts its greatest force, is on the side next the bone. Were the bone behind the artery, instead of before it, and did the joint bend in the direction it does, then would the current be driven against a side of the vessel unprotected, or unsupported by bone. It is true that the vessel is not supported by muscles in this situation—that it is imbedded in a quantity of loose cellular texture only; but this is the case with other arteries, such as a part of the radial, temporal, brachial, descending aorta, iliac, &c. It may be observed also, that the blood moves through this part of the system in the direction of its own gravity, so that it might be supposed that the pressure on the sides of the vessel would be less in proportion, than in situations above the level of the heart.

The above remarks are applicable to inguinal aneurism also. Indeed, when the texture of the arteries is considered, as well as the vital properties of their coats, we can scarcely suppose an aneurism to arise in any part of them without some previous disease or injury. In the ham, groin, and axilla the vessels are particularly exposed to pressure, and to other injuries of a similar description, and, although an aneurismatic dilation may not take place immediately after the infliction of the injury, still its effects may continue and

produce disease of the vascular tunics. It may occasion a slight rupture of the internal coat, which we know to be of a fragile texture, inasmuch as a ligature applied round the vessel will cause it to give way. If it be said that aneurisms take place in situations which are not exposed to such accidents, the reply is, that the coats of the arteries are liable, like all other tissues, to become diseased, and that this liability may, possibly, be greater in some situations than in others. The descending aorta, has, in some instances, been found preternaturally dilated at many points at the same time. This circumstance would lead us to infer the existence of disease of its coats. In fine, we know that the texture of the arteries, while healthy, will not admit of being drawn out to the extent at which the sac arrives in large aneurisms. The tunics would all give way under the degree of traction necessary to produce that effect. Their parietes would also become so thin as to be incapable of preserving their integrity under the internal pressure of the blood, and would therefore rupture before the tumour could attain any considerable magnitude; whereas, in truth, the walls of an aneurismal sac are always found thicker than the coats of the artery in its natural state. This thickening is produced by the condensation of the surrounding cellular membrane, and its adhesion to the external surface of the sac in its progressive enlargement. The cellular tissue forms, in fact, a new coat to the sac; but we doubt much that the internal, natural tunics of the vessel preserve their integrity during all this time.

In addition to the proof adduced above, that the internal tunic of the vessel either gives way or is destroyed by absorption, in large aneurism—in other words, that the aneurism is not produced by a simple dilatation of all the vascular coats—it may be remarked that the tumour, in many instances, occupies but a very small portion of the artery. That part of it attached to the natural channel is narrow in proportion to its other dimensions. Did the coats yield, owing simply to the pressure of the blood, it might be expected that the diameter of that part of the sac attached to the artery would be much greater than that of any other part; and that the yielding would extend to a considerable distance along the track of the vessel. This, however, is seldom the case. The neck of the tumour is often narrow, compared with its other dimensions; and it seldom happens that a great portion of the artery is involved in the disease, even in cases where its whole circumference becomes enlarged.

There is one circumstance connected with the increase of

aneurisms to which authors do not appear to have paid much attention. We alluded to this on a former occasion. It is well known that the progress of their increase is at first slow in comparison to what it becomes when the sac has attained a certain magnitude. An aneurismal tumour whose pulsations are, at first, not much stronger than those of a large artery, will be found, as it augments in volume, to have the force of its pulsations increase very considerably, until they become at last powerful enough to raise several pounds weight. These phenomena are easily accounted for upon the principles of hydrostatics. We made it appear on a former occasion (see Vol. I. No. 1.) that the blood is injected into the aorta with a force somewhat greater than two pounds and a half to the square inch of the surface of the left ventricle. The same degree of pressure would be communicated to every square inch of the internal surface of the arteries if the blood did not meet with an easy outlet from the arteries into the veins, and from these again into the right side of the heart. Without entering at present into any minute calculation, it may be stated that the general pressure on the parietes of the arteries is less than in the above proportion. Let us suppose it to be, for instance, equal to two pounds to the inch in the arteries, and that half a square inch of any vessel becomes aneurismatic. As this portion forms itself into an aneurismal sac, and as the tumour increases in size, the internal superficies of the sac must also increase. We shall suppose that the neck of the sac retains the dimensions of the portion of the artery first dilated, namely, half a square inch, and that its internal surface acquires an extent equal to twenty inches. Now, according to the laws of hydrostatics, the pressure of the blood on every half inch of the surface of the sac will be equal to one pound, and admitting, as just supposed, that it measures forty half inches, it is evident that, instead of one pound, which was the amount of the force exerted against that portion of the artery in its natural state, there will now be a pressure on the sac, formed by that part, equal to forty pounds. It is a principle, doubtless well known to our readers, that if, in a close vessel full of fluid, a pressure equal to any amount be applied to an inch of the surface of that fluid, the same amount of pressure will extend to every inch of the internal surface of the vessel. This must necessarily occur from the circumstance that fluids presses equally in all directions.

It must follow, from the above fact, that the total amount of pressure on the surface of a large aneurismal sac is enormous, compared with that which was exerted against that portion of the side of the vessel before it began to yield.

The force, therefore, which tends to burst the aneurism is augmented in the same proportion as the area of its internal surface increases. This accounts for the rapid increase of the tumour generally observed after it has attained a certain magnitude. It also explains the cause of the powerful pulsations which the tumour imparts to the hand when applied to it. But the force with which the blood is driven against a *given extent* of the surface of the sac is exactly the same in amount as that exerted against the *same extent* of surface in the healthy vessels. In examining an aneurismal tumour, we apply a more extensive surface of the organ of touch to it than we do to an artery when examining the pulse. Upon the same principle a large artery appears to pulsate with greater force than a small one. The absolute force exerted on the surface of a given length of the tube is greater in the former than in the latter, but the specific force is the same.

The manner in which an aneurism is distended, and is ultimately made to burst, may be illustrated by a bladder full of fluid. If we fix a tube, the diameter of whose bore is equal to half a square inch, in the neck of the bladder, and fill the bag with fluid; then inject more fluid into it, with a force equal to a pound weight, we shall by this means produce an additional pressure equal to the same amount on every half an inch of the internal surface of the bladder. If this surface be supposed to be sixty half inches, it is evident that the absolute amount of pressure, added by this small force, will be equal to sixty pounds. This would be more than enough to burst it. If, on the other hand, we suppose the bladder to be only half that size, the absolute amount of pressure produced by the same experiment would be only thirty pounds. This might only dilate the vessel more, without causing its coats to give way. The amount of the original force (one pound) with which the fluid is thrown in, would be very inconsiderable were it *divided* by the number of half inches forming the superficies of the bladder; instead of which it is *multiplied* by that superfice, and the more extensive it is, the greater will be the total amount of pressure generated by the same original force.

We have, perhaps, dwelt longer upon this part of the subject than some of our readers may think necessary. We have been induced to notice it at some length, owing to its having received but little, if any, attention from authors who have written on aneurism. It is of much practical importance to possess a correct view of all the phenomena manifested by the disease in the different stages of its progress. Before this can be acquired, the mechanical as well as the

vital properties of the solids and fluids concerned must be taken into account. It should be considered that the blood, although it moves through animate tubes, possesses, nevertheless, the mechanical properties of fluids in general. But to proceed.

Mr. Wardrop, after some preliminary remarks, points out the modes in which aneurism undergoes a spontaneous cure. In order that the principle of the operation which he recommends may be perfectly understood and appreciated, it is important that these modes should be attended to. They are not less than five in number: 1st, the aneurismal sac may become strengthened and filled with coagulable lymph that no fluid blood can pass into it; whilst, at the same time, the original canal of the vessel remains pervious, and carries on the circulation; 2nd, both the sac and the arterial canal may become obliterated; 3rd, the tumour may acquire such a size and position that, by pressing on the trunk of the artery above or below, the sides of the aneurism are brought into contact, and adhesion takes place between them; 4th, it has been found in some instances, where the whole circumference of the vessel has been dilated, that the sac had become filled up with coagulum, but leaving a canal in the midst of the tumour through which the blood continued to move; 5th, an aneurism may be cured by a process of suppuration taking place in the sac after both it and the artery have been filled with coagulum. It may, however, be observed that this is only a modification of the third mode. A coagulum forms in the sac and canal of the artery, and, instead of being removed by absorption, or of becoming organized, it causes ulceration of the integuments, by the irritation which its presence creates. All danger from hemorrhage is over before this process commences.

Something like an attempt at a spontaneous cure may be observed in almost all aneurisms. The sac is more or less filled with coagulable lymph, which is deposited in layers on its internal surface. This lymph strengthens the walls of the sac; and, in some cases, renders the tumour so firm to the feel that its pulsations can scarcely be perceived when the hand is pressed against it. In cases where the gurgitation of blood into the cavity of the aneurism is inconsiderable, the fluid has sufficient time to form a coagulum, in aid of the laminæ of lymph already deposited on the inner surface of the sac, and a spontaneous cure takes place according to the first or second mode noticed by Mr. Wardrop.

Now, it may be asked, how are the layers of coagulated lymph, observed in the aneurismal sac, formed? Is the lymph secreted from the surface of the sac? or is it deposited

from the blood contained in the cavity of the aneurism? We conceive that it may be clearly shown that the layers in question are deposited from the blood, and not from the surface of the sac itself. If we suppose, for instance, that the first layer, or that situated in contact with the internal surface of the cavity, is secreted from that surface, how are we to account for the formation of the other laminæ? Before a second layer can be formed the first must become perfectly organized, so as to be capable of producing it in the same way as the first was produced by the secreting surface of the sac. In other words, the layers must successively become secreting tissues. The first must become so organized and modified as to be capable of secreting lymph for the formation of the second, the second for the third, the third for the fourth, and so on. But so far is this from being the case, that the vascularity of the coagula has been doubted by very eminent physiologists. Admitting, however, that this lymph acquires some degree of vitality, and that it becomes vascular, which we think very probable, it is, nevertheless, probable, from the above view, that it is not a substance secreted from the surface of the aneurismal bag, because nothing like a secreting membrane can be discovered on the surfaces of the successive layers. On the other hand, we have some facts to show that coagulable lymph may be deposited, or may separate from the blood when the fluid is at rest, or nearly so. The buffy coat of blood drawn during inflammation may be adduced as one instance. Another is found in the coagula, or, as they are termed, polypi, discovered in the cavities of the heart after death. Moreover, we have often witnessed analogous appearances in coagula expelled from the uterus after delivery.

Upon the whole, then, it appears very probable, that coagulable lymph may become disengaged from the blood without the intervention of secretion. When the fluid is at rest, or when its motion is very slow, as it must be in large aneurisms, it separates into its component parts, and the coagulable lymph which it contains, whilst it remains surrounded with living parts, retains its vitality, and becomes, in a measure, a living solid. This is a fact of great importance in relation to the cure, whether spontaneous or artificial, of aneurism. The successive layers, formed according to the above process, offer additional resistance in something like a ratio to the increase of force with which the blood is driven against the parietes of the sac as the aneurism enlarges; and in some cases they form so rapidly as to counterbalance that force, and to fill up completely the cavity of the aneurism, thereby bringing about a spontaneous cnre. We are

glad to find that our views in this respect coincide perfectly with those of the author whose work is now before us.

With respect to the treatment of aneurism, it is unnecessary to offer any particular remarks upon the plans heretofore adopted. But we may be allowed to notice the principles upon which they are founded. Mr. Wardrop observes that 'the different modes which have been successively employed, are all in strict imitation of those *natural* or *spontaneous* processes of cure which have been mentioned.' We doubt, however, whether the imitation to the natural processes have been so strict in *all* the methods employed as the author is inclined to suppose. We cannot perceive any strict analogy between the old mode of operating—that of cutting down into the aneurismal tumour, removing the contained blood and tying the extremities of the vessel—and any one of the natural processes already noticed. In cases where the aneurism sloughs in the spontaneous process of cure, the vessel has become previously impervious, and all danger from hemorrhage is over before the integuments give way. However, as this mode of operating is now very properly exploded, it would be only a waste of time to dwell upon it.

Before the principles upon which the cure of aneurism is founded can be properly understood, it is necessary, as we before observed, to consider, 1st, the properties of the arteries as living tubes; 2nd, some peculiar properties of the blood; and, 3rd, the laws which govern fluids in general, both while in motion and at rest. Our limits will not permit us to give a full exposition of these principles. We shall content ourselves with stating a few of the facts connected with them.

The arteries possess very peculiar properties of adapting themselves to their contents. That they should be *full* in healthy, plethoric subjects is, perhaps, no more than what every one would expect. But that a plethoric individual, after having some pounds of blood abstracted from his vessels, should have his arteries equally full, is a fact which has been doubted by some, and accounted for in different ways by others. The fact, however, being established, the question is, by what property are the vessels enabled to adapt themselves to the quantity of blood which they contain, so that they may not oppose the motion, by causing great resistance, when that quantity is great, or render it irregular, by producing vacant spaces in the tubes, when it is small? This power has been generally attributed to the elastic property of the coats of the vessels. We have endeavoured, at various times, to show that this appeared an erroneous sup-

position. We may be allowed here to observe, that many of the functions of the arteries, even of the principal trunks, are perfectly incompatible with mere elasticity of the vascular tunics. The fact of the anastomosing branches increasing considerably in diameter as soon as the trunk from which they emanate is obstructed, may be adduced as one strong example of the incompatibility of some of the phenomena of these vessels with elasticity alone. This fact is important, inasmuch as it is related to the principles upon which the cure of aneurism is founded. Formerly it was feared that, if the chief artery supplying a limb were obstructed high up near the trunk of the body, that limb would die from want of blood; but no sooner was the experiment tried than such fear was found to be groundless. It has been proved that, even in a few hours only after the tying of an arterial trunk, some of its branches had become considerably increased in magnitude. It is by no means probable that this enlargement takes place owing to the mechanical force alone with which the blood is driven into the branches. The pressure on every part of the internal surface of the arterial tubes must be nearly the same according to the hydrostatic law, that fluid presses equally in all directions. The comparative amount of pressure on any portion of them will be according to the area of that portion. When this fact is kept in view, and when it is considered that it is the tendency of the heart to distribute the blood in equal proportions to every seat, according to the calibre of its vessels, it will appear evident that the tying of the trunk of an artery can have no more tendency to increase the quantity of blood going to the collateral branches of *that trunk*, than to increase that going into all the other branches situated between the ligature and the heart, unless the former vessels *dilate of their own accord*, to admit a column of fluid of greater diameter than they did before the application of the ligature. The obstruction caused by the ligature applied to the trunk cannot render the force with which the blood is driven against the mouths of its branches, given off immediately above the ligature, greater than it was before the main trunk was obstructed. These branches must dilate, by a vital property inherent in their tunics, before the heart can send more blood into them, than it did before the main trunk was obstructed. It might be supposed, on superficial consideration, that if, in an artery which bifurcates, one of the branches be tied or otherwise obstructed, the blood would then be driven into the other branch with a force double that by which it was propelled when both branches were open. Such a view will appear perfectly erroneous when we consider that the whole arterial

system is always full, and that the blood is an incompressible fluid. The effect of the ligature so applied would be, if the arteries were mere inanimate tubes, to quicken the circulation in the same ratio in all the branches between the obstruction and the heart. The force propelling the blood into the branches near the ligature could not increase in a greater ratio than that which propelled it into the other branches leading from the same channel. Vitality does not destroy the hydraulic properties of the vessels. Vitality only enables them to change their calibre according to circumstances, and they preserve the properties of hydraulic tubes as perfectly whether their calibre be great or small.

Without enquiring at present into the vital causes which determine the arteries to change their diameter under different circumstances, we shall only observe, as being a fact intimately relating to the principles upon which the cure of aneurism is founded, that as soon as a ligature is applied to an artery, the collateral branches of the vessel, especially those near the ligature, assume a larger calibre, not owing to the blood being driven into them with a force much greater than it was before, but owing to a vital property inherent in their tunics, by means of which they are enabled to change their capacity according to circumstances. If the blood were forced into these branches with greater power than before the application of the ligature, it must also be forced with a power increased in the same ratio into the original channel, so far as the obstruction. The effects of this would be to keep this channel open; whereas, in truth, it becomes contracted in a short time, and ultimately converted into an impervious chord. The cavity of the tube becomes impervious up to the nearest branch. It is upon this principle that the operation of tying the vessel on the *distal* side of the tumour is proposed for the cure of aneurism. It was inferred from this fact that, if a ligature were applied to the artery as near as possible to the aneurismal tumour, on the distal side, the circulation would cease in the sac, and that the vessel would probably become impervious on the proximal side so far as the branch nearest to the aneurism. This inference is now supported by several facts.

The property connected with the blood which deserves particular attention in the consideration of this subject, is that of coagulating while at rest, even in the living body, if the fluid be healthy. When a ligature is applied for the cure of aneurism, above the tumour, or between it and the heart, the sac does not empty itself altogether of its contents. A great part of the blood coagulates, and is afterwards removed by absorption; or, perhaps, some of it becomes organized.

But there is reason to infer that the blood will coagulate in the body although its motion may not have entirely ceased. In our last Number we hazarded an opinion that this effect takes place in gangrene consequent upon inflammation. Its motion may become so slow as to allow its constituent parts to separate from one another. This takes place in some degree in all aneurisms. The motion of the fluid within the sac must be considerably slower than in the vessel leading to or from it. If this motion become so reduced as to permit the fluid to form a coagulum, the aneurism undergoes a spontaneous cure. The object, therefore, is to assist nature to bring about this effect. This object may be accomplished when the aneurism occupies a situation so that a ligature may be applied on the vessel between it and the heart. The current is thus entirely, or chiefly, cut off from the sac, the contents of which have time then to coagulate. It may now appear extraordinary that this fact was not discovered and acted upon until of late years, when the genius of Hunter brought it into notice. Being now well known, nothing appears more simple.

But an aneurism may be so situated as that a ligature cannot possibly be applied on the vessel on the cardiac side of the tumour. What plan ought to be pursued under such a circumstance? Until Mr. Wardrop brought about a revival of a plan proposed by Brasdor, about half a century ago, cases of the above nature were considered beyond the reach of surgery. It is true that Valsalva's method—of repeated bleedings until the patient is reduced to an extreme degree of weakness—was generally, and is still, acted upon, with the view of assisting nature to bring about a spontaneous cure. Although the principle upon which Valsalva's plan is founded is correct, still it seldom leads to a successful result. In the absence of more efficient means, it was acted upon, and sometimes with success, and in cases of aneurism of the aorta, it is still the only remedy in our possession calculated to prove of any service.

The principle of Valsalva's method consists in reducing the power of the heart, and, consequently, in diminishing the force with which the blood is driven into the aneurismal sac, so as to give the fluid a chance of forming a coagulum. If we suppose the blood to be originally propelled into the cavity of the aneurism with a force equal to two pounds to the square inch, and if, by means of repeated bleedings, the administration of digitalis, abstinence from food, &c., that force can be reduced to one pound to the inch, or less than that, it is evident that the blood in the aneurismal sac will approach nearer to a state of rest than it did before, and

that it will, consequently, have a greater tendency to coagulate. Moreover, by reducing the power of the heart, we also diminish, in the same ratio, the internal pressure which tends to augment the size and burst the aneurism, so that, by pursuing the depleting plan, two advantages are gained.

In spite of this method, however, the tumour will generally continue to increase, although not with the same rapidity as it did before. This being the case, any method calculated in any way to bring about a cure, or even to check the progress of the disease, deserves the most serious consideration on the part of surgeons. With the view of effecting this object, Brasdor proposed tying the vessel on the distal side of the tumour. This operation Mr. Wardrop recommends, and he is now enabled to adduce several cases in proof of its efficiency. Before laying an abstract of these cases before our readers, we may be permitted to say a few words on the principle upon which the operation is founded, in which principle, as we observed at the commencement of this article, we find no incorrectness.

It is well known that when a ligature is placed on an artery a coagulum forms in the vessel, on the side next to the heart, of that ligature. The vessel in a short time becomes impervious in all the space situated between the ligature and the nearest branch given off on the cardiac side. The rationale here appears to be, that, as soon as the ligature is applied, the blood, driven against the point of obstruction, becomes in a measure stagnant. The collateral branches soon enlarge, so as to allow the current to flow into these side channels, thereby not to disturb materially the fluid which exists between them and the ligature. The blood, being thus permitted to remain at rest in this part of the original channel, forms a coagulum, and, in time, blocks up the cavity of the vessel altogether; whilst the collateral channels undergo a progressive enlargement to allow free transmission to the fluid. Moreover, the arteries, when deprived of their contents, possess the property of contracting, so as completely to obliterate their canal. This process takes place in the space between the ligature and the nearest branch. This portion of the vessel then, owing to these two causes (coagulation of the blood in the first place, and contraction of the tube in the next), becomes perfectly impervious, and the blood is left to find other channels.

From the foregoing facts it was to be inferred, that if an aneurism intervened in this space, between the ligature and the collateral branch next to it, an analogous effect would take place—that the blood in the aneurismal sac would form

a coagulum, and that the part of the vessel immediately leading into it would become impervious. We are now in possession of several facts to prove the correctness of that inference.

Such then is the principle of the operation proposed by Brasdor. From a review of all the facts which have been noticed in this article, with relation to the properties of the blood-vessels, of the blood, as well as of the laws which govern fluids in general, we can discover no incorrectness in this principle. It is to be regretted that some should have thought proper to condemn it without enquiring sufficiently into its nature to enable them to form a just estimate of its merits. If they still continue to oppose it they must do so in the teeth of several facts. It may be asked, upon what principles is the method objectionable? Let these principles be explained. Some might, perhaps, be disposed to think that, by tying the vessel beyond the tumour, the blood would be forced with redoubled power into the aneurismal sac. But such an idea cannot be entertained by those who have a correct knowledge of the properties of fluids. Instead of such an effect occurring after the application of the ligature, the tumour has been found to diminish in size almost immediately.

We have been hitherto speaking of aneurism so situated that no principal branch is supposed to be given off between the ligature, applied on the distal side of the tumour, and the entrance of the vessel into the sac; but cases may present themselves in which a large branch may be given off either in the seat occupied by the aneurism, or so near to it on the distal side as to render it impossible to apply a ligature between such branch and the tumour. For instance, if, in aneurism of the arteria innominata, we apply a ligature on the right carotid; the subclavian being given off between the ligature and the aneurismal sac, the motion of the blood will still go on in the cavity to the aneurism, and the object of promoting the coagulation of the fluid in it may be defeated. If even the subclavian artery, as well as the right carotid be obstructed, still about four branches of considerable magnitude are given off from the former between the tumour and the point where the vessel emerges from between the scaleni muscles, which is the point nearest to the heart at which the artery can be tied. It is obvious that this circumstance must militate very considerably against the caagulation of the blood in the aneurism and the consolidation of the tumour. But the question to be considered is, is this cause sufficient to render such an operation of no avail, so far as the cure of the disease is concerned? So far as one

far as *one* case only may be considered as an illustration of this point, the question may be answered in the negative.

Now, it is well known that the carotid and the subclavian arteries are the two main channels leading from the arteria innominata, which we suppose to be the seat of the aneurism. Supposing these to be of equal size, as Mr. Wardrop does; by tying the former vessel, from which no considerable branches are given off, we at once diminish the quantity of blood moving through the tumour to half what it was before. If we suppose, again, that the diameter of all the branches of the subclavian, given off between the point where the vessel emerges from between the scaleni muscles and the innominata, be, when taken collectively, equal to the trunk from which they emanate—if the circulation be obstructed in the subclavian at the point already mentioned, the quantity of fluid passing through the aneurismal sac will be still further reduced very considerably. Mr. Wardrop says to one-third of the original amount; but according to the view which he takes of it, the quantity which would then move through the tumour would only amount to one-fourth of the original, and not one-third. Moreover, it should be considered that these branches are given off in the form of angles; and that, therefore, supposing that they are, taken collectively, equal in diameter to the trunk from which they emanate, they cannot, according to hydraulic principles, take up half the blood sent into this trunk.

Mr. Wardrop endeavours to illustrate the above principles by a reference to a diagram inserted in his work; but we consider his views there, to a certain extent, erroneous. It would appear from his mode of illustration, so far as we can understand it, that if, for instance, a ligature were applied to the subclavian artery, at the point where it emerges from between the scaleni muscles, although the same quantity of blood that was sent to the trunk of that vessel before would not now be impelled into it, and made to pass through its branches, still the same quantity would be sent through the innominata as before the application of the ligature, and that the impetus with which the blood was driven from the subclavian into the axillary, would now be divided in equal proportions between the branches of the subclavian and the carotid only. If this were the case, a ligature on the subclavian artery would not diminish the quantity of fluid passing through the arteria innominata. It would follow, upon the same principle, that after amputation of the thigh, above the knee, the same quantity of blood would continue to be sent to the stump as was before sent to the whole limb; whereas, in fact, the arteries of the stump contract after a

time, by means of their vital properties, so as to prevent more fluid from entering the main trunk than sufficient to supply the remaining portion of the limb. But we believe that Mr. Wardrop's views may be correct, although his mode of illustration may lead to the error which we have pointed out.

Thus, we have endeavoured, in this article, to inquire into the causes which tend to give rise to the malady in question, to give an outline of its anatomical characters, and to point out the principles upon which its treatment is founded. Our limits would not permit us to follow the author, step by step, through his work, but we are happy to find that his views coincide for the most part with our own. We intended to insert here an abridgement of the cases wherein the operation of tying the vessel beyond the tumour has been put into practice, but as this article has already far exceeded the length it was intended, we must refer our readers to another part of the Journal for these *.

In conclusion, we beg to observe, that we consider that Mr. Wardrop has established a new era in the treatment of aneurism. His work will be perused with intense interest by every one who feels for the honour of the surgical art. We cannot sufficiently express our feelings of admiration of the correct views and sound judgment displayed throughout the volume.

II.—*Medical Essays on Fever, Inflammation, Diseases of the Heart, &c. &c.* By John Brown, M.D. of the Royal College of Physicians; of the Medical Society of Edinburgh; and one of the Physicians to the Sunderland Dispensary.

It is a trite saying, 'that a great book is a great evil;' and so, indeed, it is, if it contain but little matter. To the volume before us, however, this adage will, by no means, apply, there being in a small compass a very large proportion of important and original information. It comprises eight essays, written in a lively and perspicuous style. In his first or prefatory essay, the author touches upon several subjects connected with medical ethics—as the unhappy feuds that exist amongst us—the division of physicians into fellows and licentiates—the merits of English and Scotch degrees—and the utility of post-mortem researches. His remarks, it must be allowed, are generally judicious and candid, but we cannot altogether approve his sentiments on the

* See Synopsis.

subject of medical degrees. Having attained his honours from Edinburgh, Dr. Brown is naturally and commendably animated with all the feelings of filial affection. We too have undergone the ordeal of graduation in the Modern Athens, as well as in an English university, and may, therefore be considered competent to form an impartial estimate of their respective merits. To the latter we do not scruple to give our preference, because the period it prescribes for the attainment of degrees is much longer than that enjoined by the northern lights, and fully sufficient for the prosecution of literary and scientific pursuits, as well as those which more immediately relate to the medical profession. It is, indeed, true, that our time-honoured universities are not, in a strict sense, medical schools; but it is equally certain their professors do expect from all candidates for degrees that they shall have studied in some such school, where they have enjoyed free access to every branch of knowledge connected with the healing art. The proficiency thus acquired is then tested by public exercises and examinations; and, should it prove satisfactory, the object of their ambition is awarded them. It is, we lament to say, too much the fashion of the present day to decry those ancient seats of learning, which have ever proved the glory of our country, and have sent forth into the world the most eminent of every profession. They have been represented as little better than the retreats of monkish ignorance and superstition—such calumnies are either the noxious spawn of ignorance, or, what is still worse, of some base and sinister purpose to deceive: but, from whatever source they may have sprung, they will, assuredly, miss of their aim, and serve only to add fresh lustre to the reputation they were intended to sully.

Having concluded his prefatory remarks, Dr. Brown enters on the very important SUBJECT OF FEVER. Of late the press has teemed with so many publications of this sort, presenting such a variety of statements and conflicting opinions, that the mind almost despairs of finding a resting place. The short and unpretending essay, however, now before us, is well calculated to supply this desideratum. It is written with much perspicuity, judgment, and candour, and discovers a mind capable of distinguishing between the sterling value of truth and the cobweb productions of the imagination; and daring to avow its sentiments heedless of the denunciations of angry theorists. These sentiments we propose, without farther comment, to lay before our readers; and, in doing so, we shall follow the order observed by our intelligent author. The first question he agitates, then, re-

lates to the NOXIOUS INFLUENCE OF MALARIA, OR MARSH EFFLUVIA ON THE HUMAN BODY.

The insalubrity of marshy districts was a fact which did not pass unnoticed in the latter periods of the Roman history, as the attempts made to drain and desiccate the marsh lands in the vicinity of the capitol abundantly testify. But the nature of the pernicious agent was wholly unknown until Sydenham drew aside the veil, by teaching that intermittent fevers were the offspring of some emanation from the soil itself. Lancisi, and other writers of inferior note, profiting by the hint, have bequeathed to posterity abundant testimonies in favour of this opinion. It must be confessed, indeed, that to the present hour the precise nature of these effluvia has never been satisfactorily ascertained; but of their existence we should suppose no one can for a moment doubt, who calls to mind that agues are the constant concomitants of a marshy soil—that they abound in such seasons as especially promote the decomposition of vegetable matters—and disappear again in proportion as the circumstances favourable to such a state are obviated or removed. In short, it seems to us as certain as physical evidence can make it, that paludal effluvia, are the sole and exclusive cause of intermittent fevers. Strictly speaking, however, marshy districts (as our author properly observes) are not the only sources from whence these noxious miasmata proceed. According to his experience, the scorched and extensive plains of Estremadura and Alentejo, through which the Guadiana slowly moves, yielded them in abundance. Neither ought this to be a matter of surprise when we reflect, that the tract of country here alluded to is represented as a RICH, AND LEVEL SOIL, and, by consequence, incapable of ridding itself of its incumbent moisture only by the very slow process of a natural drainage; add to these circumstances the beams of a powerful sun, and you have every condition requisite for vegetable decomposition. IN EFFECT, therefore, if not in appearance, it is a marsh; and, as such, one cannot wonder that intermittents should prevail in such a territory, and especially towards the oozy borders of the stream by which it is intersected.

It must here be observed, however, that agues do not seem to be the only products of a marshy soil. Our author is of opinion that cholera, bilious diarrhœa, and dysentery, often originate from the same cause, peculiarly modified, and in this opinion we are strongly disposed to concur; for every one knows how greatly the hepatic function is apt to suffer in cases of intractable intermittents. May not, therefore, cholera and bilious diarrhœa (which are mainly attributable

to such disordered function, and are the usual concomitants of aguish seasons) be, with a good show of probability, ascribed to the operation of marsh miasmata in some peculiar state of modification? It is, indeed, very far from our intention to assert that miasmata, thus modified, are essential to the existence of these maladies, or, in other words, that they can proceed from no other cause. For we are persuaded that long-continued droughts and high temperatures, suddenly succeeded by the opposite states, are, of themselves, equivalent to such effects. Perhaps, however, we shall approach nearest to the truth if we suppose the diseases in question generally to arise from the operation of these causes in conjunction with some mephitic influence; a combination, indeed, from whose malignant power it is probable that that most painful of all human afflictions, neuralgia, does occasionally spring.

But it is time to pass on to our author's SECOND SECTION, in which he proposes to illustrate the action of malaria, during, and subsequently to, the year 1825. The practice of Dr. Brown, it would seem, is confined to a circle of about thirty miles, including the towns of Sunderland, Bishopwearmouth and Monkwearmouth; and comprising a population of about 3500 souls. This district is described as consisting 'of a clayey, loamy, chalky soil, on which sea wrack is much employed as a manure on a substratum of limestone;' and it is watered by the river Wear, on whose muddy banks a considerable quantity of animal and vegetable recrement is exposed during the recess of the tide. In ordinary years agues are scarcely known to its inhabitants, but about the autumn of 1825, a fever, preceded by cholera and bilious diarrhœa, began to make its appearance. It was accompanied by a delirium, not of the low muttering kind, but one in which the mind became highly sensitive, despondent, and strongly inclined to acts of suicide. It was, in short, just such a delirium as our author had formerly witnessed in the fevers of Spain and Portugal; and he is disposed to refer it to the diffusion of bile through the circulating mass.

In the autumn of the following year, viz. 1826, ague began to manifest itself. In some of these cases the apyrexia, after a few paroxysms, became incomplete, the heat of skin was generally great; 'the pulse hard, full, and frequent, the tongue red and glazed, and often exhibiting a brown streak in its centre; epigastrium tense and tender, with marks of biliary derangement; urine laden and skin tinged with bile.' There were also two well-marked exacerbations daily, the one at noon, and the other about eight in the evening, terminating in a few hours in a gentle perspiration, with remis-

sion of symptoms, but by no means complete apyrexia. Blood-letting was more required and better supported than in typhus; 'the blood drawn was generally cupped, and presented a strong buffy coat.' In some instances this order was reversed; the remittent fever led the way, and the ague followed; in others the remittent recurred on the subsidence of the intermittent. Extreme jactitation, irritability, and despondency of mind were never-failing concomitants.

During the years 1827 and 1828, intermittents were occasionally met with; but the peculiar combination of remittents with intermittents, as in the preceding years, did not make its appearance.

Such is the outline of the fevers which prevailed in the principality of Durham, from the year 1825 to 1828. An appearance so unusual in this district compels us to infer the operation of some extraordinary cause; what then could this have been? Our author answers the question when he tells us that the summers of 1825 and 1826, were characterized by uncommon heat. This extraordinary heat, doubtless, conduced, by the process of putrefactive fermentation, to a more than ordinary disengagement of noxious effluvia, and thus awakened a disease, which, for many previous years, had lain altogether dormant. With regard to the nature of the fever, especially that of 1825 and 1826, our author unequivocally avows his opinion, THAT IT WAS NOT TYPHUS, but that it seemed to occupy a place intermediate to this species and a genuine intermittent. In short he designates it as a remittent fever with bilious symptoms. 'Were I called on,' says Dr. Brown, 'to suggest a distinction between typhus and marsh fevers, founded on their etiology, I should say, THAT PROBABLY ANIMAL MATTER PREPONDERATED IN THE SOURCE WHENCE IT WAS ENGENDERED.' Now this is precisely the conclusion we should ourselves have formed on the subject, and it forcibly reminds us of the doctrine we long ago broached in the physic schools at Cambridge, viz., that, as genuine intermittents owe their origin to paludal effluvia, and typhus to the miasmata of putrescent animal matters, so the combination of the two causes produces a third species of fever, having some analogy or resemblance to them both, or, in other words, a remittent fever. In order to establish this point, we first endeavoured to make it clear, from the evidence of fact and experience, that agues were the true and genuine offspring of marshy soils—that typhus, contagious or malignant fever, was as truly and peculiarly the product of large, ill-ventilated cities, camps, crowded gaols, and every other situation in which large quantities of animal matter were undergoing the process of

putrefaction. The admission of these two points naturally afforded a presumption in our favour; but, preferring facts to *à priori* arguments, we then attempted to show, that wherever remittent fevers abounded, there, also, abounded the effluvia of both animal and vegetable substances. This, at least, was true with regard to the four epidemic remittents which, at different periods, ravaged various parts of Italy; and the fever that proved so fatal at Walcheren, and at Cambridge, in the year 1815. It would be an easy matter to swell this list of proofs, but we will content ourselves with adding, to those already quoted, the strong corroboration furnished by Dr. Brown in the essay now before us. For the fever he describes was evidently of the remittent kind, was preceded by very hot seasons, and broke out in a district watered by a considerable river, whose muddy banks were strewn with the filth and excrement of a populous neighbourhood—a more fertile source, therefore, OF BOTH ANIMAL AND VEGETABLE EFFLUVIA cannot well be imagined.

But it is time to notice our author's next section, which treats of CONTAGION. Upon this topic Dr. Brown is very brief. He contents himself with barely expressing his conviction, that not only continued fevers but even those of the intermitting kind may be propogated by contagion; adding, moreover, his belief, that atmospheric vicissitudes, fatigue, &c. are incapable of producing idiopathic fever, and that they only act by giving power to some poison previously lurking in the system. This observation brings us to the most important feature in the essay now before us, 'THE NATURE OF FEVER,' a subject which, notwithstanding the learning and ingenuity that have been lavished upon it from the earliest periods, still continues to divide the medical world. Our author commences his observations with the following remark:—'A poison being applied to the human frame, produces certain changes indicated by palpable and visible phenomena.' From these, he continues, the definitions of fever have hitherto been derived. Hippocrates, regarding inordinate heat as the grand characteristic of such disorders, designated them by the words πυρ, πυρετος, πυρεξις, πυρελαβε, &c. These titles are, perhaps, appropriate enough, but we are acquainted with no definition of fever which will bear competition with the excellent one given by Dr. Cullen: 'Post horrorem calor major, &c.' The only objection to which it is liable, is, that in every case the pulse does not appear to be more frequent, or the heat greater than natural. These instances, however, being extremely rare, affect not the validity of the general definition—or, even if they did, it would be sufficient to reply, that, in a science like medi-

cine, we must not look for strict logical accuracy, and that the definitions of diseases must, from their very nature, be imperfect.

With regard to the CAUSE OR NATURE OF FEVER, numberless theories have been proposed; but as it would savour more of curiosity than real utility to enumerate all the conceits of fertile imaginations, our author, very judiciously, confines himself to the eminent doctrines that have been advocated in modern times. After glancing at the now obsolete theories of Sydenham and Boerhaave, he touches upon that advanced by Hoffmann and Stahl, viz., 'that the first effect of the febrile poison is to diminish sensorial energy.' THE EXISTENCE OF SPASM, HOWEVER, IN THE EXTREME VESSELS, AS PROPOSED BY CULLEN, HE UNSCRUPULOUSLY REJECTS. Here, we candidly confess, we think him mistaken. Quite as inimical as Dr. Brown to the notion of a *vis medicatrix*, with all its salutary tendencies and operations, we are, nevertheless, persuaded that the doctrine of spasm, or rather constriction of the capillary system, is as consonant with fact and truth as the doctrine of sensorial disturbance itself, that first link in the chain of febrile causation. In proof of this opinion, it seems sufficient to cite the rigors that usher in a feverish paroxysm, with their inseparable concomitants, pallor and suppressed cutaneous exhalation. These phenomena, however, Dr. Brown would ascribe to a diminished energy of the heart MERELY, and, therefore, associates them with the ordinary effects of fainting. With how much 'propriety,' we will pause a moment to inquire. Common observation teaches, that, in the first stage of a febrile paroxysm, the paleness of surface is often as great as in actual syncope, and the rigors much more severe and durable, while the action of the heart itself is comparatively but little impaired. In a fainting fit, indeed, sense and consciousness are for a while abolished, the pulse becomes imperceptible at the wrist, and the skin suffused with copious perspiration. Are these the phenomena of a febrile paroxysm? Nothing, surely, can be more absurd than the attempt to identify such opposite states—the one arising simply from a suspension of the circulating function, while the other is the obvious result of constriction in the capillary system. Notwithstanding, therefore, Dr. Brown's opinion to the contrary, we will confidently affirm that spasm, constriction, contraction (or call it by what name you please) of the capillary system in fevers, is a doctrine founded in nature; and is the principal, yea, almost the sole, reason why, in pyrexial disorders, blood enters not that class of vessels in its ordinary proportion.

This fact being established, we naturally seek for its cause. Our author, indeed, has expressed his doubts as to whether the nervous and vascular systems are not SIMULTANEOUSLY affected in fevers. Upon this subject we ourselves entertain no doubt, being convinced, if due attention is paid to the first approaches of a febrile paroxysm, it will be found that the evidence of capillary constriction does never occur until after the premonitory symptoms of languor, lassitude, headach, and the other marks of sensorial disturbance; and, happening thus consecutively, these different states may be fairly presumed to bear to each other the relation of cause and effect—a conclusion still farther corroborated by the circumstance that we have convincing proof of the IMMEDIATE INFLUENCE OF THE SENSORIUM OVER THE CAPILLARY SYSTEM. Thus, a sense of shame fills the cheeks with blushes, and fear turns them pale. Numberless are the proofs that might be adduced to show how readily the system may be affected by various causes acting in a manner altogether independent of the heart itself, and we cannot but regard every such instance of change in this order of vessels, as the effect of some previous impression made on the nervous fibrils to which they belong.

Quitting Cullen, however, and his school, our author next adverts to the theories which now, and for some years past, have greatly agitated the medical world. These theories ascribe to fever an inflammatory origin. Some, as Clutterbuck, maintain that the seat of the inflammation is the brain, while others, as Broussais, and his numerous followers, place it in the mucous membrane of the stomach and bowels. Each of these doctrines our author has laboriously investigated, and most successfully refuted. 'If (says he) inflammation of the brain or any other organ, were the essential cause of fever, the bark and wine practice must, contrary to experience, have been uniformly pernicious; and the hundreds of poor Irish who recovered from the fevers of 1816 and 1817, without any medical assistance, would have been next to a miraculous occurrence.' But it is out of our power to convey an adequate idea of the admirable line of argument with which the doctor has assailed these abettors of the inflammatory doctrine. To us, indeed, it ever appeared as nothing better than mistaking effects for causes, the inflammations being, in our apprehension, rarely coeval with the first attacks of fever, but generally springing up in its course. These writers, our author is willing to admit, have done good, by calling the attention of physicians to the internal lesions to which typhus frequently leads. To the learning and ingenuity (and he might have added the mode-

ration) of Clutterbuck, he has paid a very just tribute, but the professor of Val-de-Grace will find reason in this essay to repent of the arrogant tone and uncourteous behaviour he has observed towards all those who have ventured to call in question the truth of his untenable dogma.

The only remaining consideration that need detain us in this part of our subject relates to CONGESTION, a doctrine first particularly insisted on by Armstrong, and proved by a multitude of facts. It was peculiarly gratifying to us to observe that Dr. Brown explains this state upon the same principle on which we have endeavoured elsewhere to account for the accumulations that are found in the venous system after death, viz., a debilitated action of the heart *.

From all then that has been here advanced, it would appear that in every species of miasmatic fever some poison enters the blood, and thus gains access to the sensorium. The morbid impression it there makes soon awakens derangements in the circulating system—enfeebling the heart itself, and throwing the capillary vessels into a state of constriction. Venous congestion is the effect of the former, and a suppression of ordinary secretions the consequence of the latter: hence, all the symptoms peculiar to this class of fevers. The period of their existence will, of course, vary with the duration of the noxious cause. Either death will ensue, or, the poison at length losing its virulence, a crisis happens, the morbid catenation is dissolved, and the functions return to their healthy condition.

But it will here be naturally asked, in what manner does the depression of the heart's energy conduce to venous congestion? The answer is obvious. For, supposing the power of this organ to be diminished, the quantity of blood impelled by it into the arteries, dato tempore, must be less than usual—accumulation then in the veins is the necessary consequence, and those parts of the venous system ought to suffer most whose circulation is the slowest and most complete—in other words they ought especially to feel such defalcation of the heart's force. Now, this is precisely true in point of fact—the brain and liver being, unquestionably, the grand seats of venous congestion. It is highly worthy of remark also that these organs, or their dependants, in regard to circulation, are the almost exclusive situations of the inflammations that so frequently occur in fevers. Reversing, therefore, the order of Clutterbuck and Broussais, we should be disposed to assume that the congestions lead to the con-

* See a Communication in the 28th Number of the *Medical Repository*, by F. Bailey, M.D.

sequent inflammations—a transition at once easy and natural, and utterly subversive of the phlogistic hypothesis.

There is one other consideration arising out of the view here taken of the nature and cause of miasmatic fever. We have maintained the doctrine of general capillary constriction. This is most manifest from the defective and vitiated state of all the secretions; but, especially from the total suspension of perspiratory discharge. But it may be very properly asked, how such opposite states as paleness and flushing can be consistent with the same condition of the cutaneous vessels? Very easily, we reply; the two cases differ only in the degree of constriction: in the instance of paleness it is extreme; in the case of flushing, the vessel being comparatively free from it, admits the circulating blood, and this gives origin to the appearance of flushing. But, that the extremity of each vessel is still under the influence of the constricting cause, is undeniably proved by the total suspension of cutaneous exudation—a condition by the way that, of all others, has the most powerful tendency to raise the temperature of the surface.

With regard to the TREATMENT of fever, our author only professes to give us some observations he has made as to the more powerful remedies employed in that disease. He begins with the practice of blood-letting. Moderate venesection in the early stages, especially when there is ground for suspecting inflammation, he approves; but he thinks excessive evacuations of this kind rarely, if ever, requisite. It is also to be resorted to with caution in constitutions debilitated by age, disease, or luxury; as also in persons of the middle period of life, 'whose minds and bodies are continually taxed to the very utmost of their powers.' In the more advanced periods of fever, our chief reliance, Dr. Brown observes, must be placed on topical bleedings. BLISTERS he recommends in the 'torpid form of delirium,' but in the more active species he prefers cold stupes. There is, indeed, one disadvantage in the application of blisters to the abdomen, that is, they deprive us of the opportunity of ascertaining from time to time the degree of tenderness that may exist in the part. The practice of endeavouring to affect the constitution with mercury, our author disapproves, because he believes this mineral does not possess any power of cutting short or interrupting the process of fever. To this opinion we entirely subscribe. Emetics, he says, are useful at the beginning for clearing the primæ viæ, determining powerfully to the surface, and rousing the secretory functions. Indiscriminate and excessive purging is, in his estimation, objectionable; but he thinks it a valuable re-

medy, when well-timed and judiciously administered. This is precisely our own view. If, as not unfrequently happens, a tendency to intestinal inflammation should exist, the impropriety of irritating the intestines with strong and frequently-repeated doses of cathartic medicines must be apparent.

Sulphate of quinine Dr. Brown deservedly applauds, but he observes, with great truth, that it is only applicable in strictly apyrectical states of the system. His dose is two grains in a little distilled water, repeated according to exigency at the interval of three or four hours. Astringent vegetable infusions seem to impair the virtues of this medicine. Our author has favoured us with some judicious remarks respecting the use of wine and other fermented liquors. They should ever be used moderately, and only in that species of fever so well described by Huxham, and denominated the 'slow nervous;' and in which vascular excitement bears no proportion to that of the nervous system. In the same sort of fever Dr. Brown also recommends the occasional use of narcotics, but especially does he advise this remedy in the latter stages of typhus, when the vascular derangement suddenly subsiding, the most distressing marks of nervous excitation remain. Thus, are we brought to the conclusion of our author's remarks on the treatment of fever, and we therefore proceed to the subject of his third essay, INFLAMMATION.

This essay, however, being preliminary to those that follow, is professedly brief. Would that it had been penned with our author's accustomed perspicuity! but this is a fault chargeable not so much on him, as on the defective state of our knowledge with regard to the subject on which he writes. It may be vanity in us, perhaps, to think of throwing additional light on so beautiful a subject; but we crave our reader's indulgence while we make the attempt, promising him we will encroach as little as possible on his patience.

Disease, then, we affirm to be, in general, an assemblage of certain phenomena not cognizable in ordinary health. It is a morbid catenation, all of whose links are mutually dependant; and although the summit of that chain may be for ever hidden from our view, it is nevertheless the physician's duty, as it is certainly within his power, to ascend through some gradations towards it. Encouraged by this reflection, we approach the difficult and much-litigated topic: when any part becomes red, hot, swollen, and painful, it is said to be INFLAMED. These appearances are the undoubted result of an inordinate afflux of blood to the vessels of that part. But what, it will naturally be asked, is the reason of this extraordinary determination? To obtain a satisfactory reply to

this question we must first make ourselves acquainted with the functions of the capillary system, by all agreed on as the seat of inflammation. But since this order of vessels is too minute to be made the subject of experiment, we must endeavour to ascertain their properties through the medium of the larger vessels (as the arteries), of which they are the continuations. Now we have attempted to prove, in a former number of this Journal, that the arteries are endowed with two opposite powers or properties—the one called VITAL CONTRACTILITY, serving to lessen their diameter; the other, an ELASTIC PRINCIPLE, tending to increase it*. By a proper adjustment of these contending forces, the vessel assumes a certain calibre, or, in other words, its natural magnitude is determined. And since the property of elasticity may be considered invariable, it is fair to ascribe all the changes the vessel undergoes with respect to magnitude, to corresponding changes in the state of its vital contractility. Suppose, therefore, such vessel, in any degree, to lose its vital contractility, its calibre being thereby proportionally increased, it will contain a greater volume of blood; in other words, blood will be determined to it in unusual quantity. ASSUMING, THEN, THAT THE CAPILLARIES ARE SUBJECT TO THE SAME LAWS AS THE VESSELS FROM WHENCE THEY SPRING, (A SUPPOSITION SANCTIONED BY ANALOGY), IT IS OBVIOUS THAT ANY DIMINUTION IN THEIR VITAL CONTRACTILITY WOULD, IN LIKE MANNER, LEAD TO AN INCREASED FLOW OF BLOOD INTO THEM; AND THIS AGAIN TO ALL THE PHENOMENA THAT CONSTITUTE A STATE OF INFLAMMATION, THE CHARACTER OF WHICH WILL BE EITHER ACUTE, SUB-ACUTE, OR CHRONIC, ACCORDING TO THE INTENSITY AND DURATION OF THE CAUSE PRODUCING IT.—To the condition of the vessels themselves, then, are we to look, in our endeavours at explaining the nature of inflammation. Thus far we think our ground secure; but we will hazard another step: that the nervous system exercises some control over the blood-vessels generally is exceedingly probable; but its influence over the capillary vessels is too well substantiated by fact to need any comment. May we not, therefore, fairly presume that the cause of inflammation, be it what it may, first makes its impression on some part of the nervous system, in consequence of which derangements in the capillary circulation are produced?

Such is the outline of our sentiments on the subject of inflammation. So far as it goes, we trust it is faithful; but to shadow it out into a perfect representation, must be reserved for some other opportunity. If accordance, not only

* See Remarks by Dr. Bailey, in reply to Dr. Lucas, in the 4th Number of the *London Medical and Surgical Journal.*

with the phenomena of disease, but with the operation of remedies, be tests of excellence, we may, without arrogance, claim these merits for the theory here proposed. That it will not square with the notions of active and passive inflammation, as imbibed by our author, we readily admit; but let not this be construed into any objection to it, until it shall have been proved that such a division has some foundation in nature. With this remark we pass on to the TREATMENT.

Our author, in his enumeration of the remedies of inflammation, very properly, begins with BLOODLETTING. The extent to which this evacuation ought to be carried, he, in general, leaves to the judgment of the practitioner; only observing that, where the constitution is vigorous, and the attack severe, a quantity less than twenty ounces will be small, and more than thirty, large. He prefers stopping a little short of syncope, from a conviction that unfavourable reaction is apt to supervene on such an occurrence. If the momentum of the blood should be considerably lessened by repeated venesections, without a correspondent amendment of the other symptoms of inflammation, cupping and leeching must be had recourse to. Persons whose circulation is languid, from a preternatural thinness and weakness of the heart's parietes, bear blood-letting ill—and should not, therefore, be exhausted more than is absolutely necessary. The buffy coat, in the estimation of our author, is no criterion of the extent to which this remedy ought to be carried; and he accounts for this appearance upon the supposition that the fibrine is not more fluid, but more SEPARABLE, from the other constituents of the blood than in a state of health. *Mercury* is the next remedy to which Dr. Brown adverts. Blood-letting, he very properly observes, ought to precede the use of this mineral: for unless the state of excitement be sufficiently subdued, the system is insusceptible of its influence. With this precaution, however, there is assuredly no single remedy that possesses such a power of unloading the capillaries, and thus restoring the lost balance of circulation. Whether it produces these salutary changes by some previous excitement of all the secerning organs, (which is indeed probable) we will not take upon ourselves to determine: but we have had such striking proofs of its efficacy in the worst and most virulent forms of inflammation, that we cannot withhold these strong testimonies in its favour. Such reliance do we place on it, that we consider the danger of inflammation past so soon as the constitutional effects of this medicine begin to manifest themselves. Scrofulous and tuberculous affections seem to be the only disorders in which the use of it is forbidden. Of

tartar emetic, in inflammation, our author speaks with approbation. If timely administered, he thinks it will diminish the necessity for venesection. His dose to adults was a grain, or a grain and a half, every second or third hour: he highly extols it also in the bronchial inflammation of children.

In the height of inflammatory excitement, our author is unfavourable to the use of narcotics, as, indeed, is every other rational practitioner: but when this state shall have been somewhat subdued, he strongly advises them in combination with calomel, ipecacuan, squill, &c. According to our own experience, this is the best method of administering narcotics: but there is good reason to think the advantages ascribed to them, in such a state of mixture, do really, in part at least, belong to the other medicines with which they are combined. Opium, in the form of the black drop, is our author's favourite remedy, when it is necessary to give a full dose of some narcotic. In the latter stages of inflammatory disorders, we often observe a high degree of nervous irritation and exhaustion, accompanied with a small, frequent pulse. In such states the effects of a full dose of opium are almost magical. Digitalis is ranked by Dr. Brown among the narcotics; and he considers it especially calculated for lowering vascular excitement, without tending, like other remedies of this class, to lessen secretion. Its operation on the kidnies is the result of a previous excitation produced by it in the absorbent system.

Rheumatism is the subject of our author's fourth essay. His account of this disorder, although brief, is pregnant with valuable information. It is, as he very justly observes, a complaint of a nature so highly inflammatory, that the inexperienced would at once decide on the necessity of the strongest antiphlogistic measures. Observation, however, proves the rashness of such a procedure. For, whatever be the cause of rheumatism, whether it originate after the manner of all other inflammations, or be the peculiar product of miasmatic poisons, this at least is certain, that it is extremely liable to metastasis; and that such metastasis has often been the result of large and injudicious evacuations. So long, however, as the morbid cause shall occupy itself in the extremities, there is no room for apprehension: but, unhappily, it is sometimes disposed to travel inwards, and attack the great organ of circulation. Such instances, in the opinion of Dr. Brown, are no unfrequent occurrences, and especially after copious venesection, or any sudden and violent interruption in the way of medicine. The reason of this is sufficiently manifest. Fibrous tissues, as tendons,

ligaments, and ligamentous expansions, are the acknowledged seat of rheumatism. Of this nature is the pericardium or investing membrane of the heart, which Dr. Godman has satisfactorily traced to the fascia superficialis of the thyroid gland. Is it, therefore, any thing surprising that to this, in common with all other ligamentous structures, the translation of the morbid cause should occasionally happen? The effects of such a change of place are so portentous that it ought not to be risked on any consideration of immediate relief to the patient. Upon this ground it is that Dr. Brown so properly reprobates all sudden and excessive evacuations. The only safe method of attempting the removal of rheumatic disorders is slow in operation. It should consist of saline, anodyne, diaphoretics, assisted by plentiful dilution, subacid fruits, and the occasional use of laxatives. Even colchium, against which our author has made no exception, we cannot but regard as a dangerous remedy. In one case of acute rheumatism which fell under our observation, and which occurred in a healthy young female, this medicine was freely administered. Its usual operation on the bowels ensued; in the space of twenty-four hours the swelling and pain of the joints had diminished, but the most alarming symptoms of translation to the heart were substituted in their room; but although, by prompt and energetic measures, this state was at length subdued, and the patient thus rescued from the danger of consequent disorganization, yet the case affords us an instructive example of the mischief that may arise, even from the employment of meadow-saffron.

Our author's fifth essay relates to the diseases of the HEART AND ITS INVESTING MEMBRANE. Of all the subjects that have occupied his attention, this, perhaps, is inferior to none in importance, and it is discussed in so able and compendious a manner that we cannot refrain from indulging our readers with a very short and imperfect sketch of Dr. Brown's sentiments. The causes of cardiac diseases are either physical or moral, or both;—and first of PHYSICAL CAUSES. Dr. Brown places RHEUMATISM the foremost in this list, and assures us that to this cause he has traced ONE HALF OF ALL THE HEART DISORDERS THAT HAVE FALLEN UNDER HIS OBSERVATION. That rheumatism frequently lays the foundation of structural affections of this organ our own experience convinces us; but, whether the estimate here given be GENERALLY correct is a point we cannot take upon ourselves to determine. The translation of rheumatism to the heart is a fact of which no experienced practitioner is ignorant. We have at this moment under our care a most distressing case of hypertrophy, whose origin was distinctly

rheumatic. The subject of it is a young lady, about twenty-one years of age. Several years ago she was attacked with rheumatism from exposure, not of the fixed and highly inflammatory, but of a wandering and sub-acute, character. It was very apt, indeed, to flit about from joint to joint, and, after the lapse of some time, she began to be affected with palpitations, on the occurrence of which the disease in the extremities uniformly disappeared, but regularly returned to those parts on the subsidence of the palpitations. The rheumatism has for a long period been absent, but the symptoms of pericarditis and hypertrophy of the left ventricle are most obvious. The starving system, however, with occasional venesection, and quietude of mind and body have relieved the urgency of those symptoms. We mention the case, because it seems in such strict accordance with the views of our author. But, although the translation of rheumatism to the heart was a fact not unknown to previous writers, it was reserved for Dr. Brown to point out the extreme frequency of the occurrence, and to demonstrate its connexion with the organic derangement to which it leads. These remarks, it must be confessed, are of great and unquestionable value, because they tend to prove the remediability of some of the most distressing and intractable maladies incident to our nature. In the words of our author, 'if the disease be seized in its present state, in the majority of instances the mischief to be dreaded will be prevented, and, in less successful ones, its intensity will be much mitigated.' Another cause of cardiac affections is EXCESSIVE EXERTION. It operates, according to the general law of muscular parts, by producing an increase of substance. ATMOSPHERIC VICISSITUDES, by driving blood on the central organs—ATMOSPHERIC IMPURITIES, by disposing to a cachectic habit—IMMODERATE IMBIBITION OF FERMENTED LIQUORS, by the excitation and plethora to which they give rise—TUBERCULATED OR HEPATIZED LUNGS, by occasioning venous congestion; and lastly, CONGENITAL DISPROPORTION BETWEEN THE VARIOUS PARTS OF THE HEART, complete the catalogue of physical causes to which derangements of the functions and structure of this organ may be fairly ascribed. But there are, also, MORAL CAUSES that tend to the same point. The influence of mental emotions on the heart is familiar to every one, sometimes depressing its energies, at others awakening them to a most alarming state of palpitation. Such agitations cannot habitually recur with impunity. Hence the prevalence of organic affections of this organ in commercial countries, and in the higher walks of life, where luxury and morbid sensibility render their possessors the easy victims of distracting

passions. Corvisart has remarked that such affections were unusually common during the appalling scenes of the French Revolution. The operation of these mental causes is generally direct, but sometimes through the medium of previous derangements in the digestive organs.

Our author's FIRST SECTION relates to DISEASES OF THE PERICARDIUM. This membrane is liable both to the acute and chronic species of inflammation. The first species is characterized by acute pain and uneasiness in the region of the heart; difficult breathing; restlessness; anguish; anxiety; inability to lie on the left side; paleness and disposition to syncope. The action of the heart is bounding, the pulse strong, full, and frequent.

HYDROPS PERICARDII is denoted by painful anxiety and sense of weight about the heart; difficulty of breathing, with sense of suffocation on attempting to lie down; faintings; pulse small, weak, frequent and irregular. Pulsations of the heart indistinct, and apparently through a fluid medium.

HYPERTROPHY OF THE LEFT VENTRICLE. Here the action of the heart is vehement, and bounding, shaking the whole frame, and extending over a large portion of the thorax. Pulse at the wrist full, strong, hard and vibrating, but regular.

IN HYPERTROPHY OF THE RIGHT VENTRICLE, the pulsation of the heart is most violent at the lower end of the sternum.

IN DILATATION OF THE LEFT VENTRICLE the pulse is feeble, and the beat of the heart weak and obscure.

IN DILATATION OF THE RIGHT VENTRICLE there is a sense of suffocation—sometimes hæmoptysis, lividity of the face, soft, feeble, and sometimes irregular pulse, distension of the jugular veins and a tendency to œdema. Our limits have prevented us from touching upon the stethoscopic signs of this description of disorders; and the same necessity compels us to pass over the chapters which treat of induration or softening of the substance of the heart; the affections of its internal lining and polypous concretions; all of which deserve particular consideration. We come, therefore, to DISEASES OF THE VALVES: these are either indurations, ossifications, or warty excrescences. When the valves of the LEFT SIDE of the heart are affected, especially the aortic valves, the pulse is sharp, unequal, irregular, and so exceedingly small as to form a remarkable contrast with the vehement action of the heart itself. When those of the RIGHT SIDE are the seat of disease there is less irregularity in the pulse, and less disproportion between the action of the heart and arteries.

In all extensive valvular disease, there are obvious marks of venous congestion; the countenance assumes a livid or violet hue, especially the lips; the hands are cold and blue, and the liver gorged. This stasis in the veins often leads to infarction of the capillaries of the mucous membrane; uneasy sensations in the epigastrium, and right hypochondrium, and mental lassitude. When the valvular obstruction is on the left side, hæmoptysis is apt to occur, with other symptoms of pulmonary engorgement.

That the heart may be affected by pains, analogous to those of neuralgia, there is good reason to believe. Parry's notion, with regard to the cause of angina seems to have no solid foundation. That ossification of the coronary arteries may occasionally predispose to it, we would by no means deny; but, looking at the circumstances under which such attacks usually occur, we are inclined generally to refer them to a spasmodic constriction of the organs, induced by causes ordinarily leading to that state in all other muscles.

Come we now to the TREATMENT OF DISEASES OF THE HEART. On this topic our author's discrimination and sound judgment do, in no degree, forsake him; and what he has advanced is in such strict conformity with our own views, that we can do little more than condense the observations he has made. In the acute and open forms of heart diseases, there can be no question about the propriety of the most powerfully antiphlogistic measures. When their approach is more insidious, also, a similar treatment is indispensible. Bleeding, both general and local, counter irritation by blisters and setons, mercury and digitalis, are the remedies in which our author places his chief confidence. The diet, moreover, should be spare, bland, and innutritious, and both body and mind should be kept in the utmost possible state of quietude. By these means the inflammatory or disorganizing process will be checked, and the labour of the heart lessened; circumstances, both of which are of the highest practical importance.

The chronic form of the disease being established, we have two opposite states to contend against, in one of which the heart's power is excessive, in the other deficient. In the former case we must still adhere to decisive antiphlogistic measures; but venous plethora being the great evil of defective action of the heart, produced by mere dilatation of its cavities, a different treatment must be adopted. Bloodletting is obviously an ambiguous remedy; for whilst, on the one hand, it promises some immediate relief by lessening plethora, it, on the other, increases that inaction of the heart on which such a state of plethora mainly depends. Vene-

section, therefore, ought to be had recourse to, not only very sparingly, but very seldom; and, perhaps, in any case, local detractions of blood are the best and the safest. The diet, also, in such cases ought not to be too scanty, and the drink should be a little stimulant. In the instances of venous plethora here alluded to, dropsical, or rather œdematous, appearances are not uncommon, and often relieve, for a while, distressing symptoms—by rousing the kidneys, therefore, and other emunctories to a vigorous action, such accumulations will be removed. Thus, an opportunity for a fresh deposit is afforded; which, being in like manner discharged, the venous plethora may, to a certain extent, in this way, be controlled in its progress. In addition to the remedies already specified, we would suggest the propriety of quinine in cases of mere dilatation; we do not mean separately, but in conjunction with diuretics and other evacuants. We have, indeed, no experience of its efficacy, nor do we pretend to speak confidently of its merits: but its celebrity as a tonic induces us to think it a remedy of considerable power in restoring those weakened energies of the heart, which are the never-failing concomitants of mere passive dilatation.

In his seventh essay, Dr. Brown has favoured the reader with three interesting cases of Ischuria Renalis. The first occurred in a person advanced in years, but of sound constitution. Not a drop of urine was secreted during seven days; at the expiration of which time a mercurial fœtor was observed in the breath, and, with this appearance, the kidneys vigorously resumed their function. The second case happened in a gouty, nephritic subject. For the space of eleven days, the kidneys had wholly declined their functions, but then, all of a sudden, urine flowed in great abundance. Six years afterwards this same individual experienced a similar attack. Gout, which had previously manifested itself in the knee, the feet and the hands, all at once disappeared, and excruciating pains in the loins, spreading from thence over the abdomen, were the consequence, and with these symptoms there occurred a total suppression of urinary discharge. In twenty-four hours the disorder terminated fatally; and there were found on the surface of the kidneys (which appeared lobulated) satisfactory proofs of inflammation. The cortical substance of these glands had acquired unusual paleness and softness.

In Dr. Brown's third case there was not a total suppression of urine. A drop or two now and then flowed, but in three days it did not amount to more than as many drachms. In a very few days this case also terminated fatally.

In no one instance did our author notice a urinary fœtor in

the perspiratory discharge; and he is inclined to regard the disorder here alluded to as one of a decidedly inflammatory origin. His methodus medendi, as may be expected, was strictly antiphlogistic. Venesection, purgatives and mercury with squill, were the remedies on which he relied; and, as it would seem from one of the cases, with a successful issue.

The length to which these remarks have been extended, now compels us to bring them to a conclusion. Already we fear our readers may be disposed to cry out, 'materiam superabat opus.' If we have merited the censure, we must rest our apology on the dignity of the subjects to which the volume before us relates. With Dr. Brown, we regret to say, we have not the slightest personal acquaintance; but seldom has it fallen to our lot to witness such an abundance of original and important information compressed within so small a compass, and we urge this consideration as an additional plea for our prolixity. In fine, we beg to express our obligations to the author of these excellent essays, sincerely hoping they may redound as much to his own benefit, as we are convinced they must to the advantage of medical science.

ORIGINAL COMMUNICATIONS.

I.—*Essay on the Gradual Development of the Nervous System, read before the London Phrenological Society.* By JOHN EPPS, M.D.

(Continued from Page 156.*)*

I HAD the privilege, Mr. President, on a former occasion, to draw the attention of the society to the different forms assumed by the nervous system in its development through the series of animals arranged by Carus, under the division of those WITHOUT BRAIN AND SPINAL MARROW, AND WITHOUT A VERTEBRAL COLUMN. In tracing this progress, it was pointed out that the primitive type of the nervous system consists in a *peripheral layer, embracing a central cavity;* the first modification of this being *ganglia situated round the stomach,* sending off nervous branches; the next a *nervous collar,* situated round the œsophagus; the next, *ganglia, situated on this collar,* sending off branches communicating with other ganglia, situated in other parts of the body. Then the ganglia of the nervous collar, consisting of a *superior and an inferior,* the superior called the cerebral, and the inferior; this inferior, in the next progression being absent, having its place supplied by *two lateral* ganglia; then, the cerebral ganglion being more fully developed, and a *nervous*

column extending from it down the *dorsal side* of the animal; these columns forming ganglia at distinct periods of its descent, whence nervous fibres are given off; and, lastly, the cerebral ganglion was found occupying, instead of the abdominal, the *dorsal* surface of the body, in which locality we find the brain in the higher animals.

It was shown also, that this gradually increasing complexity in the nervous system is accompanied with a corresponding increase in functions; so that our grand principle, THAT FUNCTION AND ORGANIC ADDITION ARE CONSENTANEOUS, has been hitherto satisfactorily demonstrated.

The animals placed by Carus under his second division, THOSE HAVING A BRAIN AND SPINAL MARROW, WITH A VERTEBRAL COLUMN viewed in reference to their nervous system, are now to be examined.

Before, however, proceeding any farther, it may be advantageous to draw the attention of the society to the following general remarks:—

1st. That the nervous system of those animals noticed, is placed in close apposition to those parts most important to the animal's existence, and constituting in chief the animal's frame. Thus, the principal functions belonging to the animals that we have considered are, digestion and motion; and the nervous system is found to surround, or to be situated close to, the apparatus for digestion, and then to send off nerves, these nerves forming ganglia in the part most devoted to motion.

Again, when the senses are added, then an upper or cerebral ganglion is added, whence issue nerves supplying the organs of the senses and the tentacula. This circumstance is mentioned, since it will be proved, that just in proportion as we have functions possessed by animals, superior to digestion and motion under its different modifications, just in proportion do we find this cerebral ganglion enlarge and become more distinct from those parts of the nervous system supplying the digestive and motive apparatus. As an illustration of this, the society will be so kind as to remember the peculiarity in reference to the cerebral ganglion in the sepia; namely, that this is received in a cartilaginous cavity, a shield, (a cranium in other words), and that, in addition, the branches going off are defended by cartilaginous arches. In insects, the distinction between the cranial cavity and spinal canal becomes more evident; a circumstance connected with the more perfect development of those mental functions, superior to the digestive and motive. Insects have a most decided skull; and the horny laminæ, which form the lateral parietes of the insect's body, are prototypes

of the ribs surrounding the cavities of the trunk in the higher order of animals.

There is another circumstance to be again brought before the notice of the society in reference to this peculiarity of the separate development of the brain and spinal cord, namely, that though in the articulata we have in each joint and segment of the body a nervous centre and nervous branches; yet the ganglia of these segments are situated always on the abdominal surface; but in the cephalic, or that segment peculiarly belonging to the head, the nervous ganglion is found on the *dorsal* surface, as already noticed.

Another general remark that may be made is, that the chain of ganglia is merely the rudimental form of the spinal cord in the higher animals. The truth of this view is shown by the circumstance of the analogy subsisting between these ganglia and the points of the spinal cord whence the nerves issue. The ganglia, it will be remembered, send off each a pair or two pairs of nerves; so the nervous mass, called the spinal cord, sends off from itself, at distinct intervals, (and at these intervals the cord more or less enlarges), pairs of nerves. This view of the similarity between the nervous system under the form of the chain of ganglia and the cerebro-spinal cord, Carus's translator observes, is the 'one most generally received,' and 'is that supported by the authority of Meckel, Cuvier, Blumenbach, Gall and Spurzheim.' 'The latter gentlemen in particular,' adds Mr. Gore, 'have furnished a strong proof of the correctness of this idea, by demonstrating that the spinal cord of the superior animals actually consists of a series of ganglia with intermediate contractions.' The accuracy of this view is shown further by the circumstance that the nervous system in insects is lodged in the segments of the body, each ganglion occupying a distinct segment. Now the same feature appears in the spinal cord of the higher animals. We have the bony canal in which this cord is lodged consisting of a series of osseous rings, from each of which pass out the nervous cords, arising at those intervals that have been noticed.

These general remarks have been noticed, in order that less difficulty may be found in arranging the different facts which have been, and necessarily will be, presented to the notice of the society before the conclusion of this paper.

CARUS'S CLASSIFICATION.

DIVISION II.

ANIMALS WITH BRAIN AND SPINAL MARROW, AND WITH A VERTEBRAL COLUMN.

CLASS IV.—PISCES. *Order* 1. SPINOSI.—Gymnotus,

Gadus, Trigla, Mullus, Sparus, Cyprinus, Silurus, &c. 2. CARTILAGINA.—Acipenser, Loppius, Raia, Squalus, &c.

CLASS V.—AMPHIBIA—REPTILIA. *Order* 1. BATRACHIA.—Salamandria, Rana, &c. 2. CHELONIA.—Testudo, &c. 3. OPHIDIA.—Coluber, &c. 4. SAURIA.—Lacerta, Crocodilus, &c.

CLASS VI.—AVES. *Order* 1. ANSERES.—Anas, &c. 2. GRALLÆ.—Fulica, &c. 3. PASSERES.—Covius, Sitta. 4. PICI.—Picus, Psittacus, &c. 5. ACCIPITRES.—Vultur, Strix. 6. GALLINÆ.—Columba, Pavo, Phasianus.

CLASS VII.—MAMMALIA. *Order* 1. CETACEA. Delphinus, &c. 2. WITH HOOFS.—Sus, Oris, Capra, Bos, Equus, &c. 3. WITH CLAWS.—Mus, Sciurus, Lepus, Castor, Canis, Felix, Vespertilio, Lemur, Homo, &c.

In considering the nervous system in this second division of animals, the spinal cord, the brain, and other nerves will be noticed separately.

The fourth class comprehends the PISCES, of which we have two orders, the spinous and the cartilaginous.

The spinal cord is long and cylindrical, having two grooves: a superior, deep, and an inferior, superficial, containing a canal, generally terminating in a single thread. The nerves arise in man from superior and inferior roots, on the latter only, as in man, ganglia being found. As in man where very large nerves arise from the spinal marrow, distinct swellings or enlargements are visible. This fact is exhibited first under that part which is called the lobe of the fourth ventricle; where between the origin of the fifth and eighth pair the spinal cord enlarges so as to resemble (observe the analogy) the medulla oblongata of the higher animals.

But this is still more particularly exhibited, secondly, at the points where the fins go off. Thus the spinal cord in the gurnard, or flying fish, has, on the part called the medulla oblongata, a double row of tubercles. Now the nerves arising from these tubercles supply the muscles of those fins which this fish uses for the purpose of flying. Hence, where function is appointed, structure is added.

Again, in the torpedo, or the electrical fish, are found in the fourth ventricle two large tubercles, whence the nerves originate that supply the electrical apparatus possessed by this animal, an apparatus used for the purpose of depriving its prey of power before devouring it, and also for its own defence.

In reference to the brain in fishes, the progression may be also observed. The brain is composed of several ganglionic bodies, distinct, yet aggregated. Sometimes these are five

in number in most fishes: in some the number is increased to ten. They are arranged in double rows, thus approximating to the division of the two hemispheres in the higher animals.

Beginning at the upper part of the medulla oblongata, we find a ganglionic body covering the fourth ventricle. This is generally single, and corresponding to the cerebellum of the higher animals, and is called the *lobe of the cerebellum*.

Anteriorly to this body, are two other ganglionic bodies, called the OPTIC LOBES, similar to the anterior corpora quadrigemina of the higher animals: they are hollow.

Anteriorly to these bodies there are two others, called the CEREBRAL LOBES: these seem to correspond to the cerebrum, strictly so called. In osseous fish, these lobes are two in number: in cartilaginous fish, generally but a single mass.

In several species there are two, and sometimes more, bodies situated anteriorly to the cerebral lobes. These, because giving origin to, or, at least, having an intimate connexion with the olfactory nerves, are called the OLFACTORY GANGLIA.

Such is an outline of the brain of fishes, and from this the progression in the development of the nervous system will be sufficiently apparent.

The society will observe the order of the arrangement of the individual portions of the brain; they are *behind* each other and not *below*. This position gradually passes away as we ascend in the scale.

The examination of the nervous system as exhibited in the different animals belonging to the fifth class of Carus's second division, namely the AMPHIBIA and REPTILES, may now be attempted.

In the amphibia the brain is more developed than in fishes. The spinal marrow is very similar to that of fishes, having a posterior and an anterior groove, also a canal; and, as in the different fishes, enlargements of the spinal cord exist where nerves are given off to the fins; so in the amphibia, as in the frog (rana) in the lumbar region, where the nerves of the extremities arise, a swelling exists. In tortoises there are two swellings, whence the nerves of the superior and inferior extremities arise. Another point of resemblance in the nervous system of some of the animals of this order, is that the medulla oblongata is flattened, as in the frog and salamander. In some the medulla oblongata is well and fully formed, the spinal nerves are very similar to those in man except that no phrenic nerves exist, there being no diaphragm: and in serpents which have no pelvis and extremities the nerves of these parts are wanting; function and

structure going hand in hand. The fourth ventricle is formed by the divergence of the lateral fasciculi of the spinal cord.

Now in reference to the brain: it will be remembered that the brain in fishes consisted of ganglion arranged *behind* each other. The same mode of formation occurs in the animals belonging to the fifth class, their brain corresponding most to the brain of cartilaginous fishes.

The ganglia are arranged in a similar way and go by the same names. It may be noticed that the in hemispheres of the shark we find a cavity; this cavity is found in the same parts as existing in the reptiles and amphibia. In each of these cavities, corresponding to the lateral ventricles of the human brain, a body exists similar to the corpus striatum in man. Carus asserts that the hemispheres are larger in proportion to the whole brain in tortoises; and in a young green turtle (testudo mydas) he observed an anterior and middle lobe.

All the orders of reptiles have, the ophidia excepted, a pineal gland having two delicate pedicles attached to the optic thalami. This gland in the frog and salamander is of a red colour.

The cerebellum is in the form of a narrow medullary band. In the two latter orders of this class, the OPHIDIA and the SAURIA, the cerebellum is larger, and has one, and, in some cases, several transverse folds, the crocodile has several.

The question may be asked, how is it known that the part which we have called the cerebellum, not only in the animals of this class but also of the preceding, is strictly speaking a cerebellum. The answer to this is important, viewed especially phrenologically; since, in the year 1828, at a discussion at the Westminster medical society, a gentleman, a celebrated anatomist, maintained that the frog, which has a strong sexual desire, has not a cerebellum, the part, which, by phrenologists, is the organ of that desire. The part described, to reply to this question, is known to be the cerebellum from the following circumstances: first, the position the part so called occupies, is similar to that which the cerebellum occupies in all the vertebral animals: second, its connexions are similar to those of the cerebellum, being always connected posteriorly with the medulla oblongata, and anteriorly with the optic lobes, or the anterior corpora quadrigemina of the higher animals.

We shall now proceed to the nervous system of BIRDS, the next class.

In the animals belonging to this class, the spinal cord be-

comes considerably developed; a development attended by a considerable increase in the power of motion. The shape of this important part of the nervous system is cylindrical; it has an anterior and a posterior groove, also a minute canal of the extent of the cord itself. And, as in fishes, swellings of the cord were found where the principal fins are given off, and in reptiles, where the nerves of the extremities originate, so in birds, the swellings where the nerves of the upper and lower extremities are given off, are very considerable.

The lower swelling is very remarkable: the spinal canal of the spinal cord here expands so much that the medullary pillars, constituting the cord, are separated one from the other

With respect to the cerebral nerves it may be remarked, as a further illustration of our principle, that the optic nerve in birds of piercing sight, consists of plicæ or folds, by which its extent is augmented. These plicæ are arranged like the leaves of a book. In the osprey and vulture the number of folds is twelve; in the royal eagle twenty. It is thus that these animals are enabled to see to very great distances, by which power they are enabled to get at their prey.

The brain of these animals is now to be considered, and a striking progression in development is to be perceived. It is that now no longer are the parts of the brain arranged *behind* one another, but *below;* so that the brain viewed from above, appears to contain but two principal divisions, the brain and the cerebellum. The size of the brain, that is, in relation to the rest of the body, is considerably increased, and there are a considerable concentration and an unity in the whole. Thus, in the brain of the dove, we have two hemispheres, in each of which a swelling, corresponding to the corpus striatum in man, exists. At the root of the olfactory nerve we have a swelling, corresponding, to a certain extent, to what we have seen in the preceding classes. The optic * tubercles are seen appearing under and behind the hemispheres. The cerebellum is well developed, of an ovoid shape, furrowed, and corresponds very closely to the vermi form, central, or, as it is called by Gall, the primitive portion of this part in man. It has two little lobules projecting on each side. Indeed, in the cerebellum of this bird, the appearance of the abbor vitæ is clearly observable.

In the brain of the chaffinch, a still greater degree of concentration is perceptible. The hemispheres are held more rounded; the parts are closely approximated; the little lobules connected with the cerebellum are larger.

* We have spoken continually of the optic tubercles, 258.

These illustrations will be sufficient to show the progression which the nervous system undergoes.

Besides the commissures existing in the animals of this class, as well as in reptiles and some fishes, the cerebellum is united to the optic tubercles, and these tubercles to each other by a transverse band of delicate medullary matter, constituting the valve of Veusseus.

The optic lobes, it may be worthy of mentioning, are less in the reptiles than in fishes, and in birds than in reptiles.

(To be continued.)

II.—*Remedy for Gonorrhœa.*

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

GENTLEMEN,—The following formula having been found in my own practice, as well as in that of some of my friends, very useful in checking GONORRHŒA and its modification, GLEET, after every other means, even *cubebs*, had failed, I do myself the pleasure of forwarding it, in the hope that it may be serviceable. The grand agent in the formula is the Tinc. Muriatis Ferri, which, for this purpose, as well as for every other, should be prepared from the *ferrum præcipitatum*.

℞. Tinct. Ferri. Muriatis ʒj.
Sp. Ætheris. Nitrici ʒvij.

Capt. Guttas XL ad LX bis vel ter in die in Aqua distillata.

Those who wish to use copaiba may gain the same beneficial consequences from the substitution of the same, in the place of the Sp. Ætheris. Nitrici, in the same proportion, and to be taken in the same way.

CHEMICUS.

January 28, 1829.

III.—*On the Difference of Effects produced by the Drinking of Animal Jellies and Vegetable Mucilages in Spasmodic Asthma, and other Pulmonic and Bronchial Affections.* By Mr. KERR. Communicated by Dr. EPPS.

DURING several years of my life, I had frequent opportunities of observing patients labouring under spasmodic asthma, and one circumstance that particularly astonished me was, that when the violence of the paroxysm was increased by the use of *vegetable mucilages*, such as linseed tea, decoction of althæa, and other similar preparations, relief was invariably afforded by draughts of *animal jelly*, rendered liquid by warm water. The jellies generally employed were the calf's-foot and leg of beef. Of the general application of this observation, I am perfectly satisfied, so much so, that I in-

variably recommend patients suffering under spasmodic asthma, to drink of diluted animal jellies. The theory to be offered in explanation, I decline giving, not from any desire of self-possession, but simply on the conviction of the duty of being submissive to the useful dicta of the Baconian system of induction. I am always afraid of theorising too soon *.

IV.—*Case of the successful employment of Secale Cornutum in tedious Labour.* By Thomas Gaskell, Esq., Member of the Royal College of Surgeons.

Elizabeth Shaw, aged twenty-two, pregnant of her second child, felt the pains of labour at two o'clock, *a.m.*, January 26th, 1829. I saw her at half-past three *p.m.*, at the request of the midwife in attendance. The os uteri was found, upon examination, dilated to somewhat more than the size of a crown piece; the membranes not ruptured; presentation natural; bowels open; urine free; pulse 80; the pelvis well formed, and a slight pain occurring four or five times in an hour. There were no bad symptoms present, and after remaining with her a short time, I left her under the midwife's care, hoping that the case would proceed to a favourable termination without the necessity of interference. I was called to her again at three o'clock, *p.m.* on the 27th; she had then been in labour thirty-seven hours, herself and friends were becoming anxious; there was headache; pulse risen to 100; inefficient pains had continued to occur at intervals of ten or fifteen minutes since my previous visit; the membranes were still entire; the os uteri in the same state, perhaps a little more relaxed, but there appeared no greater prospect of the patient's delivery than there did twenty-five hours previously.

There appeared nothing wanting but energetic uterine action, and I determined upon exhibiting the secale cornutum; half a drachm, coarsely powdered, was infused in ℥iiss. of boiling water, for fifteen minutes, and then taken by the patient, infusion, powder and all. In eight minutes the uterus began to act powerfully, and in fifteen hours from the time of administering the secale, the child was born; the placenta followed almost immediately, and ultimate recovery took place without a single bad symptom †.

Chelsea, February 9, 1829.

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* These circumstances we beg to recommend to the notice of our medical brethren, and perhaps some one will favour us with his views on the subject. We may add too, that the utility of animal jellies extends, according to Mr. Kerr's observations, to other pulmonic and bronchial affections.—Editors.

† We feel pleasure in laying before our readers the testimony of our re-

V.—*Case of Hypertrophy of the Brain, related to the London Phrenological Society.* By Dr. Elliotson.

The case was that of a boy, twelve years of age, who had a head so large that any man, said Dr. Elliotson, might have been proud of it. Indeed, it was so considerable, that the neck with difficulty bore its burden. The boy used generally to recline on a sofa, and thus rest his head. But, though so large, the child had no indications of disease in his head; there was no symptom of hydrocephalus. He used always to seek the company of persons older than himself, and nothing pleased him more than to converse on the best forms of human governments. Political economy was his delight. He was attended medically by Dr. Elliotson for diseases of other parts of the system, being scrofulous. He complained a short time before his death, which was sudden, of a slight pain in his head; hemiplegia afterwards came on; apoplexy, indicated by all the characteristic symptoms, followed, and he died. On opening the body after death, the cerebral structure was healthy in appearance, and consistence; the vessels were very turgid, and the brain was of an immense size.

His reflective faculties were larger than the perceptive; the organ of secretiveness was large, and, as an illustration of its activity, his mother, who testified to his affection, added, that he always *kept something* back. X.

VI.—*Case of Lepra Vulgaris, cured by Iodine.* By D. J., Esq., Surgeon.

It is difficult to determine at the present period what was anciently meant by the term leprosy, for the older writers seem to have applied it to a variety of diseases, bearing little resemblance to each other. Even modern writers do not exactly agree respecting the application of the term. The non-professional public are wont to call a variety of cutaneous affections leprosy, while many modern medical authors who have written on this subject, consider lepra as an affec-

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spectable correspondent, in favour of the secale cornutum. From our own experience, we have no hesitation in pronouncing it a very valuable obstetric aid. We are fully aware that some practitioners of talent and observation do still refuse it their approbation, whilst some consider it a dangerous expedient. When the opinions of the profession are discordant respecting any medicine, it is important that as many cases as possible should be published in which it has been employed. Though we have great confidence in the ergot, we shall, nevertheless, be happy to receive well authenticated cases in which it has proved either inert or injurious.—Editors.

tion of very rare occurrence. Until, then, the application of the term be agreed upon, I do not pretend to give an opinion whether lepra be a disease of frequent or of rare occurrence; but I may be permitted to state that an affection of the skin, bearing all the characters, in different states of modification, of what is described as lepra vulgaris, by Willan, is to be met with not very rarely amongst the poor, especially in large towns.

As lepra is one of the most obstinate to remove of any of the cutaneous affections which we meet with in practice, the following sketch of a case is given merely that the remedy employed in it may receive a further trial in the hands of others, when cases of a like nature present themselves. Nor do I pretend to say that the cure in this case is to be attributed altogether to the medicine, as the patient was, at the same time, put upon a plan of diet different from that which had been previously recommended to her.

A young woman, of about twenty-one years of age, applied to me in the beginning of December last, in consequence of a cutaneous affection which she said had been considered to be leprosy by the medical men who had previously attended her. She stated that she had been in a situation in London, as house-maid; that about five months before the time I saw her, the disease of the skin began to make its appearance, in the form of red spots, at first small, but which in a short time grew larger, and became covered with lightish brown scales. The disease commenced on the thighs and arms, but it gradually extended over the greater part of the body. Her general health, which was before good, now began to decline, and her spirits became remarkably depressed. She applied for advice to several medical men at different times, and was for some weeks a patient at a dispensary. The disease, however, gaining ground, she was obliged to quit her situation, and come to her friends in the country. She was a patient at a dispensary here for several weeks, but her health and spirits still continued to decline, and the cutaneous affection gained ground.

When I first saw the patient, her limbs and body were almost entirely covered with scales, of a brownish colour, some separating, others forming, and the skin of the arms, particularly in the neighbourhood of the elbow-joints and wrists, presented large cracks or fissures. Her general health was at a very low ebb; she had no appetite; her tongue was covered in the middle by a yellow mucus; she had but little sleep at night; was disturbed by frightful dreams; her pulse frequent and very feeble, and her spirits extremely low.

I was informed by the patient that she had been taking a pill every night for some weeks, which I supposed to be some form of mercury, and that she had been recommended to abstain entirely from animal food and beer. She said that she felt an inclination for a little beer, but that her appetite was so bad that she could not touch animal food if it were allowed her. I ought to state, that at this time the cutaneous affection was spreading very fast over the face.

I ordered her a pint of ale every day, to be taken at two different times; eight drops of tincture of iodine three times a-day; and a compound calomel pill every other night.

I saw her again in about a week after this, when she told me that she felt better in health; that her spirits were rather improved, and that she now thought she could relish a little animal food. There was no perceptible change in the state of the cutaneous affection, but her pulse was stronger, and less frequent, and her tongue cleaner.

She was now ordered to take animal food once a-day; to increase the dose of iodine to twelve drops, and to continue the pill and beer, as before.

The above plan has been persisted in up to the present time. The patient's general health is now perfectly good; there are no longer any scales forming on the skin, and all the old ones have dropped off; all the cracks in the neighbourhood of the joints have healed, and the skin appears healthy, although not quite of its natural colour yet. In fact, the patient may be considered as cured, and she has now engaged herself in another situation. I recommended her to continue the iodine, in the dose of ten drops twice a-day, for some time longer, and to live well.

The above is a simple statement of the case. I shall merely remark, that, from the few cases that I have seen of lepra, it appears to me that a principal part of the treatment should consist in allowing the patient a sufficiency of nutritive diet, with a moderate quantity of stimulus. What share the iodine may have had in promoting the rapid cure of the above case, it would be difficult to determine; but judging from the usual obstinacy of the malady in similar cases, I should be inclined to attribute a good deal to it. At any rate, the medicine is deserving of further trial.

February 8th, 1829.

MONTHLY SYNOPSIS OF PRACTICAL MEDICINE.

1. *Cases of Aneurism, treated according to Brasdor's Method.*—The following is an abridgement of the cases collected by Mr. Wardrop into his work on Aneurism. Our readers will find a review of that work in another part of the present Number :—

Case 1.—A female, aged seventy-five, after a fit of coughing, and after having been previously afflicted with anomalous pains in the neck and difficulty of breathing, perceived a swelling on the right side of her neck. When Mr. Wardrop saw the patient, eight days afterwards, he found the swelling to be an aneurism; and to have now acquired the size of a fist. By the eleventh day it had attained a considerable magnitude, and it presented a formidable aspect. The skin covering it had become red and painful. The aneurism was situated so low down in the carotid artery, on the right side, as to render it impossible to apply a ligature on the cardiac side of it. As the patient's life was in imminent danger, Mr. Wardrop determined to tie the vessel on the distal side of the tumour. The carotid artery is the most favourable in the body to put the principle of such an operation to the test, when the aneurism is situated low down, inasmuch as no branches of consequence are given off between the tumour and the place where the ligature is applied. In the present case, having exposed the vessel in the neck, and finding it to be healthy, one ligature was tied round it, as close to the tumour as the incision would admit. The lips of the wound were then stitched together, without any further dressings. The aneurismal tumour was covered with adhesive plaster, in order to protect the tender skin. No sooner was the ligature applied, than there was a diminution in the size of the tumour, marked by a considerable corrugation of the skin at the base, as well as a decrease in its redness. The ligature did not produce any derangement of the cerebral functions. The patient slept on the night after the operation more comfortably than previous to it. A progressive diminution in the size of the tumour, and in the strength of its pulsation, took place until the fifth or sixth day, when the skin again became red, and the pulsations stronger. These unfavourable symptoms, however, were of short duration; for, on the eighth day, the swelling again began to diminish, and its pulsation became more obscure. Suffice it to say, that the case terminated successfully. The skin ulcerated over the tumour, and several coagula of blood were discharged, along with healthy pus, from the ulcerated opening.

Case 2.—The second case is that of a woman, aged fifty-seven, on the right side of whose neck, exactly under the sternocleidomastoideus muscle, a very strongly pulsating tumour was visible. The patient complained of severe headach; she slept little at night, her appetite was bad, her pulse was natural in frequency, but had a slight thrill. Mr. Wardrop, in the presence of several practitioners, tied the carotid artery ' at its emergence from be-

neath the omo-hyoideus muscle, and above the tumour. As the patient's neck was fat, the incision made in the integuments was not less than three inches in length : the rest of the operation was chiefly accomplished by means of a silver knife, and not above a table-spoonful of blood was lost.' The ligature consisted of silk-worm gut, and after being tied both ends were cut away. The external wound was secured by two stitches and a strap of adhesive plaster. The patient felt no immediate effect from the operation. The effect on the pulse was very remarkable, that of the right wrist being full and strong, whilst that of the left was comparatively small and feeble. The operation was performed on the 10th of December, 1826. On the 11th, the pulsation in the tumour was considerably less, whilst that of the opposite carotid was increased in force. The tumour continued to diminish gradually for three weeks after the operation, and the patient became entirely free from the uneasiness in the head. About the end of this period she took cold, and drank some spirits, which brought on a violent cough, attended with fever ; and it was observed that the tumour increased in bulk, and that its pulsation became stronger. All these symptoms were relieved by repeated small bleedings. Three weeks after this, œdema of both legs took place, and it was discovered, by means of auscultation, that there was hypertrophy of the heart. These affections increased, and she died on the 23d of March, 1827, never having complained of the swelling in her neck, or of any symptoms referrible to a disturbed circulation within the head, from the date of the operation. Up to the day of her death, a tumour remained in the neck, about the size of an almond, which pulsated strongly, felt very thin in its coats, and its contents could be readily squeezed out, but returned rapidly when the pressure was removed.

Sectio Cadaveris.—The heart was found in a state of hypertrophy of both sides, being three times as large as natural. The carotid artery of the right side, immediately after its commencement, presented a manifest dilatation, which corresponded with the situation of the tumour which existed before death. The vessel was empty, and its coats were collapsed. The dilated portion was a little more than an inch in length. Intermediately between the cicatrix, left by the external wound, and the artery, the space was occupied by cellular tissue, which was condensed into a mass of fibrous structure. This substance adhered intimately both to the vessel and to the nerve of the eighth pair. On slitting open the artery, the dilated portion was found much thinner in its walls than the rest of the vessel. The internal surface presented numerous elevated flakes of a yellow substance, *but no cicatrix, or any other appearance, could enable the inspectors to ascertain the precise point where the ligature had been applied. The carotid was perfectly pervious, as were also its several branches, with the exception of the superior thyroid, which was filled up with a plug of organized lymph.* The vertebral artery of the same side was also plugged in a similar manner.

Case 3.—The subject of the third case, a female, aged forty-

nine years, of spare habit and unhealthy appearance, presented herself under the care of Mr. James Lambert, surgeon, Walworth, in January, 1827. She had a pulsating tumour on the right side of the neck, immediately above the sternal end of the clavicle, being partly covered by the mastoid muscle. All the symptoms attending the tumour proved it to be an aneurism of the root of the right carotid artery. The tumour continued to increase in size, and Mr. Lambert determined to tie the vessel on the distal side of it; which he did on the 1st of March, in the presence of Mr. Wardrop, Mr. B. Cooper, and Mr. Callaway. The vessel appeared large, but not, in Mr. Lambert's opinion, unhealthy. One ligature was tied round it, the ends of which were cut off close to the knot. The edges of the wound were then brought together by two sutures, and short strips of adhesive plaster. The ligature employed consisted of fisherman's silk. The patient bore the operation with great fortitude. About an hour afterwards, nausea came on, followed by vomiting, with violent straining, which tended very much to disturb the parts concerned in the operation. The stomach still continuing irritable, twenty drops of the wine of opium were given to the patient in the evening, which had the effect of quieting the organ. A diminution in the bulk of the tumour was immediately apparent on the application of the ligature, and its pulsation was materially lessened. The ligature did not produce any ill effects on the brain; the violent beating at the heart, which the patient previously felt, ceased on the vessel being tied, and the night after the operation was passed comfortably. On the third day the dressings were removed from the wound, together with the lower suture. The upper part of the wound had united by the adhesive process. The tumour had so far subsided, that it was only evident to the eye by a feeble pulsation at the part; and on the application of the finger, it was felt to be much consolidated, and greatly reduced in size. The patient went on well until the tenth day after the operation, when it was found that some bleeding had taken place from the wound. The blood was of a red colour. About three drachms had escaped. The upper part of the wound had united: the lower part was suppurating freely, the matter discharged being of a healthy character. From this time the wound went on cicatrizing; the swelling entirely disappeared, and every thing seemed to give reason to anticipate a prosperous result, until, at the period of five weeks after the performance of the operation, the cicatrix ulcerated in the centre, and a small, shining, spongy granulation presented itself, which, in the course of a few days, became considerably raised above the level of the surrounding skin. This small fungus was attempted to be kept down by escharotics, but it recurred again and again during the course of a fortnight. On the 17th of April a small bit of lint and a strip of adhesive plaster were applied to it. The patient, at this time, complained of uneasiness and tingling about the wound; but there was nothing particular to be observed. On the following day, April 18th, hemorrhage to a considerable amount took place from the wound. The hemorrhage returned

on the 19th, 23d, and the 30th; and on the morning of the 1st of May, it took place with such violence, that it was evident that the patient's dissolution was at hand. She died at eleven o'clock in the forenoon.

Sectio Cadaveris.—The right common carotid artery, internal jugalar vein, nervus vagus, sheath, and surrounding cellular membrane, very firmly united together, especially below the wound. Immediately under the lower half of the cicatrix, there was an ulceration extending through the platysma myoides to the artery. At the root of the right carotid artery was a consolidated tumour, of a pyramidal shape, its base below, and extending two inches up the artery, and, was at its lowest part, half an inch in breadth. A probe could not be passed upwards from the arteria innominata, and water forcibly injected at this part would not pass, so completely and effectually closed was the lower part of the carotid. On laying open the vessel, the obstruction was found to consist of a coagulum of blood, about the size of a French olive. The coats of the vessel, at this point, were thickened to about four times their natural size, and lined by a thin layer of fibrine. Above the coagulum, the coats of the artery were still more thickened, and lined with four layers of coagulated lymph, which 'appeared to have been formed successively, thus gradually encroaching upon, and at length obliterating the entire calibre of the artery.'* Above this thickened part of the artery, where the ligature had been applied, there was an ulcerated opening into the anterior and tracheal part of the vessel. Its posterior part, at this point, was covered by a coagulum. Above it the vessel was quite pervious and healthy. On throwing water into the arch of the aorta, it passed through the *left* carotid, and regurgitated, by means of anastomosing branches, through the *right* external, internal, and common carotid, and flowed out at the wound; thus proving that the hemorrhage took place from the blood finding its way through the artery by a course the reverse to the natural. Had this circumstance been suspected before the patient's death, her life might have been saved by the application of another ligature on the artery, a little above the first.

Case 4.—The present case occurred in the practice of Dr. Bush, now professor of anatomy, New York. The subject of it was a female, aged thirty-six years. She observed, in March 1826, a pulsating tumour, about the size of a small hen's egg, in the upper part of the lower third of the right side of the neck. The tumour went on progressively increasing in size, until, by September 1827, it had acquired considerable magnitude. The patient at this time was much emaciated, and her deglutition and respiration were almost annihilated. There was no doubt of the tumour being an aneurism of the carotid artery; and as no other means were calculated to afford a chance of saving the life of the patient than securing the vessel on the distal side of it; owing to its situa-

* We are inclined to think, from reasons stated in the review of Mr. Wardrop's work, that these layers were deposited *from the blood before the origin of the artery was blocked up by the coagulum.*

tion being so low down, Dr. Bush had recourse to the operation, on the 11th of September. After some difficulty he succeeded in applying a ligature round the vessel. The wound was then lightly dressed, and the patient put to bed. Immediately on the tightening of the ligature, the tumour was observed to diminish in size, and to become softer. Between this period and the fourteenth day after the operation, she required four small bleedings. The ligature, which consisted of single silk, came away on the nineteenth day, and the wound was healed on the twenty-seventh, at which period the tumour was reduced to one half of its bulk, and was almost free from pulsation. April 19th, 1828, she was in perfect health; there was scarcely a remnant of the tumour; the inordinate action of the heart had ceased, and her respiration and deglutition were natural.

Case 5.—This highly-interesting case occurred in the practice of Mr. Evans, surgeon, Belper, Derbyshire; and has been already inserted in this Journal *.

Case 6.—The present case presents features very different from those of the foregoing cases, inasmuch as the aneurism was situated in the arteria innominata. The right carotid artery was supposed to be obliterated, as no pulsation could be felt in it; the ligature was, therefore, applied on the subclavian, where it emerges from between the scaleni muscles. Mr. Wardrop calls this 'the new operation;' but it does not appear to us to deserve the epithet "new" more than that performed in the foregoing cases. In the first place, the operation of tying the subclavian artery is not new; and, in the second place, the application of the operation to the case in question was founded entirely upon the same principle as that of tying the carotid artery on the distal side of the tumour in aneurism of the root of that vessel †. But the case reflects the highest degree of credit on the judgment and skill of Mr. Wardrop. The following is the substance of it:—Mrs. Denmark, aged forty-five, had an unnatural throbbing on the right side of her neck. This was found, on examination, to be produced by a pulsating tumour, of the size of a turkey's egg, whose base was situated under the upper portion of the sternum, while its apex emerged completely from the cavity of the chest, appearing in the neck at the tracheal side of the sterno-mastoid muscle. The neck on this side was hollow in the course of the carotid artery, while the opposite side was more prominent than usual. No pulsation could be discovered in any of the branches of the *right* carotid artery. A pulsation could be perceived in the course of the trunk of this vessel, but this seemed to arise from an impulse communicated by the tumour, a like sensation being evident in every other part of the right side of the neck. The patient complained of severe pain in the head, great difficulty of breathing, which increased on the slightest motion, disturbed and restless nights, and a disagreeable throbbing in the tumour. Her

* See Vol. I. p. 580.

† See Review of Mr. Wardrop's work, in this Number.

countenance bespoke great anxiety, her complexion was pale and sallow, and she had suffered considerable loss of flesh. The disease was of eleven months duration. The patient had been repeatedly bled, and had been kept under the influence of digitalis. This plan of treatment alleviated the severity of the symptoms, and checked the progress of the disease for the time. But the tumour laterally increased rapidly, and the integuments covering its apex became painful. As there were no grounds to expect that any further medical treatment would relieve the patient, it appeared to Mr. Wardrop a plausible measure to tie the subclavian artery, as the only means of saving her life. Accordingly, on the 6th of July, 1827, he performed the operation. As soon as the ligature was applied to the vessel the pulse ceased at the wrist, as might be expected. No pulsation could be detected in the right carotid, or its branches. The operation afforded immediate relief to the breathing of the patient, and to the peculiar sensation which she had in her head. Although the tumour did not perceptibly diminish in size, still there was an evident diminution in the strength of its pulsation. All the distressing symptoms which had previously harassed the patient seemed rapidly to disappear after the operation. On the following day a slight thrill was perceptible in the radial artery of the right wrist. On the ninth day a pulsation became perceptible in the carotid artery, which had been hitherto supposed to be obliterated in some part of its course. On the twenty-second day after the operation the ligature came away, and the wound was completely healed. The tumour was greatly reduced in size, and the patient had no pain in her head, difficulty of breathing, cough, or sense of suffocation. By the beginning of December there was not a vestige of the aneurismal tumour remaining to mark its former position. She expressed herself comfortable and happy, and she seemed in good, though feeble, health, owing to an attack of bronchitis which she had had about a fortnight previously. In December she was again attacked with violent bronchitis, accompanied with a sense of suffocation, and other very severe symptoms. For these she was obliged to be bled very frequently and largely. In September, 1828, the patient's general health was good; no tumour was perceptible in the neck; the right carotid artery still pulsated, although not so strongly as the left, but its branch (the temporal) did not pulsate: the right radial beat with about half the strength of the left, and all the unpleasant symptoms with which she was affected before the operation had entirely left her.

2. *Inflammation of the Spinal Marrow, and of the anterior Roots of the Spinal Nerves* *.—A washerwoman, aged forty-four, subject to rheumatism, after standing in the water for a long time was obliged, on the 8th of October, to take to her bed, in consequence of difficulty of moving the lower jaw, with rigidity of the neck, and a feeling of tension of the limbs. The disease gaining ground she was conveyed to the hospital of Udine on the 10th, the third

* Annali Uni . di Med.

lay from the attack. The tetanic contractions were now more violent in the trunk and extremities than in the muscles of the jaw. The employment of the tepid bath somewhat diminished the trismus. The trunk was bent backward; the upper extremities, stiff and extended, were strongly pressed against the chest, and carried a little backward. The lower extremities, also rigid and extended, did not incline to either side. Respiration was frequent and feeble. The bowels were in a constipated state, and there was a difficulty in making water. The pulse was strong and frequent; the skin hot, and in some parts disposed to perspire. The intellectual faculties were quite unimpaired, and the sensibility was altogether natural. There was ardent thirst, and the tongue, red at its edges, was dry all over. On the morrow the trismus was not augmented, but all the other symptoms were increased. The abdominal parieties were harder than on the night before; the fever continued; there was no sign of suffering on the part of the brain. Sensibility was still perfect, and the patient felt all species of contact. She expired on the third day from the period of her admission.

Sectio Cadaveris.—Brain and cerebellum perfectly healthy. In the vertebral canal, under the dura mater, there was found a quantity of reddish serum more considerable than common. The arachnoid did not present any alteration. The pia mater exhibited, on its anterior aspect, a net-work of vessels, which did not exist on its posterior surface. The medulla oblongata was healthy. Immediately below where the fibres of the anterior pyramidal eminences cross each other, the anterior half of the spinal marrow presented a series of small spherical or oblong tubercles or swellings, which preserved their form after the pia mater, which covered them, was removed. Their size varied from the magnitude of a millet seed to that of a vetch. While the spinal marrow remained covered with the pia mater its anterior moiety appeared nearly as firm as ordinary; but as soon as the membrane was removed, this part of the medulla was found converted into a soft pultaceous substance, formed of an infinite number of the small swellings already mentioned. They had completely effaced the lateral longitudinal lines of the medulla, and had very much diminished the median groove. After being exposed for some hours to the air, this pultaceous substance became converted into a fluid similar to starch diluted in water. The colour of the diseased portion was pale-white, inclining to yellow. The interior presented a few red points here and there. Careful dissection demonstrated that the alteration occupied only the medullary portion of the anterior part of the spinal marrow, and that the grey substance did not participate in the disease. The anterior and posterior roots of the spinal nerves presented physical characters very dissimilar. The posterior were perfectly healthy; the anterior, on the contrary, were much softened, and of a whitish-yellow colour. They were very easily detached, and they presented here and there small tubercles like those observed on the anterior part of the spinal marrow.

3. *Angina Tonsillaris cured by insufflation of Alum* *.—Francois Ramon, cooper, aged twenty-six, after working rather harder than ordinary, was attacked, on the 11th of July, with a violent sore throat, accompanied with a high degree of fever. The following day the difficulty of swallowing and of speaking much increased. On the 13th he was bled from the arm without any benefit. He entered the hospital on the 14th, presenting the following symptoms:—Salivation profuse and fœtid; the back part of the mouth was tumefied and of a red, livid colour; the left tonsil was very voluminous, and the corresponding part of the throat was swollen, and very tender to the touch; the pain extended to the left ear; deglutition was performed with great difficulty; the patient was scarcely able to speak; the skin was hot and moist; face flushed; tongue moist and covered with a yellow coating; thirst intense; anorexia. (Low diet; eight leeches to the throat; emollient cataplasms; mustard pediluvium.) 15th. Tonsils in the same state of swelling, a few grey points are observable on them; no sleep; general symptoms much the same as yesterday. (The same prescription; insufflation of powdered alum into the throat; an emeto-cathartic draught for the morning.) After the first insufflation of alum there was a cessation of the ptyalism and a diminution of the redness. The insufflation was repeated in the evening, which produced a considerable diminution of the swelling of the amygdala; the grey spots have quite disappeared; deglutition is more easy, and the patient has enjoyed a little sleep. 16th. The emeto-cathartic medicine has produced bilious vomitings in abundance, as well as alvine evacuations; the pain and swelling of the throat have disappeared; and the appetite has returned. The patient was discharged on the 19th, perfectly cured.

4. *Œdema of the Glottis* *.—Pierre Bourgoin, seaman, aged forty-six, entered the hospital on the 29th November, 1827. He had been subject for many years to a chronic pulmonary catarrh, and he had had repeated attacks of sore throat and difficulty of swallowing. He had also been subject to hæmoptysis and fits of oppression during each recurrence of the catarrh. These attacks were subdued by general and topical blood-letting. On the 25th of November, being exposed to a current of cold air while the body was in a state of perspiration, he felt a slight pain in the throat and a difficulty of swallowing. Soon afterwards a sense of intense heat extended along the trachea; the cough, to which he was habitually subject, became more frequent; the expectoration, which was commonly thick and yellow, changed into a viscid, diffluent, colourless matter; the oppression increased to such a degree that, sometimes, after the fits of coughing, the patient was unable to inspire. In a few days these paroxysms of oppression became longer and more frequent. During their continuance the complexion became purple and the skin covered with perspiration. The day after he entered the hospital he was found, on examina-

* Hospital of Nantes. † Ibid.

tion, to have the following symptoms :—Oppression ; hurried respiration ; hoarseness of the voice ; pain in the throat, and extending down the trachea ; cough ; expectoration difficult ; the matter brought up was white and viscid. The back part of the mouth was moderately red ; deglutition slightly painful. The chest sounded well all over. Respiration was accompanied by a sibilous and mucous rhonchus. There was great anxiety ; the oppression increased, in paroxysms ; and from time to time respiration was attended with much difficulty. The respiratory murmur then became almost imperceptible, especially between the scapulæ, and was substituted by a slight hissing. The face was purple all over ; pulse hard, full, and irregular. The digestive functions were healthy. (Soup ; edulcorated potion ; white linctus ; insufflation of powdered alum into the throat twice.) The first application of the alum was made at nine o'clock in the morning ; it produced a strong pricking sensation all along the trachea, and was followed by a fit of coughing, during which inspiration became very difficult ; whereas expiration, on the contrary, was performed with great facility. Another paroxysm occurred in the course of the day, which lasted from seven to eight minutes ; respiration then became easy. In the evening another insufflation of the alum was made, which was not, as before, followed by a fit of coughing. The night was passed calmly, and the cough became less frequent and more loose. December 1st. The features are more calm ; the patient has had a slight access of the symptoms of suffocation, which were promptly dissipated. (Same prescription.) Respiration continued free during the day. A slight mucous rhonchus was discovered, by means of auscultation, in divers parts of the chest. The expectoration became thick and yellow. There was a slight return of the symptoms in the evening, which, however, were of short duration. 2d. The night passed over calmly ; respiration free. However, without feeling any considerable oppression, the patient has a certain degree of pain in the throat. The appetite is very keen. (Same prescription ; twelve calomel pills of a grain each.) 3d. Cessation of the dyspnœa ; the cough has abated ; expectoration more easy. The voice is still rather hoarse. No return of the fits of suffocation for the last twenty-four hours. The calomel has produced no evacuations. (Same prescription.) 4th. Little cough ; no pain in the throat ; respiration free ; expectoration mucous, and diminishing daily. (Same prescription, with the omission of the insufflation of alum.) Two alvine evacuations in the course of the day. The same medicines were continued until the 7th, when the calomel was omitted. From this period the patient continued to improve rapidly, and he was discharged, cured, on the 14th.

5. *Epidemic Scarlatina treated by Cold Immersion* *.—Although Giannini and Gérard had strongly recommended immersion, as an efficacious remedy in scarlatina, Dr. Valetta was not wont to have

* Giornale Medico Napolitano.

recourse to it until he had ineffectually tried bleeding, emetics, sudorifics, antiphlogistics, as well as camphor, musk, castor, &c. Finding all these means attended with unfavourable results, he resolved, on the 16th of October, to try cold immersion in the case of a young man, twenty-three years of age. From observing the favourable effects of the remedy, Dr. Valetta thinks he is entitled to deduce the two following corollaries:—1st. That cold immersion is the unique remedy for scarlatina anginosa, and that it is unnecessary to have recourse to any other medication. 2d. That cold immersion does not prevent the development of the exanthema, as has been supposed by the ancients as well as many of the moderns, and that it does not predispose to general or local dropsy.

6. *Metastasis of Cancer* *.—We sometimes hear of very extraordinary occurrences. When these are brought forward as facts by those who have seen them, or who pretend to have seen them, we hardly know whether to give up our assent to the statements, or reject them altogether, if not as impossibilities, at any rate as very great improbabilities. The following case is one of this nature:—A lady, whose mother had died of cancer of the breast, and whose father, subsequent to an operation for sarcocele, presented for a long time general symptoms of scrofula, was affected with engorgement of the right breast, which exhibited all the symptoms of cancer. M. Dupuytren being consulted, with M. Parent des Châtelet, who attended the patient, pronounced the disease to be a cancer, and he considered it so far advanced that he was unwilling to attempt an operation. Some time afterwards the patient felt lancinating pains, like those of the breast, in the right side of the head, and M. Parent du Châtelet was not a little surprised to find the tumour of the breast disappear in proportion to the progress of the pain in the head. Hemiplegia supervened; the cephalalgia became excruciating, and the patient died in the greatest agony. On examination after death, the breast originally affected was found to have returned to a state perfectly natural; but in the lateral part of the right side of the brain was discovered a cancerous tumour, of the size of a common walnut.

7. *Trismus caused by Immersion in cold water while the body was in a state of Perspiration*†.—Pierre Dupané, dyer, aged twenty-seven years, was brought to the hospital on the 12th of June, under the care of M. A. Laennec. Twelve days previously, while covered with perspiration, he went to wash some wool in very cold water, which brought on shivering. Three days afterwards he felt difficulty of moving the lower jaw. This symptom increased on the following days, and the muscles of the back became contracted to such a degree that he was unable to incline the head forward. He had a violent pain all along the course of the vertebral column. He was bled from the arm, and leeches were applied to the anus, but no relief followed. When brought

* Journ. Hebdom. † Hospital of Nantes.

to the hospital, he had the following symptoms: complete trismus; the masseter muscles hard and contracted; deglutition not very difficult; the head drawn backwards; the sterno-cleido-mastoidei muscles were extended like cords; so were also the abdominal muscles; the back formed a considerable curve, so that only the head and the buttocks touch the bed while the middle of the back and scapulary regions were elevated; the pain was more severe in the region of the neck than any where else; the movement of the extremities was a little affected; the skin was hot and moist; the pulse hard and frequent; the tongue humid and covered in the middle by a whitish plastering; the bowels had been constipated for four days; no sleep; no headach. (Edulcorated gum; gum potion; opium, gr.iv.) 13th. Much in the same state as yesterday. Auscultation furnished the following results: respiratory murmur *(bruit respiratoire)* very clear; *bruit de soufflet* in the carotids; intense buzzing produced by the contraction of the muscles of the lateral part of the neck. (Abstinence; three doses of sweetened gum; a mixture composed of Inf. Aurant. ℥vj. Syr. Altheæ ℥ij. Syr. Diacod. ℥j. Ant. Tart. gr.xij. A spoonful to be taken every two hours; bleeding from the arm.) This mixture produced no evacuation. The patient slept a little in the evening; passed a quiet night. 14th. The contraction of the muscles of the neck not quite so violent as yesterday. (Same prescription; houillon.) 15th. The patient is better in every respect; the back is not so much bent as it was. (Soup; same prescription, excepting the bleeding.) 18th. An emollient lavement was prescribed in order to remove the constipation, which continued in spite of the emetic tartar. The enema was without effect. 19th. Another lavement was administered, which produced one evacuation, and was followed by marked amendment. The patient continued to improve from this period. The emetic mixture was left off on the 25th, when he was considered convalescent. On the 3rd of July, after walking in the court of the hospital in the evening, he felt a slight return of the pain in the vertebral column, which left him after the administration of three warm baths of two hours each; and he was discharged, perfectly cured, on the 7th of July.

8. *Remarkable Case of Disease of the Venous System, &c. following Delivery**.—Félicité Gibeau, aged twenty-years, was delivered, July 8th, of twins. On the 11th, the breasts became swollen and painful, without any secretion of milk. The pain extended to the axillæ, and it was soon felt over all the left side, the slightest motion of which caused very severe suffering. These symptoms were accompanied with fever, irregular shiverings, nocturnal delirium, abundant diarrhœa, and vomiting of porraceous matter. The pains soon extended to other parts, and, by degrees, all the articulations became affected. The patient then resolved to enter the hospital, which she did on the 14th of July, in the following state: countenance pale and shrivelled; tongue foul, dry, and red at the point; mouth bitter; thirst; abdomen distended, and tender on

* Ibid.

pressure; diarrhœa; vomiting; pulse frequent and hard; cough; oppression; no expectoration; knee-joints distended, hot, and very painful; œdema of the lower extremities, which were hard, white, and shining, and did not pit under the impression of the finger; the right breast painful. (V. S. ℥xx; abstinence; gum water; emollient cataplasms to the breast and abdomen). The bleeding was repeated on each of the two following days. The blood formed a firm coagulum. The left arm became the seat of acute pain. 20th. The inferior part of the right breast, which, on the preceding days, had presented very intense erythema, now exhibited two gangrenous eschars, situated near each other. A gangrenous spot appeared at the same time on the upper part of the left labium. The spots on the breast soon joined, and after sloughing off, they left an ulceration about the size of a five-franc-piece. The left arm presented the same swollen appearance as the lower extremities, and was extremely painful. The cough continued, and was accompanied by a crepitous rattle. M. Laennec now prescribed emetic tartar, in the dose of six grains in eight ounces of vehicle. This was continued until the 26th, during which period the diarrhœa disappeared; the ulcerations of the breast and labium assumed a very favourable aspect, and began to be filled up with granulations; but the arm continued painful and much swollen. Towards the end of that time the patient complained of pain in the throat, although no redness was apparent. The emetic was discontinued on the 27th, and mercurial frictions substituted. The patient went on from bad to worse until the 15th of August, when she died.

Sectio Cadaveris.—Besides the ulcer of the right breast, five or six small abscesses were discovered in the substance of the gland. The tissue of the breast was otherwise healthy, as was also the left breast. The contents of the cranium were healthy. The right lung adhered by a few cellular connexions; it was generally crepitous, save at the origin of the bronchi, where, to the extent of about two cube inches, its tissue was hard, compact, and of a reddish yellow colour. Around this portion the pulmonary tissue was red, and injected with yellow spumous serosity. The mucous membrane of the bronchi was rather red. There was a hepatized spot in the lower lobe of the left lung. This lung was otherwise healthy, and crepitous. The left cavities of the heart contained polypiform concretions, very adherent, and resembling washed flesh. This organ was of the ordinary size. Its tissue was flaccid, of a pale yellow colour, and of a middling consistence. The pharynx and œsophagus were lined throughout by a grey, pultaceous matter, about a line in thickness, forming in the interior of the tube, without adhering to it, a second canal precisely of the same form as the other. This adventitious canal terminated abruptly at the cardia. The subjacent mucous tissue was remarkably pale. The peritoneal cavity contained about half a pint of serum. The mucous lining of the lower part of the intestinal canal was diseased. The uterus was about the size of the fist. It presented nothing remarkable with the exception of one spot, of a few lines in diameter, which was softened. The left shoulder was greatly tumefied.

A deep incision at the inferior attachment of the deltoid muscle gave issue to about a pint of thick pus of a greyish-white colour. This matter was contained in a large abscess surrounding the scapulo-humeral articulation, and it penetrated the body of the biceps and the external portion of the triceps, which were reduced into a putrilaginous state. The synovial membrane of the joint was very much inflamed throughout. The other articulations, which were so tumefied and painful during life, presented no alteration. The left brachial vein exhibited a bluish aspect and was very much distended. On being laid open longitudinally, it presented, on its interior, a pinkish concretion, which completely filled the vessel, without, however, adhering to its parietes. This concretion, which extended throughout the divisions of the vein, had a canal, about a line in diameter, in its centre, full of pus, exactly like that discovered in the abscess already described. The internal membrane of the vein was remarkably pale. The median cephalic and the cubital presented similar morbid appearances. The vena cava appeared natural. The iliac veins contained some long polypiform concretions, not, however, resembling those found in the brachial. But the hypogastric and femoral veins were in the same morbid state as the veins of the left arm. The diameter of all these vessels appeared augmented; that of the iliac arteries, on the contrary, was very small. In fine, the pulmonary arteries exhibited several morbid appearances, especially in the right lung.

9. *Dysentery—Gangrene of the Intestine—Cicatrix of the Brain, &c*.*—Julien Houler, blacksmith, aged fifty-three years, was admitted into the hospital, on the 11th of June. He had been subject, for the three preceding weeks, to colic pains and excessive diarrhœa. The evacuations were for the most part sanguinolent, and they at times consisted of pure blood. The strength and appetite had rapidly diminished. When he entered the hospital, he presented the following symptoms: tongue red, dry, and covered at its root with a thick plastering; mouth clammy; thirst; anorexia; colic; no pain in the abdomen on pressure; slight distension of the belly; ten or a dozen stools daily; tenesmus; skin hot and dry; pulse about natural. The patient had an old cicatrix on his right cheek, extending from the malar bone to the temporal suture, and dividing obliquely and deeply the zygomatic arch. This cicatrix was the result of a cut received in the first war of La Vendee. (Abstinence; rice-water with syrup of gum: fifteen leeches to the anus.) 12th. Much in the same state; but the stools rather less frequent and containing less blood. (Same mixture; twelve leeches to the anus.) The leech-bites bled abundantly. The fever became intense in the evening; countenance of a livid red; furious delirium; continual cries during the night; no alvine evacuations. 13th. Much in the same state; pulse full, strong, and frequent; conjunctivæ injected; occasional stupor; diarrhœa quite suspended. (V.S. blisters to the legs; the

* Ibid.

same mixture.) 14th. Symptoms much the same. The blood forms a very firm coagulum. (Same medicine. V.S.) 15th. Complete cessation of the stupor and delirium; face pale; pulse more feeble and less frequent; abundant and very fetid alvine evacuations during the night. (Same mixture; two lavements of starch in poppy-water.) The patient continued to get worse; the diarrhœa increased, together with all the other symptoms; and, in spite of gum-water, rice-water, leeches to the anus, and the like remedies, victory declared itself in favour of the enemy. The man died on the 24th of the same month.

Sectio Cadaveris fifteen hours after death.—The body of an athletic individual; muscles strongly marked, notwithstanding the emaciation; great rigidity. The facial cicatrix was adherent to the bone, which was deeply divided. The squamous portion of the right temporal bone, in the course of the cut, was so thin, that the slightest force was sufficient to drive the scalpel through it into the cavity of the cranium. The internal surface of this portion was covered by a multitude of osseous and cartilaginous vegetations, from which it was impossible to separate the meninges and the brain, which were strongly adherent at this point. There was a little effusion of serum between the membranes in this part, as well as between the pia mater and the brain. Towards the anterior and middle part of the right cerebral hemisphere was seen a cellular intersection, which extended from the point where the cerebrum adhered to the temporal bone, as far as the external paries of the lateral ventricle of the same side, from which it was separated by a very thin portion of cerebral substance. This intersection represented a large cyst, divided into a number of cells, containing a small quantity of serum. The cerebral substance in its vicinity offered nothing worthy of notice. The left lung was healthy, excepting that it adhered to the pleura. The right lung also adhered both to the costal and diaphragmatic pleura. Towards the aponeurotic centre of the diaphragm, the adhesion was formed by a fibro-cartilaginous tissue, which surrounded a perforation, by means of which the lung communicated with a vast excavation in the liver. The lung was healthy, with the exception of the lower surface of the inferior lobe, in which existed an excavation large enough to contain half an orange. The heart was healthy. The diaphragm had a perforation in its centre, of about an inch in diameter, the edges of which had degenerated into a putrilaginous state. The convex surface of the liver adhered to the diaphragm, by a fibro-cartilaginous substance, like that which connected the lung to this muscle. Under this tissue was found a vast cavity in the liver, corresponding with the opening in the diaphragm, and filled with thick putrilage, which exhaled a strong gangreous odour. The substance of the liver surrounding this abscess was of an olive colour, and almost gangrenous in appearance. The gall-bladder contained a glassful of yellowish bile. The peritoneum covering the intestines was injected at different points, and was covered with a white albuminous exudation. The omentum was rolled upon itself, and very red. The intestines

were agglutinated together. The mucous membrane of the stomach was very pale and consistent; that of the duodenum was uniformly coloured with bile. With the exception of a few greyish granulations towards the lower end, the mucous lining of the small intestines was very pale throughout. That of the large intestines, all the way from the valve of the cœcum to the anus was covered with ulcerations. It was black and sphacelated throughout. In the centre of the transverse arch of the colon was found a large eschar, which had reduced the three coats into a deliquescent putrilage. The coats of the intestine had given way, to the extent of from two to three lines, and had allowed the fecal matter to escape into the peritoneal cavity. The vena cava contained thick black blood, in which was discovered some whitish striæ, resembling the most fluid part of the cerebriform matter found in the liver. The vessels of this organ, in the neighbourhood of the abscess were full of matter, like that found in the cavity of the abscess. The other organs were healthy.

10. *Case of almost complete Obliteration of the Aorta* *. An old man, aged ninety-two, a shoemaker, entered la Charité on the 19th of June, 1827. He was of small stature, and very much emaciated. His head was small, bald, and his forehead retreating. His legs were crooked. His intellects were so feeble that he could give no satisfactory account of his previous state. He, however, stated, that he had had two attacks of paralysis, the first affecting only the right superior member, the other affecting both arms. The only effect that could now be discovered of these attacks, was a slight contraction of the right hand. His head was habitually hot; the temporal arteries pulsated with great force; the pulse was hard, frequent, and regular; the skin hot and dry; the tongue arid. As he lay constantly on his back, a gangrenous eschar appeared on the sacrum; and after being a long time in the hospital he died, without manifesting any symptoms worthy of notice.

Sectio Cadaveris twenty-four hours after Death.—There was a small quantity of serosity between the arachnoid and pia mater. The two cerebral hemispheres presented numerous traces of extension, apoplectic effusions of ancient date, some situated near the surface, and others more deeply. Besides these cells, the brain was very much diseased. The heart was of its ordinary size. The sigmoid valves presented some incrusted points of asteo-calculous substance. The aorta, at its origin, was of its ordinary size. The arteria innominata was much larger than natural. After furnishing this branch, the aorta, considerably diminished in size, directed its course upwards and to the left, in the direction of the carotid of the same side, to which it gave rise; then, forming almost an acute angle, it descended, in forming a slight swelling, so far as the point where the ligamentum arteriosum meets it. Near this point it furnished the left subclavian, which, much dilated at its origin, took its course almost directly

* Journ. Hebdom.

upwards, and diminishing in size in a very sensible manner, before giving off any branches. The aorta, immediately after sending off this branch, presented a very considerable circular contraction, just as if a ligature had been drawn tightly round it; then, recovering its volume, it formed a slight swelling, which bulged more towards the left side than towards the right. Below this point the vessel appeared rather smaller than natural, and this difference was more sensible towards the lower part of its course. From the termination of the right subclavian, remarkable by its magnitude, several arteries of large calibre were given off. The transverse cervical and the cervicalis profunda equalled the humeral in size; they took their usual course, and were remarkable for the thickness of their coats and the number of their flexuosities. The former of these arteries having arrived at the angle of the fourth or fifth rib, without diminishing in volume, penetrated between them, furnishing the corresponding anterior and posterior intercostal; then running a short distance under the pleura, it anastomosed with an intercostal branch which came from the aorta, about half an inch below the point where it was contracted. The cervicalis profunda presented this peculiarity, that, taking a shorter course, and descending more directly along the posterior and superior part of the back, it divided into three large branches, which, penetrating separately into the chest between the intervals of the four first ribs, and furnishing the intercostals respectively, arrived at the aorta, into which they emptied themselves by as many large openings. A similar disposition of arteries was also observed on the left side, but the vessels were not quite so large on this side as on the other. The internal mammary arteries, both right and left, were remarkably large; their calibre exceeded that of the humeral. After having run their usual course, diminishing rather in size towards the lower part of the thorax, they again became sensibly augmented, and tortuous; each, then, anastomosed with the corresponding episgastric, with which it formed only a single trunk, whose volume exceeded that of the external iliac. They then emptied themselves into the femoral, which were found very large, compared with the iliacs. The right epigastric was more voluminous than the left. The tunics of the aorta presented no alteration in their texture, excepting in a few isolating points, where they were found slightly thickened. At the contracted point the membranes appeared equally in a state of perfect integrity. Viewed internally the contraction exhibited a very regular circular form. Its diameter was about equal to that of a crow quill.

11. *Neuralgia Facialis, cured by the Wine of Colchicum* *.—Dr. ——, surgeon-major of the royal marine, aged sixty-three years, was taken, in the course of the month of June, with excruciating pain in the right cheek. This pain, which was lancinating and fugacious, was considered by all the physicians who were consulted, as appertaining to the facial spasm of Fothergill. Bleeding, leeches, purgatives of various kinds, pediluvium, resolvents,

* Observ. Med. di Napoli

sedatives, blisters, lotions of laurel water, and a great number of other means, were tried in their turn, but without the least relief being afforded by them. Recourse was then had to accupuncture, and even to the section of the infra-orbitary nerve, but without any better success. Dr. Campagnano being informed that the patient had, some years before, been affected with pains in the articulations of the fingers, thought that the present affection of the face might be attributable to a gouty cause; he consequently prescribed the wine of colchicum as being a remedy which he had found very successful in gout. The event justified the supposition; for the patient had scarcely taken a second dose, of thirty drops, when abundant alvine evacuations took place; and although not so numerous as had been produced by some of the other purgatives, they were now followed by a complete cessation of the pain in the face.

12. *Double Uterus; Double Conception* *.—Dr. Geiss, during his attendance on a lying-in patient, observed that the pains were entirely limited to the right side of the uterus, and that this side was elevated as high as the thorax; the left only extending to the umbilical region. The external organs of generation and os uteri were perfectly formed; and, on examination, the shoulder of a fœtus behind the membranes was distinctly felt. Immediately after the birth of the child, the right side of the abdomen diminished in volume; the left remained in *statu quo*. In about an hour after, labour pains again returned, and, on examination, Dr. Geiss discovered, beyond the orifice of the uterus, a membrane, distended by fluid, projecting through an annular opening in the left side of the uterus. The umbilical cord of the infant born passed to the upper part of a cavity similar to the uterus. On further examination the abdomen of a child was distinctly felt at the opening above mentioned. Turning in this instance, as in the first, was necessary, which was not accomplished without difficulty. As the labour was not entirely finished, Dr. Geiss introduced his hand into the uterus, and thus convinced himself that this organ was double. The placenta in the right uterus was first thrown off, and the uterus contracted vigorously; but in the detachment of the second placenta from the left uterus, the contractions were feeble, and the woman lost much blood; she, however, ultimately recovered. Two years before, this woman had been delivered of one infant only, after a very difficult labour.

13. *Arabian Mode of Curing Fractured Limbs* *.—The Orientals will never consent to have a limb cut off. Their practice is to lay the limb on an oiled mat, after reducing the bones, and then enclose it in a case of gypsum, or plaster of Paris; an operation they perform much in the same way as is practised by statuaries to take a cast of a limb. They first pour the plaster of Paris under the limb, until it rises to such a height as to touch the whole lower surface, filling up all inequalities, so as to form a sort of bed; placing, at the same time, a few hollow reeds, at proper distances,

* Rust's Magazine.

* Med. and Phys. Journal.

and in such positions as to serve to conduct away, through the plaster, any fluid that might collect in the gypsum case, from the wounds, &c. When this becomes firm, which it does in a very short time, the limb is next covered with the same plaster of Paris, so as to enclose it completely, and, on hardening, to form a light case, or plaster boot, to keep the parts in as natural a position as possible. They next make a sort of furrow, or channel, in the soft plaster, on the upper surface, to receive such vulnerary fluids, during the treatment, as they think conducive to the cure, and which filter through the gypsum to humect the leg at pleasure. To render this upper shell more easily removed or changed during the cure, if necessary, to examine the state of the parts, &c., they make deep incisions into the soft plaster, both lengthways and across, though not quite through, by means of which the upper case is removed without disaranging the limb. The firmness of the lower part, or bed, makes the removal of the whole boot practicable, should such a measure, at any time, be found expedient.

14. *Effects of the Bite of a Viper* *.—A young woman, twenty years of age, of a strong constitution, was bitten by a viper at the external ankle of the right foot. The wound having been immediately cleaned with saliva, by which the small quantity of blood covering it was wiped off, she began to walk towards her village, when she was suddenly seized with a sensation of extreme debility, violent pain in the epigastrium, and vomiting, and the tongue began to swell in an extraordinary manner. Dr. Marianini, who saw the patient an hour and a half after the accident, found her in the following state:—The features were considerably altered; the cheeks puffed; the lips and tongue enormously swelled, but not painful, covered with saliva, and very pale. The swelling of the tongue rapidly increased, so that it at last almost filled the cavity of the mouth, and caused great difficulty of breathing; the voice was inaudible, but the patient expressed by signs that she suffered much from pain in the epigastrium and stomach; she had frequent attacks of syncope; the pulse was intermittent, and very weak; the limbs were in a state of relaxation; the whole body was very pale, and from time to time agitated by fits of shivering. The wounded part was neither swelled nor tender on pressure. M. Marianini endeavoured to administer a dose of liquor ammonia in peppermint water, but the swelling of the tongue, and the continual flow of saliva, prevented him from attaining his object, and he was at last forced to inject it through the nose. After an hour, the swelling of the tongue and face having a little subsided, the vital powers being somewhat restored, and the pulse having acquired more force, and in the same proportion the wound having begun to swell and become painful, M. Marianini, according to the advice given by Morgagni (Epist. 59, Art. 60,) applied a cupping-glass to the wound, and after having taken about two ounces of blood, covered it with the empl. opii. The internal use of the

* Rep. di Med. Torino.

ammonia, with the addition of some opium, having been continued for about six hours, the face and tongue regained their natural size and appearance, and the patient felt an excessive inclination to sleep; she had not, however, slept more than an hour when the swelling of the tongue, and the general symptoms of debility returned, with such violence as to place her life again in danger; it was therefore necessary to rouse her from her sleep, and to keep her awake; the above medicine being at the same time administered in full dose. The swelling of the tongue, as well as the general symptoms, then gradually disappeared, and, after perseverance in the use of the ammonia for about twenty-four hours, did not return again. The swelling of the wounded foot, from this time, increased to such a degree, that very active antiphlogistic means were resorted to, and after some weeks the patient was perfectly cured.

15. *Remarkable Case of Abstinence* *.—Anna Garbero, of Racconis, in Piedmont, died on the 19th of May, 1828, after having been for two years, eight months, and eleven days without any solid or liquid nourishment. Sixteen hours after death she was examined by MM. Rolando and Gallo, of Turin. The serous and synovial membranes were dry, and resembled parchment; the diameter of the principal veins and arteries was much less than usual, but the most remarkable morbid alteration was that of the digestive organs; the transverse colon had descended to the hypogastric region, its two extremities remaining fixed in their natural situation; the stomach had descended in a similar manner; and being much contracted, had the appearance of part of the larger intestine. The duodenum was in a natural condition, but the other small intestines were considerably contracted; the lower part of the cœcum, and the middle portion of the transverse colon contained small hardened scybala; at the lower part of the colon descendens, the membranes of the intestinal canal were thickened and callous, so as to hinder the further progress of the excrement; and in the sigmoid flexure it was completely obliterated. The mucous membrane of the stomach was softened and friable; that of the intestinal canal had undergone the same alteration, and was of a brown colour, such as is observed in incipient gangrene; the valvulæ conniventes were hardened, and the whole tract of the small intestines was empty. The mucous membrane of the rectum was of a violet colour, thickened, beset with hard, scirrhous excrescences, and covered with very fœtid pus. The mesenteric glands were in a natural condition; the epiploon and mesentery exhibited no traces of fat, and were nearly in the same state as the pleura and peritoneum.

16. *Case of Angina Pectoris* †.—Josephine Vala, aged thirty-four, of a florid complexion, was admitted into the Hotel Dieu, Nov. 14th, having been about four months before, without any obvious cause, seized with palpitations, violent intermitting pain in the left side of the thorax, extending over the left arm, and frequent

* Ann. di Omodei. † La Clinique.

attacks of suffocation and syncope. These symptoms being treated by blood-letting and antiphlogistics, gradually subsided, but had returned a few days before her admission, at which time she was found in the following state :—The intermitting pain on the left side was very violent, and accompanied by suffocation ; the pulsations of the heart were very loud ; the pulse was hard and frequent ; the patient seemed very low-spirited, and complained of restlessness, headach, and the most oppressive fainting sensation. Having been several times bled, she seemed to be somewhat relieved ; but the attacks of syncope, pain, and suffocation, became more frequent, &c. ; and in the night of the 20th, she suddenly started up, vomited several times, and died in a few minutes. On examination of the body, the brain was found somewhat injected, but healthy ; the lungs loaded with blood, the left ventricle of the heart hypertrophic, and its substance of a paler colour than usual ; the other parts of the heart were healthy, but the aorta was considerably diseased ; its internal membrane being almost entirely destroyed, the muscular coat of a villous appearance, and presenting numerous yellow spots surrounded by a white margin. The principal arterial branches were healthy.

17. *Bronchocele—Singular effects of Iodine on the Genitals**.—A young man, eighteen years of age, of a lymphatic constitution, had, from his fifteenth year, when he attained to puberty, been affected with bronchocele, which soon reached such a size as to produce considerable dyspnœa, frequent attacks of suffocation and hoarseness. Being admitted into the Hotel Dieu, the tumour was found so large as to occupy the whole space between the middle of the neck and the clavicles ; it was formed of two lobes, and lifted up by the pulsation of the carotids ; in its substance, also, an alternating enlargement was visible during the arterial expansion. The general health of the patient not being affected, he was put under a course of iodine, of the tincture of which he took from six to ten drops daily. The tumour gradually subsided, its lobes became more distinct, the voice more natural, and the difficulty of respiration ceased altogether. It is worthy of remark, that under the use of iodine, the genitals became, as it were, atrophic, and that erections and pollutions, to which the patient had formerly been very subject, were never observed during this time.

18. *Injuries of the Head.—Application of the Trephine* †.—D. M'Leod, aged eleven years, was admitted, August 4th, under the care of Dr. Maclachlan. Two hours previous to admission, while employed in rivetting a boiler, one of the rivets was driven with much force into his head. He immediately fell, and remained insensible for some time. A considerable hemorrhage took place from the wound. Over the occipital angle of the right parietal bone there is a wound, an inch and a half in length, through which a fracture of that bone is discovered, having a diameter in

* Ibid. † Glasgow Infirmary.—Glasgow Journal.

every way of nearly an inch, with a depression, directly inwards, of fully half an inch. Wound bleeds freely. There is slight stupor, but he answers questions distinctly; pupils sensible and quite natural; no paralysis; pulse 84; respiration easy and natural; the wound was brought together, and lightly dressed. (Took a scruple of calomel, and had a laxative enema.) 5th. Passed a quiet night. This morning, the pulse having risen to 110, he was bled to ℥x. One stool; intellect perfect; does not complain of much headach; pupils natural; says his vision is quite as usual, only he fancies objects that are near to be at a distance from him; pulse 120; occasional retching when he raises his head from the pillow. (V.S. repeated to ℥x.; cold applications to the head, and laxative enema in the evening.) By the 8th, the pulse had fallen to 78. His headach left him, and all his functions were natural. (Cold applications to the head.) 10th. Some increase of pain in site of fracture; aspect and pupils natural; pulse 80; skin, respiration, and tongue natural; mouth slightly affected. (Cold applications.) 11th, being the eighth day from receipt of injury, dozed almost constantly since yesterday afternoon; answers questions distinctly, but with much reluctance; vomited his breakfast this morning; lies in an apparently exhausted state; pupils dilated and sluggish; pulse 65; respiration natural. Symptoms of compressed brain being now present, it was decided, in consultation, that the depressed portion of bone should be raised. On laying bare the bone, an opening, nearly an inch in diameter, and of a square form, was found. The broken fragments were depressed nearly at right angles with the sound bone, and, consequently, having their points pressing directly inwards on the brain. It was found impossible to elevate the whole without two applications of the trephine. The broken pieces being removed, the brain rose to its proper level, and its pulsations, which were hitherto absent, now became strong and apparent. The dura mater was wounded slightly at several points by the spiculæ, and minute portions of brain were seen floating off with the blood. The scalp was laid down, and retained by two stitches, and the parts lightly dressed. The boy immediately became more lively, the pupils active and natural, and the pulse rose from 65 to 96. 12th. A good night; is perfectly free from stupor; answers questions readily, pleasantly, and distinctly; pulse 90; two stools; dressings slightly marked with sero-sanguineous discharge. 13th. Goes on well. 19th. Went on favourably till this morning. His expression is dull; pupils sluggish, and do not contract to the extent they formerly did; pulse 102; wound looks well; discharge rather diminished; says his principal uneasiness is in site of the wound. (V.S. ad ℥viij. Laxative enema.) 6th September. Has had no bad symptoms since last report; the wound gradually healed; he is now in every respect well, and is this day discharged, being the twenty-sixth after the operation. He has since shown himself at the hospital in excellent health.

The operation of trepan was performed in another case, but without any beneficial result. A man was brought to the hospital

in a state of complete insensibility, with stertorous breathing, pulse 50, and other symptoms of compressed brain. He had fallen from a height on his head. The scalp was raised at the principal point of injury to the left of anterior fontanel, but neither fracture nor fissure could be found. The trephine was applied, and a circle of bone removed. The dura mater was found extensively detached. Blood flowed freely by the opening, but without any alleviation of symptoms. He died in a few hours. On dissection, it was found that extensive fissures had taken place at the base of the cranium. Blood had been largely extravasated both above and beneath the dura mater; and the lateral ventricles were filled with the same fluid.

19. *Taliacotian Operation* *.—Ann Nicholson, aged thirty-seven, was admitted, August 14th, under Dr. Maclachlan. All her nose had been destroyed, except the right ala and columna, leaving an unseemly chasm, bounded at the sides by the nasal processes of the superior maxillary bones, and above by the os frontis. At her admission, two months ago, a line of ulceration extended along the edges of this chasm to the cheeks, the forehead, and angles of the eyes. These healed under the use of small doses of mercury with sarsaparilla. Says they have repeatedly nearly healed, but again broke out. Ascribes her disease to a blow she received six years ago on the nose. As the edges of this opening were covered in most parts only by a red, shining cuticle, which the slightest injury caused again to ulcerate, it was thought that by giving them a soft covering from the neighbouring parts, a recurrence of these ulcerations might not only be prevented, but the hideous deformity in some degree remedied. The case was by no means a promising one, but the patient being willing, and a consultation having sanctioned it, the operation was performed in the following manner:—The right ala and columna being retained, and the edges of the chasm being pared all round, a flap, two and a half inches in length, and one and a half in breadth, having somewhat the shape of a jibsail, was taken from the left side of the forehead, the integuments over the centre having been destroyed by previous ulcerations, and now occupied by linear cicatrices. The flap was left attached at its lower and narrower part, near the inner angle of the orbit; a half turn was given to it at this point; it was then laid down and fitted to the raw edges of the opening, and retained *in situ* by four stitches. A piece of India rubber was introduced by the new-made nostril, and passed upwards so as to raise the flap in imitation of the bridge of the nose. Soft lint was laid along the raw edges, and over all a light compress. The wound of the forehead was approximated, as much as possible, by adhesive straps. The dressings were removed on the fourth day, when the flap was found in perfect apposition, and united throughout most of its extent. Thereafter it was dressed daily, and in about three weeks had quite cicatrized, remedying very materially the deformity, and leaving a soft cushion over the sharp edges of the

* Ibid.

nasal processes of the superior maxillary bones. The cicatrix on the forehead became of very small dimensions—a mere line. She continued in the house till the 6th of November, when she was discharged in good health, and greatly amended in appearance. It should be mentioned, that the communicating part of the flap never was divided, the prominence formed by the twist serving to remedy the deformity arising from the want of the bones of the nose.

20. *Cases of Strangulated Hernia—Operation**.—*Case* 1. Mary Mackeever, aged thirty-six, was admitted September 17th. She has been subject to reducible hernia of the right side for ten years; and, for the last three years, she has also had one of the left side, which she was able readily to reduce, until its last descent, forty-four hours since, when her efforts proved unavailing. In an hour the tumour became painful; retching and vomiting soon followed, together with extension of the pain from the tumour to the abdomen. She was bled about seven hours ago by a surgeon, and the taxis employed for a quarter of an hour without any beneficial result. At present (half-past five, *p.m.*) the tumour is about the size of a large hen's egg, elastic, and very tender on being handled. Much pain of abdomen, increased on pressure. Vomits whatever she swallows, and there is occasional hiccup. Pulse 104, small, but firm; no stool since the descent of the tumour. A ta consultation (six, *p.m,*) it was agreed that she should be placed in the warm bath, bled while there, and the taxis again tried. All failed, and at seven, *p.m.* the operation was performed. The stricture, which was very complete, was readily freed by means of Cooper's hernia knife, and the contents of the sac returned into the abdomen. They consisted of a convolution of small intestine, and a small portion of omentum. The gut was of the colour of port wine. (She was ordered ol. ricini ℥ss. and shortly after a laxative enema.) 18th. A good night; has had five stools; the first about an hour after the operation. Still some pain of abdomen on pressure; no sickness; pulse 86; heat of skin increased; tongue pretty clean. (Ordered magnesia.) 19th. Complained early this morning of increase of pain in the neighbourhood of the wound, for which she had eighteen leeches to the abdomen, without much relief. Pulse 88, of moderate strength; skin natural; tongue pretty clean; one stool from an enema. (Castor oil and an enema, if necessary.) 20th. Oil was repeated twice ere it had effect. Has had three stools this morning, dark and lumpy. The pain having increased during the night, she was bled to ℥xvi; blood buffy; feels relieved, but still has pain on pressure; expression of countenance good, only with a tinge of yellow; pulse 120, rather full; tongue white; thirst moderate. (Twelve leeches to adbomen; to have a scruple of calomel.) 22d. Calomel did not operate until brought off by a laxative enema. She has had several dark-coloured stools, since which she has felt relieved. Pain of abdomen gone, except at one point immediately over Poupart's ligament on the operated side, where some degree of hardness

* Ibid.

is discoverable; countenance natural; pulse 90; tongue cleaning. (To have sulph. magn. ℥i.) 24th. Goes on favourably. October 9th. Has not had any complaint since last report; and has recovered her accustomed health. Dismissed.

Case 2.—Robert Graham, aged forty-six, sailor, was admitted 28th May. He has had a scrotal hernia of the right side for sixteen years. It was easily reduced, and he kept it up by means of a truss. About forty-eight hours ago it came down, in consequence of his neglecting to use the truss. He made many unavailing efforts to reduce it: being at sea, he could not obtain medical assistance. Tumour became painful, retching, and the usual train of symptoms, followed; his companions made numerous efforts to relieve him, but all failed. At present (half-past five, *p.m.*), in the right side of scrotum there is a tumour about the size of two fists, very tense, and acutely painful when handled; integuments glossy, and of a dark red colour, constant nausea and retching, and he vomits every thing he takes; pulse 100, small and wiry; tongue furred; great thirst; countenance flushed; skin hot and dry; no stool for fifty-six hours. A consultation was immediately held, and the operation decided upon, without making any trial of the taxis. On opening the sac, about fifteen inches of the ileum, with its mesentery, were found strangulated. The intestine was of a deep red colour, but had not lost its natural shining appearance. The mesentery was firm, hard, and uncommonly thickened, partly from effused lymph, but mostly from ecchymosis. The thickness may be stated at three quarters of an inch. The obstacle to the return of such a mass into the abdomen must be at once apparent. On passing the finger to the point of constriction, it was found so open, that it passed with ease into the cavity of the abdomen. The hernia being one of long standing, the upper and lower rings had, as it were, become one. Cooper's knife was introduced on the finger, and the edge of the transversalis muscle divided directly upwards; but it was only after repeated enlargements that this unyielding mass could be returned. This being accomplished, the wound was brought together, and dressed in the usual manner. He had castor oil with laudanum, and a laxative enema. 29th. Several stools soon after the operation; has had a very restless night, notwithstanding his being bled to ℥xvi. and having had an anodyne; abdomen was swollen and painful on pressure; constant nausea and retching; pulse 110, small and hard. (V.S. repeated to ℥xvi. To have a scruple of calomel with one grain of opium, and a draught at bed-time.) 30th. Countenance much changed for the worse; pain of abdomen abating; pulse 160, weak and irregular. (Calomel repeated, and blister to abdomen.) Died at seven, *p.m.*

Sectio Cadaveris.—About a pound and a half of puriform fluid were found in the abdominal cavity; the small intestines were glued together; the mesentery of the ilium, for about twenty inches, was from one quarter to three quarters of an inch in thickness; it was firm and hard, the effect of effused blood; three livid patches, the largest the size of a shilling, were found on

that portion of intestine which had been strangulated; but at no point had it given way. The constriction was formed by the border of the transversalis muscle. The ring was much dilated, and admitted easily two fingers. The spermatic cord was much enlarged.

21. *Case of Hydrocele of the Spermatic Cord, complicated with Peritonitis, simulating Strangulated Hernia — Operation* *. — James Porter, aged two years, was admitted, June 24th, presenting the following symptoms: in the upper part of the right side of the scrotum there is an oblong elastic tumour, about the size of a small walnut. The testicle lies immediately below, and posterior to it, but separate from it. Cord feels enlarged, and lies posterior to it. The integuments of the scrotum move freely over it, and are not discoloured. The tumour enters, and distends the external ring, and is painful when handled. Abdomen is much distended, and tympanitic; and the child cries when it is touched, particularly at the lower part. No stool for eight days, and for the last two, has had nausea and occasional retching. Pulse 120 skin hot; tongue white; great thirst. His mother says that she first observed this tumour about three months ago, in the situation of the external ring; and that it gradually enlarged, and descended towards the scrotum. She could easily make it disappear by pressing on it; and its disappearance was always accompanied by a gurgling noise. She states that she was recommended by a surgeon to get a truss to keep it up; that it has continued in its present situation for two weeks past; that the child has had no stool for the last eight days; and that two days ago nausea and retching came on, when a surgeon was consulted, who attempted to reduce the tumour by the taxis, but failed. Here, then, were all the symptoms of incarcerated bowel, with a tumour filling the external ring, which, from its situation, and the smallness of its size, could not, by any possibility, be distinguished from inguinal hernia. The taxis was tried, but without any change in the tumour. As the symptoms, as yet, were not very urgent, and as the incarceration appeared to be rather *par engouement* than strangulation, the boy was ordered (at two, *p.m.*) three grains of calomel; in an hour after to have ʒij. castor oil, and in two hours more, a laxative enema, and to be placed in the warm bath. Should these means afford no relief, a consultation to be summoned for six, *p.m.* The enema brought away a pretty large stool, composed entirely of hardened balls and some blood; but there was no indication of the medicines given by the mouth having contributed in any way to it.

Consultation met at six o'clock. No relief from the stool. The boy was more feverish and restless. Complained more on the tumour being handled. Abdomen still swollen, hot, and tender to the touch; pulse 140; skin parched; face flushed; in short, a considerable aggravation of all his symptoms. A moderate trial of the taxis having again failed, it was decided to open the sac,

* Ibid.

and ascertain the nature of its contents. At seven, *p.m.*, this was done in the usual manner, and on laying open the investing membrane, a gush of clear fluid, followed by a considerable quantity of thick jelly, was pressed out, showing the tumour to be hydrocele of the cord. The parts were immediately brought together, and a light compress applied. He had three grs. of calomel, and afterwards infusion of senna, but it was not till the following morning that stools were procured. These were very fœtid, dark-coloured, and lumpy; he passed a very restless night; skin excessively hot, and feverish; symptoms in general increased; abdomen tense and much swollen, and he cries much on its being touched. (He was ordered half a grain of calomel every four hours. Six leeches to the abdomen, and the warm bath.) 26th. Cord and testicle hard and painful; pulse 144; less heat of skin; two dark-coloured stools. (Leeches to the scrotum; calomel and bath to be repeated.) 27th. The feverish symptoms somewhat abated; swelling of the cord as yesterday, only there is less redness around the wound; several stools last evening, in which there were several lumbrici. Had inf. sennæ twice, and the bath. 29th. Leeches were again applied to-day, and he continued the calomel and bath; abdomen continues enlarged and tender. Passed numerous lumbrici, and latterly ascarides in large quantities; countenance pale, and of a yellowish tinge; he vomits occasionally. 2d of July. Gradually wasting; abdomen swollen, but soft; occasional retching; swelling of the cord and testis abating; pulse 160. He continued gradually to decline during the two following days, and on the evening of the 4th he died.

Sectio Cadaveris.—Abdomen contained nearly a pint of purulent fluid. The intestines were enormously distended with flatus, and at some points slightly adherent. Peritoneum pale. The spermatic cord, from the testis to the inner ring, was hard, and enlarged to nearly three times its natural size; and within its sheath a small abscess was found, containing ʒij. of pus. Left side of the chest contained about twelve ounces of sero-purulent fluid, and the lung was covered with a thick layer of lymph.

22. *Cases of Lithotomy* *.—Case 1. William Con, aged two years and a half, has, for twelve months, been observed to pass his urine more frequently than natural; it comes away generally in drops, during which he cries violently. He suffers from tenesmus, and the rectum frequently becomes prolapsed to the extent of three inches; urine pale and muddy, and on standing, deposits a glary sediment. Health declining, and symptoms have become much aggravated within the last four months. On sounding the bladder a stone was readily met with. He had ʒvi. lime water daily in milk, and his bowels were kept open by magnesia. August 26th. The lateral operation was performed this day, and a small uric acid calculus, about the size of a kidney-bean, easily extracted. The intestine became prolapsed immediately on making the first incision, but being held aside by an assistant, it gave

* Ibid.

no trouble. The knife used was a long narrow bistoury, without beak or probe-point—simply cut off abruptly at the point, having a cutting edge to the extremity. No dressing of any kind was applied to the wound, nor any tube introduced. He was so much relieved, that he slept for nearly twenty-four hours after the operation; the urine came freely by the wound till the 28th, when it passed by the urethra. On the 10th of September, he was discharged, cured, being the fifteenth day after the operation.

Case 2. John Todd, aged four years, was admitted on the 22d of August. He has for two years complained more or less in passing his urine. At present it is voided frequently, during which he cries constantly. It sometimes stops suddenly, and, at times, is voided only by drops. Has much tenesmus, and occasional prolapsus ani; health good. On sounding the bladder, a stone was found, and the operation for its removal was performed on the 29th. It was done, as in the previous case, with the bistoury; only in this instance, that instrument was probe-pointed; Dr. Maclachlan prefers the knife used in the first case. A calculus weighing ʒiij. was easily removed; and the patient put to bed without any dressing or apparatus about the wound. Urine continued to pass by the wound until the 9th of September; had no unfavourable symptoms, and was discharged on the 19th, being the twenty-first day after the operation.

Stone in the bladder is by no means a frequent disease in or about Glasgow, the average number of admissions into the hospital being about five annually. The operation performed is, as far as Dr. Maclachlan knows, invariably the lateral one: and the instruments used are the common curved staff, with a groove; the scalpel, for the first incision; the bistoury, for opening the bladder; and the forceps. Dr. Maclachlan has not heard of the gorget being used there for many years.

23. *Dislocation of the head of the Femur; Fracture of the right Leg, left Humerus, and head of the lef Ttibia* *.—John Broadlie, aged twenty-seven, was admitted on the 20th of September, 1827. While working this morning, in a coal-pit, the roof fell in, and he was buried in the ruins. He was insensible for some time after the accident. His whole body is more or less bruised. Left humerus is fractured obliquely in its lower half, the arm being much swollen and livid at some parts. Both bones of the *right* leg are broken near their middle, and there is a good deal of tumefaction and lividity around the fracture. There is also a longitudinal fracture of the internal tuberosity of the *left* tibia. Right femur is dislocated into the sacro-sciatic notch; the limb being about an inch shorter than the other; the knee inclined over the opposite thigh, and drawn up; and the motions of the joint are much restrained. The fractures of the right leg and left arm were put up in splints, in the ordinary way. A bandage and cold application were applied to the left knee; but the reduction of the dislocated head of the femur, with a fracture of the same limb, presented no ordinary

* Ibid.

difficulty. It was, however, attempted and accomplished in the following manner. The man being laid on his left side on a mattress, a padded girt was applied above the right knee, and another, for counter-extension, between the thighs; the pullies were then applied, and while extension was making, the man was bled, by two orifices, to ℥xx. An assistant had charge of the fractured leg, which was supported on a small separate cushion, and moved it slowly as the extension proceeded. A large folded sheet was now placed under the upper part of the thigh, by which, at the second effort, the head of the bone was raised to its natural situation, into which it slipped with an audible snap, and with instant relief to the patient. He had not a bad symptom, and was discharged cured on the 19th of November, scarcely two months after the accident, on which day the following was the report:—'Fracture firmly united, and he walks well.'

24. *Injury of the Hip-Joint.—Extensive Abscess.—Death*[*].—Nancy Simpson, aged 33, admitted September 10th. In coming out of bed, she fell, face downward, and knees widely apart, the weight of the body falling principally on the right knee. She felt, t the instant, great pain in the hip, accompanied by a feeling as if something had broken or snapped. Leeches and fomentations affording no relief, she was more minutely examined. The following were the appearances:—Permanent abduction of the right thigh and knee, any attempt at adduction causing the most excruciating pain; thigh half bent on the pelvis; considerable swelling around the hip-joint; the right knee projects about an inch and a half beyond the other. On taking her out of bed, she could not stand erect, she inclined the body forwards on the thigh, she had the knee advanced, and the heel raised, the toe slightly everted, and the limb lengthened about an inch and a half. There was an evident flattening of the hip. On pressing in the situation of the foramen ovale, a degree of resistance was met with, greater than on the left side, and she complained of much uneasiness at this point. Point of the knee was red and swollen, being the part on which she had fallen. These symptoms indicated so distinctly dislocation in the foramen ovale, that two different attempts at reduction were made, without any material change in the appearances, except that the flattening of the hip became not so obvious. On the 15th, a consultation was held on her case, at which a further trial at reduction was recommended. This, however, was not done, in consequence of increase of fever and bilious vomiting. On the 17th, another consultation was held, at which, from her febrile state, the tumefaction of the parts around the joint, and some doubts having arisen as to the nature of the accident, a week's rest was recommended, together with leeching, cupping, fomentations, &c. At the end of this period, however, things were in a worse state than at its commencement. The fever, swelling, and pain continued. The knee was still abducted, and easy only when allowed to lean against the wall by the side of

* Ibid.

the bed. The thigh was still lengthened and bent on the pelvis. She had frequent attacks of bilious vomiting, and latterly diarrhœa. At the end of a month there was no amendment, but the reverse, her health rapidly declining. The swelling around the joint was rather increased, but no fluctuation could be felt. Hectic symptoms, with constant diarrhœa, now set in, and at the end of rather more than two months, she sunk from these causes, and from the irritation of bed-sores.

Sectio Cadaveris.—The joint was found surrounded by a large abscess, passing upwards along the psoas muscle, as far as the diaphragm. The head of the bone was in the socket, but the synovial membrane, the capsular ligament, and the cartilaginous brim of the acetabulum were entirely absorbed. That cavity, and for an inch all round it, was bare and rough bone. The ligamentum teres had lost its attachment to the acetabulum. Several ulcerations were found in the great intestines.

25. *Enlargement of the Knee, with Relaxation of the Ligaments* *. James Godfrey, aged fifty, admitted on the 18th of August. The right knee-joint is much enlarged. The swelling is without discoloration, tense, and elastic. It extends some way up the thigh, and downwards below the joint. There is scarcely any pain in the knee, nor has there ever been more than at present. The motion of the joint is slightly interfered with. But the most remarkable feature of the case is, that on his attempting to stand on this limb, it yields outwards at the joint, so as to form a sort of arc. It can likewise be made to bend inwards, and in performing these motions, a sensation is produced as of pieces of rough cartilage grating against each other. On pulling the leg, the fingers can be insinuated between the articular surfaces, showing the ligaments of the joint to be lengthened; and this relaxed state of these ligaments will also explain its flexibility. The head of the tibia feels much enlarged, as if by a deposite of cartilage, and the soft parts generally around the joint appear to be diseased. The constitution has in no degree sympathized with this affection, the man being stout, ruddy, and in the best of health. He ascribed his disease to a fall he had, seven months ago, from a scaffold—he alighted on the *left* side—on rising he found he could not stand on the *right* limb, but he felt no pain. Swelling came on, as he thought, from the stress of walking. The joint was at one time more swollen than it is at present, but was reduced by bandaging. Under repeated blistering and the constant use of a bandage, the knee was, in about two months, reduced to nearly the natural size; but its flexibility continued as on admission. Pumping of cold water on the part was tried for some time, but without any better success. Unless the veterinary practice of *firing* might be of use, Dr. Maclachlan does not know of any other that could. It was proposed to him, but the dread of the hot iron deterred him from submitting.

26. *Hospital Gangrene* †.—In two cases of this disease—the one

* Ibid. † Ibid.

a case of extensive ulcer of the calf of the leg; the other a case of ulcer of the scrotum—which occurred in the infirmary, the malady was arrested by the following application: the ulcer being thickly covered with powder of Peruvian bark, spirit of turpentine was dropped on the powder, which readily imbibed it, until they formed a thick cake, then a pledgit of resinous dressing over all; after the second or third dressing, the ulcer lost its dirty ash-gray colour; its peculiar fœtor; its everted edges sloughed off, leaving a clean and healthy sore. In both cases there was much constitutional disorder, which was allayed by calomel, antimony, and opium.

27. *Subluxation and Fracture of one of the Cervical Vertebræ**.—Priscilla Hilton was admitted into the Baltimore Alms-house, November 14th, 1827, with nearly total paralysis of both superior and inferior extremities. The history obtained of the case was as follows:—A week previous to admission, the patient had fallen down a long flight of stairs, striking, as was supposed, on the back of her neck. The accident was not immediately discovered, and the young woman lay for some time insensible. When found by the family, her consciousness had returned, but she was unable to rise, or to use any of her limbs. From that time the paralysis continued, as when admitted into the Alms-house, nearly total. In connexion with the general paralysis existing when the patient was admitted, there was a tumid, tense state of the abdomen, resembling tympanitis. The bowels were torpid, not having acted since the injury, but from medicinal excitement; the flow of urine free, but altogether involuntary; pulse slow and soft; heat natural; respiration unembarrassed; senses perfect; no pain, but tenderness of the abdomen. On examining the neck of the patient, there was some degree of swelling, and great sensibility to pressure. The head was turned and fixed, so as to direct the face somewhat to the left side, and all attempts to restore its natural position gave pain, and was resisted by the patient. She preferred being placed on the right side. *Diagnosis.* Subluxation, and probably fracture of the fifth or sixth cervical vertebra. After the patient had been a day or two in the infirmary, she was observed to sleep naturally for some hours at a time, but was liable to be aroused by spasmodic attacks, and was once or twice affected by convulsive muscular action, so violent as to throw her out of bed. She had little appetite, and it was found that efforts to vomit generally ensued a few hours after eating; the egesta commonly green and fœtid. On the third day after her admission, the tendency to vomiting became greater; every thing swallowed was rejected, and stercoraceous matter, in considerable quantity, became at last mingled with other substances, thrown off by the stomach. The attempts to procure intestinal evacuations by the usual cathartics, with enemata, having failed, Croton oil was ordered, in combination with tinct. rhei and ol. ricini.—℞. Ol. Croton. gutt.

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* Dr. Wright—*American Journal of the Medical Sciences.*

ij.—Tinct. Rhei. ʒiv.—Ol. Ricini, ʒj. ft. mist. ʒiij. om hora. donec alvus movetur sumendus. The first dose suppressed the vomiting; the second procured two or three sufficient alvine movements. The vomiting did not again occur, and the tympanitic state of the abdomen relaxed very much; but the patient manifested an increased state of prostration; and, notwithstanding the liberal use of cordials, gradually sunk, and expired on the following day, the fourth after admission. The mental functions continued free from disorder to the last moment.

Sectio Cadaveris.—The entire cervical, and part of the dorsal, spine was cautiously exposed, and the vertebræ freed from muscular matter. It was then obvious that there existed partial dislocation, with fracture, at the junction of the fifth and sixth cervical vertebra. The inferior anterior margin of the fifth cervical vertebra projected four or five lines in advance of the margin and body of the sixth vertebra. The ligament of the left transverse process of the fifth vertebra was torn up, the articular surface exposed, and the process itself dislocated, and partially separated from the body of the vertebra by fracture. The whole cervical column, above the point of injury, was turned or twisted from right to left, so as to present the range or line of its spinous processes considerably to the right of the line of the same processes in the column below. Hence the turn of the head and left aspect of the face, noticed as existing when the patient was admitted. The theca spinalis was surrounded (the vertebral canal filled) some distance above and below the point of injury, with semifluid, grumous blood. The three lower cervical, and first dorsal, nerves, at their exit between the vertebræ, were covered and deeply coloured by the same bloody effusion, and the ligament around the injured articulation stained and blackened by the same matter.

28. *Arachnitis of the Brain and Spinal Marrow.—Pulmonary Tubercles* *.—N. M., a black girl, aged twenty, was taken unwell about the middle of July, 1827. The symptoms which appeared were a dry husky skin, with not much heat in it; pulse frequent; difficulty of breathing on ascending a flight of stairs; slight headach; no appetite; bowels regular; menstruation regular up to the latest period; tongue indicating no derangement in the viscera of digestion; sound of the thorax somewhat flattened on percussion on the right side under the clavicle. Dr. Horner directed her a diurnal diet consisting of milk, one pint, mixed with water, one pint, and bread four ounces, which was continued for one month, with an evident improvement in the symptoms; for she became stronger; the expression of countenance was better, and her breathing easier. He observed, however, the frequency of pulse to continue; it was seldom less than 140, and generally 160 in the minute. By the end of the month all the symptoms had disappeared, with the exception of the quickness of the pulse. The only medicinal application employed was a blister to the chest,

* Dr. Horner.—Ibid.

which was kept open for some days. After this she took liverwort tea, which appears to be a popular remedy for consumption in America. About the close of the administration of this remedy her stomach became exceedingly disordered, and it rejected every thing for a day or two; when its extreme irritability ceased, but with an entire loss of appetite. October 15th. At this period the symptoms were, one eye turned from its axis, squinting, double vision; articulation rather slow; does not complain of pain in the head; pulse 160; respiration rather easy and tranquil; no pain in the thorax. Percussion beneath the right clavicle yields a heavy, fleshy sound. On the application of the stethoscope no respiration was heard there, but it is heard in other parts of the same lung. Sound and respiration of the right lung good; no complaint of the abdomen; loss of appetite. Dr. Horner directed the renewal of the blister to the thorax, and ordered tinct. benz. comp. gtt. xxx. three times a-day. A few days after this she became incapable of discharging her urine; the bladder distended and produced the excessive pain attending that state. Her articulation was broken by sobs and cries, with stuttering and thick speech. The lower extremities became motionless, though extremely painful when touched or moved abruptly; and the other symptoms of cerebral disease increased. The bladder was relieved of a pint and a half of very fœtid urine by the catheter, to which instrument Dr. Horner resorted every day afterwards, so long as she lived, from the incapability of discharging the urine still continuing, attended with pain and extreme fœtor. For two days before death she became comatose, like one under the influence of laudanum, and died, November 4th, 1827, by a very gradual and easy extinction of life.

Sectio Cadaveris, twenty-five hours after death.—Head.—Dura mater presented the appearance of being half dried on the top of the hemispheres; pia mater congested with red blood; arachnoidea at the basis of the brain much thickened by coagulating lymph, identified with its structure; this was more eminently the case about the chiasm of the optic nerves and the inferior part of the third ventricle; the ventricles contained about one ounce of serum; the fornix was in a pulpy, soft state, and the septum lucidum was stretched and resolved here and there into fasciculi of fibres, forming a very imperfect partition between the ventricles. The arachnoidea of the ventricles not obviously thickened; corpora striata softened: an inflammatory adhesion, injected with red blood and cylindrical, caused the thalami to adhere; possibly this adhesion might have been the commissura mollis, but if so, it was lower down and further forward than usual, and much stronger. Substance of the brain shewed numerous red points of cut vessels. Nothing remarkable about the cerebellum, pons, and medulla oblongata, except that wherever the arachnoidea stretched from eminence to eminence it was thickened and inflamed. *Medulla spinalis.*—Dura mater natural; tunica arachnoidea inflamed in its whole length, and thickened, adhering very closely to the pia mater, and to the roots of the spinal nerves; texture of the me-

dulla softer at places than natural. *Thorax.*—Right lung carnified in its upper lobe, and adhering to the thorax, where it gave out the flattened sound; raw tubercles in great abundance through its structure, but none of them softened; permeable imperfectly to air in its two lower lobes; left lung permeable every where, but abounding in immature tubercles, from a line to three in diameter, none of them softened; heart natural. *Abdomen*—Liver healthy, with the exception of a few tubercular masses interspersed in it; stomach contained a thin, dark-coloured fluid, smelling disagreeably; mucous coat somewhat browned, and the lymphatic glands along its lesser curvature, and in the lesser omentum, enlarged and tuberculous; some of them were seen in the thickness of the stomach, along its lesser curvature, from one to two lines broad; intestines generally healthy, at least the marks of disease were not evident, with the exception of a light slate colour at their upper part in the mucous coat; organs of generation generally healthy; the internal coat of the uterus injected with blood, and could be raised easily with the point of a knife.

29. *Case of Organic Disease of the Brain, unattended with any remarkable derangement of the cerebral functions* *.—The subject of this case was a lad, aged about ten years, who had usually enjoyed good health. He received a blow on the side from another boy, which caused him to fall with some violence. He was stunned, and upon rising was dizzy and bewildered, so as not to be able at first to find his way into the house. These effects, however, soon went off, but, in the evening, paroxysms of headach, to which he had previously been for some time subject, became afterwards more severe, and they were once or twice accompanied by nausea and vomiting. This accident occurred in April, and the symptoms continued much the same until August, when he was suddenly seized with convulsions, and died. During the whole course of this disease the functions of the brain were unaffected in a remarkable degree. There was no failure of the powers of the intellect, memory, sensation, speech, or motion. There was never any thing peculiar in his gait; his manner of walking at different times was determined wholly by the amount of his muscular strength. He moved precisely as any other person would do who was equally weak. His countenance was melancholy, and his eye rather heavy. He was generally silent and depressed, and easily moved to tears by very slight causes. So much improvement had taken place during the summer, that Dr. Ware was led to hope the complaint might be primarily an affection of the digestive organs, and that he would finally recover, although he had previously been firmly persuaded of the existence of some organic derangement in the brain.

Sectio Cadaveris ten hours after death.—External appearance.—Face and limbs emaciated. *Head.*—The integuments adhered very firmly to the cranium at the posterior part, and were unusually vascular. On opening the cranium, the dura mater appeared ex-

* Dr. Ware—Ibid.

ceedingly tense. The veins of the pia mater, more particularly those entering the longitudinal sinus, were very large, but not distended. The convolutions of the brain were somewhat depressed. There was slight serous effusion under the arachnoid and some portions of coagulable lymph. On removing the upper portion of the left lobe, by thin slices, an evident deep-seated fluctuation was perceived, and on opening the lateral ventricle, five or six ounces of a straw-coloured fluid were collected, part of which was from the ventricle of the opposite side, and also from the third ventricle, the opening into which was greatly dilated. The fornix, septum lucidum, and the thalami were unusually firm, and of unusual whiteness. The consistence of the other parts of the cerebrum was natural; numerous red points presented wherever an incision was made. On dividing the tentorium, slight adhesions were found between this and the cerebellum. On the left crus cerebelli, between the arachnoid and pia mater, a small globular tumour was seen, one-third of an inch in diameter, of the consistence of the cortical substance, and of a granulated texture. On the inferior surface of the tentorium, near its attachment to the petrous portion of the temporal bone, on the left side, was a bilobated tumour, very firmly adherent, of firm consistence, of an oval form, about one inch in length. In the left lobe of the cerebellum there were two, and in the right lobe three, round tumours, from one-half to three-fourths of an inch in diameter. On dividing one of them, it was found to consist of a firm cyst, containing a substance of a greenish-yellow colour, similar in its external characters to the matter found in encysted tubercles of the lungs. These tumours were embedded in the convolutions of the cerebellum, and by care could be removed without destroying the texture of the parts. Those in the left lobe were less firmly attached to the pia mater than those in the right. The substance of the cerebellum appeared less firm than natural, but no *ramollissement* existed around the tumours. The pia mater of the medulla oblongata was considerably injected, and a small quantity of serous fluid was found at the base of the brain. The thorax and abdomen were not examined.

30. *A large Cyst situated under the Peritoneal Coat of the Liver* *. —A man, aged thirty-two, was affected with an immense tumour of the abdomen, which filled the greater part of it, extending from the region of the liver considerably below the umbilicus, and into the left side. At the upper part, near the ribs on the right side, there was an evident fluctuation; this was most remarkable when he was in the erect posture; in the horizontal posture it seemed as if the fluid retired under the ribs; no fluctuation was perceived in any other part of the mass. His breathing was much oppressed and laborious, especially when he attempted to turn on the left side; he then seemed in danger of instant suffocation, for several minutes gasping in the utmost agony before he recovered his breath; similar attacks were produced by other causes, especially

* Abercrombie on Diseases of the Abdominal Viscera.

any bodily exertion. He was much emaciated; and the complaint was of about a year's standing. A puncture was made on the spot where the fluctuation was felt, and clear serous fluid was drawn off to the amount of nine or ten pounds; and the opening continued to discharge freely for a good many days. By this evacuation he was very much relieved, but his strength continued to sink, and he died about ten days after the operation.

Inspection.—The liver was very little enlarged; the tumour was found to consist of an immense sac, formed on the convex surface, under the peritoneal coat; it was of such a size that it had, on the one hand, pressed down the liver below the umbilicus, and on the other, had pressed the diaphragm upwards, as high as the second rib. The right lung was consequently compressed into a small flaccid substance, less than a kidney; the left lung also was much diminished in size, and the heart was as small as that of a child of five or six years. This immense cyst adhered firmly to the posterior half of the diaphragm, but betwixt it and the anterior part of the diaphragm there was a distinct cyst, containing a watery fluid. It was this which had been opened in the operation; but the great cyst was entire, and contained eighteen pounds of transparent colourless fluid. Its parietes were firm and dense; like the peritoneum, very much thickened. In the bottom of this cyst there were found two singular bodies, consisting of flat cakes of a soft gelatinous matter, rolled up into solid cylinders; when unrolled, they were about ten inches in diameter, and about one-eighth of an inch in thickness, and had the appearance of a deposition which had been separated from the inner surface of the cyst. The liver was not diseased in its structure, and the other viscera of the abdomen were healthy, but remarkably displaced, the stomach being on the left side, and the pylorus towards the left os ilium.

31. *Remarkable Case of Softening of the Liver* *.—A lady, aged about fifty, of a full habit and florid complexion, was suddenly seized, in the beginning of June, 1821, with very deep jaundice, for which no cause could be traced. There was no pain, no tenderness, and no fulness in the region of the liver; the pulse was natural, and rather weak; there was little appetite, and some nausea, but no other complaint. The bowels were easily moved, and the motions were dark or brownish. After the free use of purgatives, &c., she began to take a little mercury. For a week after this she seemed to be improving, but she then became more oppressed, with frequent complaint of nausea, and a feeling of languor; the tongue was white, but the pulse was natural. No other symptom was complained of, and nothing could be discovered in the region of the liver. On the 16th she began to have some vomiting, which occurred occasionally for three days, without any other change in the symptoms, until the 19th, when streaks of a black substance was observed in the matter which was

* Ibid.

vomited. The vomiting now became more and more urgent, with increase of the quantity of this black matter, and she died, gradually exhausted, on the morning of the 21st.

Inspection.—The liver was reduced to a little more than a third of its natural size; it was of a very dark, almost black, colour, and internally soft and disorganized, like a mass of coagulated blood. The gall bladder was empty and collapsed. The stomach and bowels contained a considerable quantity of black matter, similar to that which had been vomited, but were in other respects quite healthy.

32. *Extensive Gangrene of the Mucous Membrane of the Large Intestines* *.—A man, aged fifty, (7th Oct. 1827,) was seized with general uneasiness over the abdomen. On the 8th he took castor oil, from the operation of which he had numerous evacuations, consisting almost entirely of blood. On the 9th, he was seen by Mr. White, who found him complaining of great uneasiness in the bowels, chiefly referred to the lower part, but without much tenderness. He had frequent calls to stool, with scanty discharges, which seemed to consist almost entirely of blood. His tongue was parched, but his pulse was little affected. 10th. The pulse was still nearly natural, but there was much pain and tenderness of the lower part of the abdomen, with some dysuria. The evacuations were now more abundant in quantity, and were remarkably changed in their character, being watery, dark-coloured, and with a remarkable and peculiar fœtor; they are compared by Mr. White to the washings of putrid flesh. For several days from this time there was little change. The evacuations continued watery, of a dark-brownish colour, and remarkable fœtor, and without any appearance of feculent matter. They varied much in frequency, sometimes occurring every ten minutes, and sometimes leaving him quiet for several hours. There was much thirst, and the tongue was parched; but the pulse continued little affected till an advanced period of the disease. He had some hiccup, and vomited a few times, but it was not urgent. Dr. Abercrombie saw him for the first time on the 15th. He was then languid and exhausted, with an anxious typhoid look, a small frequent pulse, and a parched tongue. He had much uneasinesss, with some tension and tenderness of the abdomen, especially across the epigastric region; there were frequent painful calls to stool, with scanty discharges of dark watery matter, some vomiting, and considerable hiccup. He died early on the 16th.

Inspection.—On laying open the abdomen, the whole tract of the great intestine, from the caput coli to the extremity of the rectum, was found to be greatly and uniformly distended. From the extremity of the rectum to nearly the middle of the arch of the colon, the intestine was of a uniform black colour, as if completely gangrenous. From the middle of the arch to the caput coli, the appearance was more healthy, but was variegated by numerous patches of a deep red or livid colour. These seemed to be deep

* Ibid.

seated, and were seen shining through the peritoneal coat, which appeared to be healthy. The large intestine being laid open, the mucous membrane at the back parts was throughout of a deep, uniform black colour, very soft, and easily separated; the muscular coat was black, and easily torn; the peritoneal coat was healthy. These appearances were continued from the extremity of the rectum to nearly the centre of the arch of the colon; the mucous membrane then became elevated into irregular patches of a dark red colour, with interspersed portions in a more healthy state. Towards the lower part of the right side of the colon, there was an appearance of erosion or superficial ulceration; and on the inner surface of the caput coli, there were several distinctly defined ulcers. The ileum, for a few inches from its junction with the caput coli, was slightly distended, and its mucous membrane was reddened; the other parts of the canal were healthy. The inner surface of the urinary bladder, at its posterior part, shewed a considerable degree of increased vascularity.

The wife of this man was affected with the same disease in a very protracted form, and had not entirely recovered from the effects of it at the end of two months. One of his sons, a boy of fourteen, was seized a few days after the death of his father, and died after a short illness. Two other sons more advanced in life were afterwards affected and recovered.

33. *Suppuration of the Spleen* *.—In our last Number but one, we gave a case of abscess of the spleen, observing, at the same time, that such an affection is of uncommon occurrence. The following, as Dr. Abercrombie informs us, is the only one he has ever met with:—A gentleman, aged fifty-two, who had enjoyed previously very good health, was affected in January 1821, with cough and slight feverishness, like a common cold. After a short confinement, the cough disappeared, and he felt otherwise much better; but after some time, he was confined again, though without any defined complaint except weakness. When closely questioned, he sometimes mentioned an undefined uneasiness across the epigastric region, but it was slight and transient; his appetite was variable and capricious, but, upon the whole, not bad, and he had no dyspeptic symptom; his bowels were rather slow, but easily kept open: his breathing was natural; and every other function was in a healthy state, except that his pulse continued a little frequent, and that he was becoming progressively more weak and emaciated. In this manner, the complaint went on during the remainder of the winter; in the beginning of summer he went to the country, where he made no improvement.

He was now greatly reduced in flesh and strength; his pulse was from ninety-six to a hundred, and weak; his nights were generally good, but sometimes feverish; his appetite was bad, but he still took a good deal of nourishment, and never complained of his stomach; there was no cough and no pain; the urinary secretion and bowels were natural; but the debility and emaciation conti-

* Ibid.

nued to increase progressively. On the 2d of July, he was seized with diarrhœa, and died on the 5th. Before the attack of diarrhœa, there had been little change for several weeks; he had been able to be out of bed the greater part of the day, and occasionally out in a carriage or in a garden chair.

Inspection.—The spleen was somewhat enlarged, and in the centre of it there was an irregular cavity containing several ounces of purulent matter; the surrounding substance was soft and easily lacerated. The liver was pale, but otherwise healthy; the kidneys were pale, with a peculiar degeneration of some parts of them into a firm white matter. After the most careful examination, no appearance of disease could be detected in any other part of the body.

34. *Emphysema of the Thorax* *.—A man, aged fifty-six years, applied at the Hospital de la Pitié, complaining of acute pain of the right side of the chest, at its posterior part, and about the situation of the fifth rib. The pain was increased by pressure, by coughing, and by lying on the affected side; there was slight tumefaction, and a crepitation was perceptible analogous to that resulting from fracture, but more superficial, more clear, and more diffused; this noise was like that of starch broken between the fingers. Besides, when the pressure was continued, the crepitus became more rare, or disappeared, and then it might be felt at a distant point. The respiration, although frequent, was distinctly heard; there was little of the mucous râle. What was the disease? The patient had not constant pain in the part; it was not fracture, for he had met with no injury. The pain came on during forcible lateral flexion of the trunk, when he stooped to pick up any thing. It could only be a spontaneous emphysema, which was circumscribed, like that observed by Desault, Murat, and some others, under the pectoralis major, in the efforts at reduction of the humerus. The patient left the hospital in a few days, cured.

35. *Case of Laceration of the Brain* *.—Mr. Dunn, a corpulent man, was thrown from his horse on Fulham Bridge, by an errand cart, driven furiously against him. The horse and his rider were precipitated with great violence by the force of the shock, and Mr. Dunn was taken to the nearest inn, in a state of insensibility, and continued so for *six days*, when he expired.

Sectio Cadaveris.—Considerable extravasation of blood beneath the scalp, posteriorly. A considerable effusion of serum between the dura mater and arachnoid tunic; an extravasation of blood between the dura mater and calvarium, opposite the *posterior and lower part of the right hemisphere*; a comparatively slight extravasation of blood between the dura mater and skull, on the *left* side of the posterior lobe, *opposite* the sutura lambdoidali additamenta. On removing the dura mater, an universal effusion of serum, extravasation of blood on the pia mater, covering the side of the right hemisphere, but to no considerable extent; on examining

* La Lancette Française. † Dr. Wansbrough—Lancet.

the right hemisphere, the extravasation of blood is not continued into the substance of the brain. Plexus choroides empty; the third ventricle full of water; a slight extravasation of blood in the middle division of the base, in coagula. On removing the brain from the base, the extravasation of blood between the pia mater and brain was found to be universal on the outer side of the right hemisphere, but not extending into the substance of the brain, only dipping down into its sulci. *At the under surface of the right hemisphere, and opposite to the external seat of injury, a surface, to the extent of three inches in length, and one in breadth, was lacerated.* The vessels of the pia mater full of blood. It appears that the laceration took place on the *opposite* side of the brain *to that on which the blow was received.* The concussion, therefore, must have been tremendous. The only external mark of injury was a slight abrasion of the scalp on the left side of the head, near the lambdoidal suture, occasioned by the hard gravelled road on which he fell.

36. *Epilepsy of Fourteen Years' duration* *.—A woman, aged fifty-five, was admitted in the month of September at La Charité, who had laboured under daily attacks of epilepsy since the year 1814. When brought to the hospital she had two fits daily. During several years she had suffered from occasional attacks of hematemesis and uterine hemorrhage. She was in good condition, her strength and digestion unimpaired, and no disease about the uterus to be detected by examination. Copious blood-letting was tried without benefit. Ten days after admission she was taken with the epidemic prevalent in Paris, and the epilepsy disappeared. The symptoms of the epidemy continued twelve days, after which a new series of phenomena presented themselves—namely, hemorrhages from the different mucous membranes. Copious bleeding occurred from the nose, stomach, bronchi, vagina, and rectum; but these organs, except merely the discharge, shewed no sign of disease. The epidemic complaint diminished during this time, and then disappeared. After this the hemorrhages ceased; and, lastly, the patient quitted the hospital, cured of the epilepsy, and in good health.

37. *Expulsion of the Placenta three months after Abortion* *.—The latter end of April, Mr. Thornton was sent for to see a lady who had aborted at a little beyond the fifth month. The placenta did not come away after the expulsion of the embryo. The lady continued to enjoyed but an indifferent state of health for three months, and had frequent sanguineous discharges till the following July. When Mr. Thornton was sent for to see her, he was informed that the lady had been taking a ride on horseback, and, on her return home, had been attacked with slight pains and a uterine hæmorrhage. These symptoms lasted but a short time, and again returned: they were now more severe, and were followed by the expulsion of the placenta. The following spring the lady was again pregnant, and has had several children, and now enjoys good health, &c. The

* Journ. Hebdom. † Mr. Thornton.—Medical Gazette

placenta weighed eight ounces; substance hard; shape and size of a good pear, and had a dark, livid appearance.

38. *Remarkable Case of Injury of the Brain**.—P. Nuttey, aged eleven, of slender habit, on Saturday, the 30th of October, 1828, having quarrelled with another boy, received an injury, the particular nature of which he was not conscious of. His antagonist held in his hand a round iron instrument, blunt at the extremity, which inflicted it. Shortly after, he was attacked with vomiting and nausea, which continued for that and the following day. He returned from his work in the evening, and did not complain of any thing except the nausea, and that his eye was hurt in boxing, the lids being black. On the succeeding day he became a little delirious, and complained of pain in his head, and the day following he became insensible. Medical advice was then sought for; his parents, not being aware of any thing particular, did not seek for it sooner. Mr. Heron saw him, and his symptoms were as follow:—He lay upon his back, very restless, drawing back the bed-clothes when drawn off him, and insensible, not answering when spoken to; his breathing was increased and difficult, attended with heaving of the chest; his skin very hot, and dry; pulse frequent, and hard; the pupils were somewhat dilated, but contracted upon the application of light; the tongue was dry, and he had slight difficulty of deglutition; his urine and fæces were passed involuntarily; he had no paralysis, but was occasionally slightly convulsed; the lids of his left eye were ecchymosed, and, upon the most minute inspection, no trace of wound or injury could be seen, save a slight scratch on the integuments of the lower lid. He was bled from both arms, and got purgative medicines, and, in the evening, his symptoms not being mitigated, some blood was taken from the external jugular vein; but his breathing, which was the most prominent symptom, became severer, and he died at ten o'clock the third day after the receipt of the injury.

Post-mortem Examination.—Ten hours after death, Mr. Heron examined the head, and, even then, could not discover a wound between the eye and lid; but upon raising the brain off the orbitar process of the frontal bone, it was discovered that the instrument had passed between the eye and orbit, and entered nearly at its apex, making an opening in it about half the size of a sixpence. The instrument ran into the brain, and up through the body of the lateral ventricle, and into its substance, for at least three inches. The brain, in the track of the wound, appeared as if it was broken up, and very similar to brain that had sloughed, and the ventricle was filled with bloody serum.

* Mr. Heron.—Lancet.

GENERAL MISCELLANY

OF THE ACCESSORY SCIENCES.

1. *On the Medicinal Properties of Solidago Virgaurea—indigenous—perennia herbaceous.*—This plant is in the class syngenesia; order polygamia superflua It is one of those indigenous remedies or articles of materia medica, which has lost the high character it once possessed. It is to be lamented that our native remedies should lie neglected; there seems to be a very strong prejudice against those articles which are easily obtained. But one great cause which operates against the use of a British materia medica is, that it does not admit of the employment of capital. The influence which the drug trade has upon the materia medica is more than many persons think, yet it is very natural that persons engaged in trade should wish to make it a lucrative occupation. The remark is not intended to convey censure upon the commercial enterprise of this country. This plant has been used in calculous affections, urinary obstructions, cistorrhœa and ulcerations in the urinary passages. Gerarde states—'it is extolled *above all other herbes* for the stopping of blood in sanguinolent ulcers, and bleeding wounds; and hath in times past been held in greater estimation and regard than in these days; for in my remembrance, I have known the dry herb which came from beyond the sea and sold in Burklus Bury* in London, for half-a-crown an ounce. But since it was found in Hampstead Wood, even as it were at our own town's end, no man will give half a-crown for a hundred weight of it; which plainly setteth forth our inconstancy and sudden mutabilitie; esteeming no longer of any thing, how precious soever it be, than whilst it is rare and strange.' Or he might have added, than whilst it can be made an article of trading interest. For a further account of this plant, see Medical Botany, No. 26.

2. *Medicinal Plants which Flower in this Country in March.*—Daphne Mezereum; Viola Odorata; Helleborus Fœtidus; Tussilago Farfara; Ulmus Campestris; Amygdalus Communis.

3. *Improvement of the Barometer.*—An improvement has been made in the barometer of Gay-Lussac by M. Bunten, which has been submitted to, and received the approbation of, the Academy of Sciences at Paris. Its object is to prevent the introduction of bubbles of air, which almost inevitably takes place when the barometer is carried either on foot or horseback, or in a carriage, in a horizontal position. It consists in expanding the glass in one part of the wide tube, so as to form it into a chamber, from the centre of which a capillary tube of a certain length descends perpendicularly, by which the mercury must necessarily pass, either when rising or falling. If a bubble of air enters, it necessarily moves up by the surface of the large tube, and is stopped at the top of the chamber, producing no error in the observation made whilst it is there. When the barometer is inverted the bubble escapes of itself. This invention, the reporters observe, does away with the only inconvenience attending the use of Gay-Lussac's barometers, without adding any thing to their fragility.—*Revue Ency.*

4. *On the Fusion of Tallow.*—The Council of Health, at Nantes, has been engaged in an investigation of the best means of fusing tallow, so as to avoid the injury and annoyance which arises from an abundant liberation of vapours, when the ordinary method is used. Much pains has been taken in acquiring all the information possible, and numerous experiments have been made, both on a large and small scale. The best process which the Council has instituted, appears to consist in using, according to M. D'Arcet's suggestion, a certain proportion of sulphuric acid, and operating in close vessels. By the use of the acid, the fumes always evolved are very much altered and ameliorated in quality, at the same time that the fused tallow is improved in quality and increased in quan-

* The Covent Garden Market of Gerarde's day.

tity, the fusion very much quickened, and the use of a press dispensed with. By the use of close vessels, the fumes evolved can be either conducted to a fire-place to be burnt, or, if that may be thought dangerous, in consequence of the occasional boiling over of the melting tallow, can be conducted into a condensing apparatus, which is found readily to condense them.

M. D'Arcet uses 100 parts of crude tallow in small pieces, 50 parts of water, and 1 part of sulphuric acid, sp. gr. 1.848. In some small experiments a digester was used, having a pierced copper plate near the bottom to avoid the necessity of stirring; 1500 (3lb. 5oz.) parts of crude tallow, 750 of water, and 124 of oil of vitriol were used, and the fumes conveyed by a pipe into a fire place; half an hour's ebullition completed the fusion. The infusible matter when pressed in a cloth, weighed only 96 parts, and was slightly acid. The tallow was white, hard, and sonorous, and *not* acid. Without the acid, the same effect was not produced in an hour.

A tallow manufacturer then tried the experiment with 2 cwt. of tallow, using the acid, but operating in open vessels; 92 per cent. of fused tallow was obtained, and 8 of loss occurred: in the ordinary way, 15 per cent. of loss occurred. In a second large experiment with acid only, 5 of loss occurred. The residue does not require the use of a press, but cannot be made into cakes for cattle, unless previously freed from acid by washing.

Experiments made on the condensation of the vapour was found to succeed very well, and thus all fear of injury from fire is avoided. The Council propose conducting the vapours into the drains of the works, and so condensing them there; no annoyance being apprehended from the occasional return of the vapours into the building, as that effect can be counteracted by the use of stink traps.—*Ann. de l'Industrie.*

5. *Injurious Colours.*—The Government of Lombardy has issued a law, which, under penalty of confiscation, forbids the use of any venomous substance, such as arsenic, zinc, lead, and other mineral colours in the printing or dying of fabrics which are intended for clothing, or may come in contact with the human body. Many cutaneous affections, it is said, of which the cause has hitherto been unknown, are occasioned by the absorption of deleterious dying substances.—*Nouveau Journal de Paris.*

6. *New Solar Phosphori*, by M. Osann.—The solar phosphori, prepared in the following manner, are described as being far more powerful in their effects than those previously known:—

1. Oyster shells are to be calcined; the whitest and most porous are to be selected, to be cleansed from all impurities, and then packed into a crucible in the following manner. The bottom of the crucible is to be covered with a thin layer of finely pulverized sulphuret of antimony, then an oyster-shell is to be put in, this is to be covered with more sulphuret, after which, a second shell is to be packed in, and so on, until the crucible is full. The powdered sulphuret should be spread uniformly by means of a fine sieve, and each layer of it should be about half a line in thickness. The crucible being closed, is then to be heated red hot for an hour. When cold, the upper and lower shells, if spotted, are to be rejected, and the rest preserved. When exposed to sun light, and then taken into a dark place, it shines brightly at every part, with a greenish-white light. A red heat applied for a long time causes the light to be white.

2. If the powder used be red sulphuret of arsenic (realgar), instead of antimony, the light of the phosphorus produced, after exposure to the sun's rays, is blue, like that of a sulphur flame. The phosphorescence is not so universal as with the preceding, but takes place only upon the white parts. Points occur here and there, producing light of a fine reddish purple colour. If heated highly for a long time, the light produced by phosphorescence is then white.

3. Arseniate of baryta and gum, made into a paste, and heated to redness for half an hour, produces a yellowish-gray substance, which, by phosphorescence, yields a red light; if heated more than half an hour, the light is yellow; if for a long time, the light is white.

Weaker phosphori are produced by using the following substances with the oyster-shells: mosaic gold, light bluish; cinnabar, light yellow; white arsenic, light yellowish-blue; blend and sulphur, light bluish. All the phosphori may be preserved in jars closed by bladder; even in the air they do not change ra-

pidly: three weeks' exposure did not diminish their power. When the lime falls to powder, their effects are diminished. Those prepared with antimony and realgar lose in the intensity of the colour when long exposed to light; so that they should be preserved in blackened bottles.

Cold favours the absorption of light; heat favours the dispersion; boiling water destroys the phosphorescence. Exposed to solar light for a minute, and then taken into a dark place, some Bolognian phosphorus shone for four minutes; the third of those above, for thirty-four minutes; the first (with antimony) for 149 minutes; and at this period that prepared with realgar shone as brightly as it did one hour before. A red heat applied for several hours destroyed the power of the realgar preparation, very much weakened that with antimony, but did not affect that of the arsenic compound.

The light of an electric spark passed one inch above these phosphori makes them luminous. These phosphori shone even in the daylight, but their light then appears white.—Kastner's *Arch. Bull. Univ.* A. x. 50.

7. *Conducting Power of Metals for Electricity.*—The following are the results of M. Pouellet's researches on this subject, and are highly interesting, especially as regards the effect of alloys on the metals; for even small quantities of foreign substances exert great influence on the conducting power. The purity of the silver is expressed by the proportion of pure silver per cent. present in the alloy; the column of figures represents the conducting power:—

Silver of 98.6 . .	860	Red copper	224
Red copper . . .	738	Brass	194
Silver of 94.8 . .	656	Iron	121
Fine gold . . .	623	Gold of 18 car. fine .	109
Silver of 80 . . .	569	Platina	100

M. Pouellet finds, 1, that the conducting power is very exactly proportional to the section of the wires from the smallest diameter to that of three lines; 2, that it is in the inverse ratio, not of the length of the wire, but of the length increased by a constant quantity λ. This quantity λ, unchangeable for various lengths of the same wire, changes with the nature of the metal, and for each metal is in the inverse ratio of the section of the wire. M. Pouellet therefore believes that the conductibility is truly in the inverse ratio of the length of the wires, provided that the resistance opposed to the electricity in traversing the fluid in the cells of the pile and the different conductors which carry it to the experimental wire could be taken into account.—*Bull. Univ.*

8. *Conducting Power of different Fluids for Voltaic Electricity.*—The following table is drawn up from the experiments of M. Foerstemann. The first column of figures indicates the specific gravity; the second, the quantity of electricity conducted by the different substances in equal times; and the third, the time required for the conduction of equal quantities of electricity.

Muriatic acid . . .	1.126	2.464	0.410
Acetic acid	1.024	2.398	0.423
Nitric acid	1.236	2.283	0.438
Ammonia	0.936	2.177	0.459
Sol. muriate of ammonia .	1.064	1.972	0.509
Sulphuric acid . . .	1.848	1.737	0.575
Sol. potash	1.172	1.709	0.585
Sol. common salt . . .	1.166	1.672	0.598
Sol. acetate of lead . .	1.132	1.560	0.632
Distilled water . . .	1.000	1.000	1.000

Bull. Univ.

9. *Alteration of Brass Wire in the Air.*—M. Cagniard de la Tour stated to the Academy of Sciences, that when long brass wires were stretched for some days in the open air, especially in wet weather, they became so brittle as to break with great facility when bent to a moderately acute angle.

10. *Crystallization of Sulphate of Potash.*—If it be desired to procure very large and regular crystals of neutral sulphate of potash, it is only necessary to add a little sub-carbonate of potash to the solution of this salt, and then leave it to evaporate spontaneously in a vessel rather greater in width than depth; only one, two, or at most three crystals will be obtained, but they will be of extreme size and beauty.—Kastner's *Archives.*

11. *Preparation of Iodine*, by M. Souberan.—The following is the process recommended by M. Souberan, by which he has obtained as much as the eigthtieth part of iodine from mother liquors, that would yield none by the ordinary process. The mother liquors from the soda works, are to be diluted with four or five times their weight of water, and solution of sulphate of copper added, until precipitation ceases. The deposit will consist of iodide of copper and sulphate of lime, and is to be separated. Large iron filings, or turnings, are then to be put into the liquid and agitated, until all smell of iodine has disappeared, by which process, the remaining portion of iodine will separate as an iodide of copper, mixed with metallic copper and the iron turnings, but easily separated by washing over. These two precipitates are then to be acted upon separately, in one of the following ways: 1, the iodide is to be mixed with two or three times its weight of peroxide of manganese, and a sufficient quantity of concentrated sulphuric acid, and then distilled, when all the iodine will rise with some aqueous vapour; or 2, the mixture of iodide and oxide of manganese is to be heated in a retort to a high temperature, when pure iodine will come over; the residue is pulverulent, and can easily be extracted without breaking the vessel. —*Ann. des Mines*, N. S. iii. 102.

12. *Solubility of Sulphate of Lead.*—Nitrate and acetate of ammonia dissolve sulphate of lead, the latter in considerable proportion, so as even to be useful in analysis for the separation of sulphate of lead from other insoluble sulphates. At the temperature of 55° Fahr., one part of sulphate of lead is dissolved by 969 parts of a solution of nitrate of ammonia, of specific gravity 1.29; and by only 47 parts of a solution of acetate of ammonia, of a sp. gr. 1.036. The same quantity is dissolved by 172 parts of nitric acid, sp. gr. 1.144. The dissolving power of nitric acid does not appear to be diminished by dilution; the best precipitate in such a case is free sulphuric acid, and not the sulphates of potash or soda.—Bischoff, *Jahrb. der Chem.* 1827.

13. *Preparation of Piperine*, by Mr. Carpenter.—Digest one pound of coarsely powdered black pepper in one gallon of alcohol for ten days; distil off one half of the alcohol in a water bath; add by degrees diluted muriatic acid, to hold the piperine in solution; then add water sufficient to precipitate the resin and separate the oil, a muriate of piperine remaining in solution; concentrate the solution by evaporation, and add pure potash to decompose it, and neutralize the acid; when the piperine, in consequence of the diluted state of the alcohol, and the absence of the muriatic acid, will be deposited in yellowish transparent crystals. The crystals may be obtained perfectly colourless, by carefully separating the oil and resin; but as there is no disadvantage in the colour (for medical use), the additional trouble and expense would not be compensated. The piperine in a colourless state is insipid and inodorous, but united with as much resin as enters into its crystallization, its taste is extremely hot, possessing, in an intense degree, all the pungency of the pepper, with a considerable portion of its odour.

The crystals were perfectly transparent tetrahedral prisms, with oblique summits, of a straw colour, and as large as the ordinary crystals of sulphate of magnesia.—*American Journal, Med. Science.*

14. *Chinese Method of Planting Branches.*—The following method is described as being practised by some Chinese retained by Count Linhares, in Brazil. The tree practised upon was a Brazilian myrtle. The branch to be separated and planted, already some inches in thickness, was surrounded by a band of straw, mingled with horse-dung, forming an envelope five or six times as large in diameter as the branch itself; then an annular incision was made below this part, and water was allowed to drop from a considerable height on to the wrapped part. The vessel is usually a cocoa-nut shell, pierced with very fine holes. In about two months the branch is separated from the tree and planted. To obtain rapidly growing trees, the Chinese choose the upper smaller branches, but for more productive and better trees they choose stronger branches that are nearer to the earth.—*Bull. Univ.* D. ix. 342.

15. *Culture of Aquatic Plants in China.*—The Chinese take advantage of their lakes, pools, and rivulets, by cultivating different aquatic plants in them, many of which are considered as food. The government has planted these vegetables

in the lakes, marshes, and uncultivated watery grounds belonging to the state, and the emperor has introduced them into all the canals of his gardens. These and other aquatic vegetables may generally be introduced into Europe, for they are not so sensible of changes in climate as those which grow in the earth.—*Bull. Univ.* D. ix. 367.

16. *Common Salt on the Coast of Chili.*—The officers of the frigate *United States*, who have returned from a voyage in the Pacific, gave Dr Mitchell a piece of common salt from that part of the coast of Chili to the south of Coquimbo. An incrustation of salt is found along this coast thirty miles in length, and several miles in width. It has the appearance of that compact ice which forms on the surface of lakes and rivers in America, towards the middle of winter. Its thickness is about two feet. When a block of it is removed, the space is soon filled up by new salt. The great road runs for a considerable distance along the edge of this curious formation. It has frequently happened, that when mules, horses, and even men have died in this part of the route, their bodies have been perfectly preserved for a long time afterwards.—*Ann. Maritimes*, 1827, p. 617.

17. *Fall of an Aërolite and accompanying Phenomena.*—The fall of an aërolite, weighing thirty-six pounds, at Vaigou, one of the Sandwich islands, is described by M. Jégur Jékimof, a lieutenant who accompanied Captain Kotzebue in his voyage round the world, with attendant meteorological circumstances, which seem closely connected with it. It fell at eleven o'clock in the morning of the 14th September, 1825. A short time previously, the sky became charged with clouds, until the entire island was covered with a dense black veil. The fall of the stone was immediately preceded by a violent gust of wind from the N.W.; and even at sea sounds like those of thunder were heard. Immediately after these detonations, the aërolite fell in the middle of the village of Ganagauro, and broke into pieces on touching the ground. The Russian travellers gathered many of these pieces, one weighing 15lbs. They resemble the aërolites generally known.—*Bull. Univ.* A. ix. 325.

18. *Experiments on Vegetation.*—The celebrated chemist, Professor Dobereiner, of Jena, has made the following experiments on the vegetation of seeds. Two glass vessels were procured, each of the capacity of 320 cubic inches, and two portions of barley were sown in parts of the same earth, and moistened in the same degree; they were placed one in each vessel. The air was now exhausted in one, till reduced to the pressure of fourteen inches of mercury; and condensed in the other, till the pressure equalled fifty-six inches. Germination took place in both nearly at the same time, and the leafits appeared of the same green tint; but, at the end of fifteen days, the following differences existed:—The shoots in the rarefied air were six inches in length, and from nine inches to ten inches in the condensed air. The former were expanded, and soft; the latter rolled round the stem, and solid. The former were wet on their surface, and especially towards the extremities; the latter were nearly dry. 'I am disposed,' says M. Dobereiner, 'to believe that the diminution in the size of plants, as they rise into higher regions, on mountains, depends more on the diminution of pressure than of heat. The phenomena of drops of water on the leaves, in the rarefied air, calls to my mind the relation of a young Englishman, who, whilst passing through Spanish America as a prisoner, remarked that, on the highest mountains of the country, the trees continually transpired a quantity of water, even in the driest weather, the water falling sometimes like rain.'—*Bibliotheque Universelle.*

19. *The Marmot* (Mus *Marmòta* Lin.)—These beasts, in the strictest sense, make hay; they bite off the grass, turn it, and dry it in the sun. It is reported that they use an old she marmot as a cart. She lies on her back, the hay is heaped on her belly, and two others drag her home. *(London Medical Gazette.)* The Alpine marmot, or mountain-mouse, inhabits the highest summits of the Alps and Pyrennean mountains, in dry places without trees. It is social, living in societies of from five to fourteen, who, when basking in the sun, place a sentinel in advance, who whistles on the approach of danger, when the marmots retire into their holes. These holes are lined with moss and dry grass. About the end of September they retire into them, and stop up the entrance with earth,

and there they remain in a torpid state till March. They are generally taken by digging out during winter. Their flesh is tender and delicate, their skins valuable, and the Savoyards esteem their fat medicinal. They live on insects, roots, and vegetables, and are fond of milk. The Savoyards expose them as shows in various parts of Europe. Even in a warm climate, they are said to fall into a state of torpidity in winter.—*Magazine of Natural History.*

20. *Diffusion of Seeds of the Violet.*—The various mechanical contrivances by which nature has enabled plants to diffuse their seeds, are matters of common observation; but I have not met with any description, in works of botany, of the mechanism remarkable in the various species of violets. The seeds of this natural order of plants are contained in a capsule of a single loculament, consisting, however, of three valves. To the inner part of each of these valves the seeds are attached, and remain so for some time after the valves, in the process of ripening, have separated and stood open. The influence of the sun's heat, however, causes the sides of each valve to shrink and collapse, and in this state the edges press firmly upon the seed, which, from being before apparently irregular in its arrangement, comes into a straight line. The seeds, it may be remarked, are not only extremely smooth, polished, and shining, but regularly egg-shaped; so that, when pressed upon by the collapsing edge of the valve, it slides gradually down the sloping part of the seed, and throws it with a jerk to a considerable distance. There is another part of the contrivance of nature, for the same purpose, in the Violàceæ, worthy of remark. Before the seed is ripe, the capsule hangs in a drooping position, with the persisting calyx spread over it like an umbrella, to guard it from the rain and dews, which would retard the process of ripening; but no sooner is the ripening completed, than the capsule becomes upright with the calyx for a support. This upright position appears to be intended by nature to give more effect to the valvular mechanism for scattering the seeds, as it thus gains a higher elevation (in some cases more than an inch) from which to project them; and this will give it, according to the laws of projectiles, a very considerable increase of horizontal extent.

Some ripe capsules, of a fine variety of Viola tricolor, which I placed in a shallow pasteboard box, in a drawer, were found to have projected their seeds to the distance of nearly two feet. From the elevation of a capsule, therefore, at the top of a tall plant, I should think these seeds might be projected twice or thrice that distance.—*Ibid.*

21. *Organization and Reproduction of the Truffle.*—The truffle (Tuber cibàrium) is a vegetable entirely destitute of leafy appendages and of roots; it is nothing more than a rounded subterraneous mass, absorbing nourishment upon every point of its surface, the reproduction of which is dependent upon bodies generated within its substance. The truffle is composed of globular vesicles, destined for the reproduction of the vegetable, and short and barren filaments, called, by M. Turpin, *tigellules.* The whole forms a substance at first white, but which becomes brown by age, with the exception of particular white veins. This change of colour is dependent upon the presence of the reproductive bodies, or *trufinelles.* Each globular vesicle is fitted to give birth, in its internal surface, to a multitude of these reproductive bodies; but there are only a few of them which perfect the young vegetable. These dilate considerably, and produce internally other smaller vesicles, of which two, three, or four, increase in size, become brown, are beset with small points on their exterior surface, and fill the interior of the larger vesicles. The small masses thus formed are the trufinelles, and become truffles after the death of their parent. Thus, the brown parts of the truffle are those which contain the trufinelles; and the interposed white veins are the parts which are destitute of trufinelles. The parent truffle, having accomplished its growth, and the formation of the reproductive bodies within, gradually dissolves, and supplies that aliment to the young vegetable which is proper for them. The cavity originally occupied by it in the earth is then left occupied by a multitude of young truffles, of which the stronger starve or destroy the others; whilst they frequently adhere together, and, enlarging in size, reproduce the phenomena already described. One circumstance in the natural history of the truffle is still unexplained. If the method described be the only mode in which the truffle is reproduced, then it is difficult to comprehend the enormous multiplication of that vegetable in certain parts of France,

where immense quantities are annually collected, without exhausting or even diminishing the race. If this fungus has no means of progression, how can the young truffles leave the place of their birth, and become disseminated over the soil?—*Revue Encyc.*

22. *On the Mode of applying Leeches and Blisters to Children.*—Among the Original Communications of our last Number, was a note on the 'method of stopping the bleeding of leech-bites;' and, in the Miscellany, were some remarks 'on blistering infants.' As both these subjects possess considerable interest, we add the following practical observations:—

1. *Leeching.*—The bleeding which spontaneously follows the bites of leeches, is usually regarded as being more serviceable than the discharge of blood by their sucking; this, however, is an incorrect view of the matter:—the means used to promote such bleeding, necessarily annoy and fatigue the sick; they have great aptness to countervail what benefits are expected from the leeching; and the discharge induced in this way partakes much of the nature of hemorrhage, by which a very small loss of blood is more certainly exhausting and injurious than a copious abstraction of that fluid with the lancet. Parents, from pure ignorance, entertain more apprehension of a number of leeches than of the effects which a dribbling effusion of blood impart to the whole system:—their rule, nevertheless, should be, to apply as many of these most useful animals as shall at once withdraw the requisite quantity of blood; and, immediately on their being removed, to cover each of the wounds with a piece of caddice, or surgeons' lint, dipped in a cold solution of alum, or in fine powder of kino, of catechu, or of galls.—*Dr. Kennedy, on the Management of Children in Health and Disease*, 1824, p. 209.

2. *Blistering.*—Previously to blisters being applied, the parts should be well washed with warm water and soap, and afterwards submitted to brisk friction with a cloth that is dry, rough and hot, or well moistened with heated vinegar or spirits. If reddening and excitement only of the surface be desired, the blister ought to be removed in about five hours:—in eighteen or twenty-four, it will have produced its complete effects. When, from a particular state of the system, an extreme activity of the blistering ingredients, or from their being allowed to act for an undue length of time, a deep ulcer becomes the result, this is usually slow of healing, and emits a copious purulent discharge, which tends greatly to debilitate a sick person, and to protract an otherwise favourable convalescence. Experienced parents will easily recollect having observed, and been made unhappy by, such an occurrence after blistering children:—it may be prevented, however, by determining the degree of this operation, not by mere *time*, but by the progress of its *effects*. In young children, all blisters ought to be removed immediately on the skin being uniformly reddened; after which, a warm poultice will secure for the little one all the advantages, and, at the same time, save it from many of the distresses a more palpable vesication would have induced. When blisters do not operate, the cause may be inactivity or other imperfection of the materials employed, or defect of vitality in the body's superficial textures: the first admits of an easy remedy; the second announces the disease's intensity and the extent of its ravages. Occasionally, however, on the vital powers of a person having rallied, the full vesication of the parts will supervene, many hours after a blister has been removed:—this furnishes sure evidence of the patient's general circumstances being ameliorated, and of life having returned, as it were, to organs remotest from the centre, and by its new energies, invigorating their functions. Id. p. 201-2.

BOOKS RECEIVED DURING THE MONTH.

1. A New System of treating the Human Teeth: explaining the Causes which lead to their decay, and the most approved Methods of preserving them; with Copious and Explanatory Notes. To which is added, some account of a Discovery made by the Author for the Cure of Toothache and Tic Doloureux, &c. &c. By J. Paterson Clark, M.A. Dentist, 8vo. pp. 163, Longman and Co. London, 1829.

2. The Anatomy and Physiology of the Nervous System. By Valentine Flood, A.M. M.B. Member of the Royal College of Surgeons in Ireland, and one of the Demonstrators in the Richmond School of Anatomy. In 2 volumes. Vol. 1st. 12mo. pp. 315. Dublin, 1828.

3. A Manual for the Use of Students preparing for Examination at Apothecaries' Hall. By John Steggall, M.D. Member of the Royal College of Surgeons; Licentiate of the Society of Apothecaries, &c. &c. 12mo. pp. 260. John Anderson, London, 1829.

4. A Manual for Invalids. By a Physician, 12mo. pp. 368, Edward Bull. London, 1829.

*** We in general regard popular medical works with some degree of suspicion; not as relates to the *motives* of their authors, for, as public reviewers, we care not a rush whether a writer's motive be interested or disinterested; but as regards their tendency on the minds of the public. We see no reason why a professional man who lays down *good*, plain, rules of health for the guidance of the public, should not, by so doing, put a few hundred pounds in his pocket, either in the way of practice or by the sale of his work. We would by no means encourage such sort of writings; on the contrary, as a general rule we would rather censure it; but, in verity, we do not hesitate to state that those who cry most loudly against it, are the persons most addicted to it. With respect to the present work, had we been the author of it we should not have considered it disreputable to affix our *name* to it: nor do we think our *modesty* would have deterred us from so doing. It is, in truth, a work such as no author need be ashamed of acknowledging.

5. Popular Premises Examined, a Philosophical Inquiry into some of the opinions of Christians and Philosophers (among whom are Des Cartes, Locke, Berkeley, Hume, Newton, King, Clarke, Calvin, and Lawrence) on Deity, Doctrines, the Human Mind, &c. By Richard Dillon. Second edition, enlarged, 12mo. pp. 90. London, 1828.

6. A Practical Treatise on the superior efficacy of the round leaf coruel, in cases of primary or secondary Debility of the Digestive Organs, and for General Weakness attendant on age, or from the enervating effects of the too free use of vinous or spirituous liquors, savoury dishes, or of a tropical climate. With remarks on Diet and Wines; to which are added, Instructions for the use of the lobelia inflata in cases of Asthma and Chronic Cough. By J. H. Robinson, M.D. of St. Croix.

7. Medical Botany, Nos. 24, 25, 26 and 27 By John Stephenson, M.D. and James Morss Churchill, F.L.S. Churchill, Leicester Square.

In concluding their second, and commencing their third volume, the scientific authors of this valuable work have fully realised, thus far, the pretensions with which they started; we have no hesitation in stating it to be by far the most valuable and elegant work on the subject of medical botany that has appeared in this country

8. Magazine of Natural History, No. V. Longman and Co.

LITERARY INTELLIGENCE.

No. VII, of Remarks on the "Evidences against the System of Phrenology," including a comprehensive view of the new Theory of Temperaments by Dr. Thomas de Troisvèrre, will appear in our next.

(Preparing for Publication.)

The Study of Medicine. Third edition. By John Mason Good, M.D. F.R.S., F.R.S.L., containing all the author's final corrections and improvements; together with much additional modern information on Physiology, Practice, Pathology, and the Nature of Diseases in general. By Samuel Cooper, Surgeon to the King's Bench and Fleet Prisons; Surgeon to the Forces; Author of the Dictionary of Practical Surgery, &c.

In the Press, and will be Published immediately, a Treatise 'On the Varieties of Deafness and Diseases of the Ear, with Methods of relieving them.' By William Wright, Esq., Surgeon-Aurist to Her late Majesty, Queen Charlotte, and to His Grace the Duke of Wellington, to the latter of whom this Work will be Dedicated.

All Communications and Works for Review, to be addressed to the Editors, to the care of Messrs. Underwood, 32, Fleet Street.

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CRITICAL REVIEW.

I.—*A Treatise on Obstructed and Inflamed Hernia, and on Mechanical Obstructions of the Bowels internally; and also an Appendix, containing a brief Statement of the Cause of Difference in Size in the Male and Female Bladder.* By Henry Stephens, M.R.C.S. 8vo. pp. 191. Cox, London, 1829.

Hernia is one of the last subjects in surgery respecting which we should have expected any thing new to be said. However, the volume before us contains matter well worthy of consideration. We shall treat the subject under two distinct heads, as the author has done: first, hernia; second, mechanical obstruction of the bowels, from internal causes.

It is a universally admitted fact, that the intestinal tube propels its contents by means of a peculiar motion which its coats undergo; which motion is generally called peristaltic. Before this function can be properly performed, the bowels must be at liberty, or floating, as it were, in the cavity of the abdomen. Whoever has examined the peristaltic motion of the intestines, in a living animal, will, at once, perceive the necessity of such a condition. Now, if any portion of the alimentary tube should become adherent to any part of the abdominal parieties, or should one portion adhere to another, the natural motion of the tube must be, more or less, impeded. If the adhesion extend to only an eighth part, for instance, of the circumference of the tube, and to only a small extent along its course, the function of the intestine will be, in some degree, embarrassed; because every part of its circumference moves, in the natural state. Moreover, not only does every portion *contract*, requiring therefore a freedom of motion throughout its circumference, every individual portion, in its turn, of the small intestines, undergoes, also, a certain degree of local motion, or motion upwards and

downwards *. The small intestines, in their natural state, floating in the abdomen, are in a condition well adapted for this species of movement; but it is evident that no motion of this kind can go on in a portion which has contracted adhesion, either to the abdominal parietes or to any other part of the abdominal contents. The impediment to the natural function will vary, probably, according to the extent of the adhesion, or to its situation, and to other circumstances connected with it; and the symptoms will be variable, from those of slight dyspepsia, or from a slight constipation, to those of confirmed ileus.

It is seldom, if ever, that we find cases of irreducible hernia unattended with some symptoms of disordered function of the bowels. These, as we have already remarked, vary in degree, according to circumstances. Constipation, accompanied with dyspeptic symptoms, is almost constant. Often, there is uneasiness in the seat of the hernia, which not unfrequently amounts to actual pain. These symptoms arise from the impediment to the mechanical action of the intestine, owing to its adhesion to the sac which contains it. They occur where no part of the bowel is strangulated, and they may go on increasing gradually, until they assume the character of those of strangulation, viz., unconquerable constipation, sickness, stercoraceous vomiting, and, ultimately, death.

This is what Mr. Stephens calls 'obstructed hernia.' It is distinguishable from strangulated hernia, by its symptoms being, at first, milder, and by its progress being not so rapid. The march of the disease is altogether slower than that of strangulated hernia. It is evident, from what has been already said above, that the anatomical characters of the two species are very different. In strangulated hernia, the canal of the intestine is mechanically and firmly closed, by the stricture, which suddenly gives rise to inflammation, mortification and death. The disease, in this species, runs a rapid course, owing to the morbid alterations and the irritation to which the stricture gives rise, independently of the mere obstruction to the passage of the fæcal matter. In obstructed hernia, on the contrary, the canal of the protruded intestine is pervious; no material alteration takes place in the structural condition of the bowel; the accumulation of fæces above occurs from the mere want of mechanical action in the protruded portion; this accumulation, in time, gives rise to irritation, the peristaltic movement becomes inverted,

* See Med. Rep. vol. XXIX. p. 221, where we have described the peristaltic motion of the bowels.

sickness comes on, followed by voming, which, as the disease advances, becomes stercoraceous, incessant, and death takes place, more, perhaps, from actual exhaustion, than from any morbid alteration in the hernial seat.

In illustration of this subject, the author relates a case of obstructed ventral hernia, which, it appears, was the first that drew his attention to this species of hernia. A woman was taken with sickness and pain in the bowels, which had continued for three days when he saw her. She remained in the same state for three days longer, without any action of the bowels, notwithstanding his continued endeavours to procure it by aperients and injections. The matter vomited began, then, to have a fæcal appearance, which went on increasing, until it became very offensive. In spite of cathartic medicines and injections, the symptoms gradually increased in intensity. On the seventh day from the commencement of the attack, the patient's countenance began to exhibit signs of sinking, and the pulse became feeble and fluttering. The disease gradually, but progressively, gaining ground, a particular inquiry was made whether the patient had any rupture, when she confessed, on the tenth day from the commencement of the symptoms, that she had a swelling on the side of the abdomen, which had existed twenty years. Upon examination, Mr. Stephens found that she had a ventral hernia. It was soon discovered, however, that this was not strangulated; it was not tense; pressure upon it gave no pain; it receded under the touch, and passed readily into the abdomen, with a slight gurgling noise, but returned when the pressure was removed. This being the case, and the symptoms not being so violent as those of strangulated hernia, he concluded, at first, that the patient's illness depended upon some other cause. In the course of another day she became worse; she continued to sink; had occasional faintings, with frequent hiccup, and the stercoraceous vomiting was still more fœtid and discoloured. As there appeared now no chance of saving her life otherwise, Mr. Stephens determined to cut into the hernial swelling, thinking it not only possible, but highly probable, that the obstruction was in that part of the bowel which was contained in the tumour. Another day passed by, however, before the friends of the patient would consent to an operation; this still diminished the chance of success, which was before very slight. The tumour was, at last, opened, by a crucial incision, and the hernial sac exposed, which was opened freely. There was a portion of small intestine found within, which was irreducible, another portion being loose, and readily passing into the abdomen when pressed

upon. The small irreducible knuckle of intestine was adhering firmly to the hernial sac, and in a position which at once accounted for the symptoms; being so closely united, by adhesion, to the sac, as to obstruct, to all appearance, the peristaltic action of the bowel, and to prevent the due course of its contents. There was no stricture. The adhesion was destroyed, partly by the finger, and partly by the knife, and the intestine pushed into the abdomen. The relief which the operation afforded was not immediate, as in strangulated rupture. The first favourable symptom observed was, that, upon swallowing some liquid, she had no vomiting after it, 'a circumstance which had never occurred previous to the operation.' Two hours after the operation, she was found to have passed a little fæcal matter from the bowels, for the first time since her illness. All the symptoms had diminished in a slight degree, She continued in this manner for three days, slowly improving, under the use of aperient medicines and injections, which did not operate very freely. On the third day, Mr. Stephens gave her a strong dose of aperients, which produced copious discharges; the pulse after this immediately began to rise, the sense of sinking almost instantly left her, and she recovered rapidly.

As the author observes, there can be no doubt that hernia may cause obstruction of the bowels, where there is no stricture, as the above case fully proves. The intestine, in this case, was rather discoloured, but, considering the length of time during which the disease had been going on, that is no more than what might be expected, from the constant irritation of vomiting, and the original accumulation of the fæcal matter in this portion. The common practice in hernia is, not to operate unless there be strangulation, or, at least, unless there be reason to suspect strangulation. Had that practice been followed in the above case, the patient must, necessarily, have died.

Mr. Stephens relates another case, of umbilical hernia, where the symptoms were very similar to those of the preceding. An operation was objected to in this case, and the patient died, at the expiration of several days. On examination after death, a portion of intestine was found to have escaped at the umbilicus, and to have insinuated itself obliquely under the fat and integuments of the abdomen. It closely adhered to the sac, and doubled upon itself, so as effectually to obstruct its peristaltic motion, and the passage of its contents. No stricture existed. The protruded portion of intestine was of a dark colour, but not in the least gangrenous. The intestinal canal, leading from it, was rather

discoloured to the space of three or four inches. No other marks of disease could be discovered.

The author is of opinion that obstructed umbilical and ventral herniæ occur as often as, if not oftener than, cases of strangulation in these parts, although usually confounded with them. Before a complete obstruction takes place, so as to produce serious symptoms, cases of ventral hernia are generally attended with a certain degree of disorder of the function of the intestines, arising, as Mr. Stephens thinks, from more or less of obstruction in the protruded portion, owing to its adhesion to the sac. Obstruction, without strangulation, does not so frequently occur in inguinal and femoral herniæ; still it is sometimes met with in these varieties.

Obstructed hernia may be distinguished from strangulated hernia, by the circumstance that the symptoms are not so violent, and that the disease does not run so rapid a course. The former may be partly reducible, when the whole of the protruded portion of intestine has not contracted adhesion to the sac. Mr. Stephens is of opinion that all previously reducible ruptures, which have suddenly descended, producing symptoms of ileus, are, without doubt, caused by a stricture; but all large and irreducible herniæ, which have, for some time previously, caused pain, particularly after meals, and have produced occasional obstructions in the bowels, are, most probably, connected with adhesions.

We now come to the subject of inflamed hernia. By this term is to be understood, inflammation of the contents of the hernial sac, without any stricture. Large irreducible herniæ are those which are most liable to become inflamed, but inflammation not unfrequently takes place in small hernia also, in irreducible cases, particularly when the omentum protrudes. The inflammation often extends to the intestines generally, or to the peritoneum, and is attended by an obstinate obstruction, and symptoms of general abdominal inflammation.

'Inflammation of the contents of a rupture may be distinguished from a strangulation of such parts, by the more gradual approach of the symptoms, and by their less degree of violence. From obstructed hernia from adhesion it is to be distinguished by the pain and tenderness of the parts generally preceding the obstruction, and by there being more decided marks of an inflammation existing. Pain, with inflammation throughout the abdomen, is generally soon manifested in inflamed hernia, whereas, in obstructed hernia, it is a late symptom, and, in general, scarcely prevails at all. Obstructed hernia *may* possibly be followed quickly by inflammation, and then it would become altogether as a case of inflamed hernia, and require an earlier operation.

'In inflamed hernia, the vicera of the abdomen are very extensively inflamed throughout. In obstructed hernia, very slight traces of inflammation are in general visible after death. Cases of strangulation are of an intermediate kind; the inflammation being almost wholly confined to the seat of stricture, and the parts above it; the intestines below being in a state of collapse, and uninflamed.

'An empty hernial sac is not unfrequently, by becoming thickened and diseased, a source of inflammation to the bowels and peritoneum; but I have reason to believe that the inflammation so produced is not generally so extensive or so fatal as when intestine is contained within. Coagulable lymph, or pus, forms within the sac. If the former, adhesive inflammation only has prevailed, and the patient will not unfrequently recover. When pus has formed, the case is more dangerous. An operation appears to do good, by giving exit to any pus or fluid which has been secreted.'

The foregoing sketch will convey our author's views respecting what he terms obstructed and inflamed hernia. Inflammation is not a necessary attendant on the former, especially at the first onset of the symptoms. It arises from the impediment caused to the peristaltic action of the protruded bowel, in consequence of its adhesion to the sac. This leads to an obstruction of the contents of the intestines, and to all the symptoms attending it. While, in obstructed hernia, pain in the hernial seat is not a necessary symptom, in inflamed hernia, on the contrary, pain is generally the first symptom of which the patient complains. But cases of a mixed nature may be met with; or, indeed, it is doubtful, from Mr. Stephens's remarks, whether cases of inflamed hernia often occur without adhesion, excepting in instances of strangulation or injury. There must be some cause for the inflammation, and this consists, probably, in general, in the irritation arising from a portion of the bowel being deprived of free action, to forward its contents.

We next come to the treatment of hernia. It is obvious, if the author's views be correct respecting the two varieties of which he treats, that an operation is the only means by which the patient can be relieved. This operation consists in laying open the hernial sac, as in strangulated rupture, and in carefully destroying the adhesions between it and the protruded bowels, and returning the latter into the abdomen. In simple obstructed hernia, arising from adhesion between a portion of the intestine and the sac, it is presumed, that, when the morbid connection is destroyed, and the bowel returned into the abdomen, the anti-peristaltic action will cease, and the intestinal contents will be forwarded in their natural course. The after-treatment will consist in the administration of aperients, injections, and other means calcu-

lated to aid nature in reversing the morbid movements of the intestinal tube.

Then, with respect to inflamed hernia. Before an operation is resorted to here, the practitioner must feel perfectly satisfied that the abdominal inflammation has been caused, and is kept up, by the rupture. A person who has a hernia may be attacked with enteritis, from causes quite unconnected with that hernia. Now, when the rupture is irreducible, and when the pain and tenderness commence in the seat of the hernia, the presumption is, that the inflammation depends upon causes connected with it. When the surgeon has satisfied himself thus far, respecting the origin and cause of the disease, still no operation ought to be had recourse to, until the other usual means for subduing inflammation have been tried, and have proved unsuccessful.

'In operating upon cases of inflamed hernia, the surgeon should have his views directed to the exciting cause of the disease. If there is diseased omentum, that has probably been a chief cause of the mischief, and should in all cases be removed by the knife, applying ligatures to the bleeding vessels if requisite. If the hernial sac has become thickened and diseased, I should recommend it, if possible, to be dissected away. Any appendices of the intestines which look diseased should be removed, if it can be done with safety. It may not perhaps be necessary to separate all the adhesions which the intestines in a large hernia may have contracted to each other, but the adhesions to the hernial sac should always be removed, and every other adhesion which so confines the intestine, as to be likely to obstruct its peristaltic movements, or to diminish the calibre of its canal. If any pus should have collected in the hernial sac, the operation will allow of its discharge, and in such a way may prove a very important measure of relief.'

The after-treatment, in cases of this nature, must differ, in some degree, from that following an operytion for obstructed hernia. In the inflamed rupture, the inflammation must be subdued by bleeding, and other anphlogistic means. The operation tends only to remove the cause of the inflammation. The disease still remains to be subdued.

We suspect that few patients would submit to such an operation as the following, however practicable it might be, when we consider that the hernia, at the time the operation is recommended to be performed, is not attended with symptoms of imminent danger:—

'As large umbilical herniæ, irreducible from abdominal increase, are so subject to obstructions and inflammations which are fatal, it has often occupied my mind to consider if any means could be proposed prior to obstruction or inflammation arising, which would be sufficient to avert such a result. It is obvious that a return (or something equivalent to it,) of the intestines to the ab-

domen, could alone answer this purpose. Separating the adhesions which they have contracted, and afterwards leaving them in the same state of approximation, would be of little service, and they cannot be put back into the body for want of space to receive them. The only way in which I can conceive the purpose could be fulfilled, would be by imitating, by an operation, that which nature sometimes does in the case, of what Dr. Gooch, I believe, first described as the "pendulous abdomen," namely, separating the parietes beneath the integuments so as to let the intestines, covered by their peritoneum, protrude altogether from the abdomen, beneath the skin, and covered by it alone; that is in effect, to make an immense artificial hernia. By this means the intestines would have free room to perform their peristaltic and floating movements; the vital functions of the parts might thus be carried on, and the patient become subject to an inconvenience, instead of a disease. The pendulous abdomen so produced would always require supporting by means of a bandage, because the integuments would be too yielding. I wish this to be understood as a suggestion only; it is not founded on experience, as I have never seen, or even heard, of a case where it has been done, or where it has even been proposed; it is the result solely of reflection upon the subject, and if it is ever acted upon with effect, it must be before inflammation has commenced. When inflammation has taken place, and the integuments have become blackened, it would be too much to expect that relief could then be given. The cases in which I should consider this operation advisable, would be where the intestines, for want of space, had been forced through the umbilicus, forming irreducible hernia, which in the course of time had given rise to pain and frequent temporary obstructions, which became more and more serious, threatening to destroy, and that shortly, the life of the patient. In such cases, an attempt of this kind might be justifiable. The practicability, or probable success, of such a proceeding can only be determined by experience.

'A question now arises, how is such an operation to be performed? I will shortly state how I have thought I should proceed, if a case presented itself to me wherein I could feel sufficiently justified in the attempt. I should make an incision through the integuments, and proceed carefully to separate all important adhesions; and as the omentum is generally the most adherent part, and is the most frequent source of disease, I should cut it completely away. I should then pass my finger on the outside of the hernial sac into the abdomen, between the peritoneum and the parietes, and afterwards, by introducing a knife properly constructed, endeavour to cut through the linea alba in a direction downwards, so as to allow the abdominal parietes to separate, which I believe they would subsequently do to a considerable extent, from the constant pressure of the intestines. I should divide the linea alba only, and should avoid, if possible, carrying the incision through or into the integuments. I should expect by this means to gain sufficient abdominal space to pass back the contents of the

hernia, and by securing them by properly constructed bandages within the abdomen at that part, a corresponding protrusion would probably take place below, if not directly, at least gradually. This protrusion taking place from a large opening, and forming to itself a large space outside the parietes, would not, I think, be so subject to those adhesions and consequences which occur in the more confined situation of umbilical hernia.

The author then enters into 'consideration respecting an operation for returning an irreducible hernia, with the proposal of a probable method of radical cure.' From what we have already stated, it will be seen that Mr. Stephens considers an operation justifiable and necessary in some cases of hernia where no strangulation exists, and even where there is no *immediate* danger. Admitting this to be the case, it becomes a subject of consideration, whether the the operation may not be performed in such a manner as to lead to a *radical cure* of the hernia. In the operation for strangulated hernia, Sir A. Cooper recommends the sac to be returned, unopened, with its contents, into the abdomen. Our author objects to this method, because adhesions may have taken place between the protruded bowels and the sac, and the patient may, consequently, not obtain the necessary relief from the operation. By such a proceeding the chances of subsequent peritoneal inflammation would be, probably, diminished; but we very much doubt the safety of the practice, from the reason already stated.

Now, the method recommended by the author, for the radical cure of hernia, consists in returning the sac into the abdomen, not unopened, and containing the protruded bowels, but previously laid open and subsequently to the return of the hernia, unless the adhesion between it and the protruded bowels be too intimate to be detached without running a risk of lacerating the intestine. The operator is to cut down upon the hernia, in the usual way, and to lay open the sac. Should there be any adhesion, it must be cautiously destroyed, either with the finger, or with the knife, and the hernia is then to be pushed into the abdomen. The sac is next to be detached from its cellular connexions, and returned into the abdomen. The chance of a radical cure taking place depends upon the probability that the returned sac, recently detached from its connexions, will contract a fresh adhesion to the abdominal paries, over the opening through which the hernia protruded, so as to form a barrier against a recurrence of the protrusion. If the hernia be an enterocele, and if the protruded portion of iutestine be so firmly incorporated with the sac as to render it dangerous to attempt a separation of them, they are to be returned in con-

nexion; for the probability is, that the adhesion of the bowel will not interfere more, but even less, with its peristaltic movement whilst within the abdomen, than while external to the abdominal cavity, in the form of hernia.

Mr. Stephens has performed an operation of this kind upon the brute subject, with the most complete success; and the inference which he draws is, that it would be equally successful on the human. The following are the particulars of the operation:—

'A friend of mine had a favourite and very valuable pointer bitch, the subject of a very unsightly and enormous hernia, which, from its great size and weight, rendered the animal nearly useless, and her owner had considered the propriety of destroying her. I begged to be allowed to try the effects of an operation, to return, and retain, the protruded bowels in the abdomen. From the time the hernia had existed, and from its very large size. I had great doubts of success. I began by reducing the condition of the animal, as I foresaw that the less superfluous fat there was upon the omentum, and in the interior of the abdomen, the greater was the chance of success in returning and retaining the parts. When she was sufficiently reduced, I began the operation by feeling for the opening through which the intestines protruded from the abdomen; upon distinctly feeling this, which was in the situation of the inguinal ring, I began the incision directly over it, carrying it about half way down the surface of the tumour, and through the integuments. I then cut through a quantity of fine cellular structure, and opened the hernial sac, and found omentum and intestines within. I began immediately to draw the parts up from the bottom of the tumour, and to push them with my finger through the opening into the abdomen; but I found there was one considerable portion which I could not reduce, owing to its strong adhesions below. Having always been able apparently to return the hernia, I was surprised to find it irreducible, but it seems it was the omentum and one portion of intestine only which was returnable, another portion, being firmly connected to the parts out of the abdomen, had never admitted of reduction. I, however, proceeded by inverting the hernial tumour, by which means I could see the whole irreducible part of the intestine, without the necessity of laying the sac open to the bottom; this discovered to me that the bowel was not simply adhering to the hernial sac, but that its coats were absolutely incorporated with it, having no line of separation. To attempt in this case to dissect the bowel away from the sac, would have been at a very considerable risk of wounding it; but it occurred to me that I could separate the sac from the integuments, &c. forming the hernial pouch, to which it had become closely joined. In this I succeeded, and returned the intestine and sac into the abdomen, adhering as I found them. The opening from the abdomen was so considerable, that unless my finger was almost constantly there, I could not prevent the parts from again protruding. The

difficulty now was to retain the bowel within the abdomen. A bandage was of no use, and my object was to gain a radical cure by effectually closing the abdominal opening. I succeeded in preventing the parts from protruding, by means of the quilled suture substituting pieces of wood for quills; these being drawn closely over the opening, prevented any immediate descent of the hernia; but I saw clearly that the purpose of the operation could not in this way be fulfilled, for the abdominal opening could not be closed by means of the integuments, which would necessarily unite anterior to, and not over the ring, and, therefore, the intestines might again force their way beneath them into the cellular structure. However, the immediate return of the hernia was prevented by it, but, I must confess, I had but few hopes of its ultimate success. I finished, by closing the remaining part of the wound by sutures. The pressure of the quilled suture upon the vessels of the thigh, obstructed the passage of the returning blood, and caused œdematous swelling to some extent in one limb; I relieved this by incisions, and, at the end of about four or five days, removed the sticks and ligatures. The removal of the sutures relieved the swelling, and the animal recovered rapidly. Some physic which I gave her operated freely, without occasioning any disposition in the parts to return. The operation was performed in August, and the bitch was used during the shooting season of September and October, and proved equal to any exertion that was required. Having subsequently removed the pouch which contained the protruded bowels, no trace of the deformity remained. I had the satisfaction of seeing my canine patient perform her duties with alacrity and vigour; and of receiving, with the apparent gratitude of the animal, the warmest thanks of her master.'

Leaving this, certainly interesting, case to the consideration of our readers, we shall proeeed to the next part of the work before us, wherein the author offers some 'remarks on mechanical obstructions of the bowels within the abdomen.' The position and the relations of the intestines in the abdomen are well adapted for allowing them to perform their necessary peristaltic movements. Every portion of the tube has perfect freedom to slide, as it were, upon the other parts with which it is in contact. But, if adhesion takes place between one part and another, or between the intestinal tube and the omentum, or any other part within the abdomen, it is presumed that the natural peristaltic action will be embarrassed, and that, by consequence, obstruction may take place. This obstruction may be of an acute, of a subacute, or of a chronic nature. But the first consideration is, how is the presence of such an obstruction to be known? Mr. Stephens lays down the following diagnosis:

'Mechanical obstructions of the bowels, of whatever kind, produce a certain order of symptoms, which constitute a disease usu-

ally described under the term ileus; the chief signs of which, are, pain in the abdomen, more or less sudden; and an incessant vomiting, and rejection of every thing taken, the matter vomited becoming of the appearance of fæces; and this latter symptom is the chief or peculiar sign of ileus: there is also a constipation of the bowels of the most determined character. To these symptoms usually *succeed* more or less of pyrexia, heat, tension, and tenderness of the abdomen. In common enteritis, the febrile or inflammatory symptoms are primary, those of obstruction following as a consequence, and being much less marked, and rarely, if ever, amounting to a degree to constitute ileus. By attending in this order to the symptoms, we shall be able in most cases to judge of the particular disease.'

Again:

'The acute kinds of mechanical obstructions, are to be distinguished from enteritis, by the pain being more sudden, and more severe, the vomiting also occurring earlier, and being more constant. The pain also arises, and is felt more in one part, and is not so diffused, or general, as in enteritis, although much more violent. The stomach rejects every thing, the pain is intense, and is felt where there is strangulation at the stomach, with a dragging sensation; there is also extreme impatience, and uneasines, with an altered and anxious appearance of the countenance. After these symptoms have existed some short period, heat, thirst, quick pulse, and the usual signs of inflammation, are produced; the abdomen becoming tender, and getting worse: but the chief distinction is, that in enteritis the feverish state oftentimes precedes, or is at least simultaneous with the pain, which is neither so sudden, nor so violent, as in acute obstruction. The mechanical nature, too, of the latter will rarely allow of its being mitigated by remedies, as the former frequently is. The constipation in enteritis is by no means so obstinate as in mechanical obstruction; stools not unfrequently being procured: the countenance is less anxious, and the disorder, from the first, does not assume so formidable a character.'

The next point is to distinguish the different varieties of acute mechanical obstruction. The author thinks that it is not impossible to do this, if a strict attention be paid to the symptoms. But it is not of so great a practical importance to distinguish the different varieties as to distinguish the obstruction itself from other abdominal inflammations; because, if, in operating, the surgeon hits upon the actual seat of obstruction, he may have it in his power to relieve any variety which may present itself.

Now, in a question like the present, several circumstances, indeed every circumstance connected with the case, must be taken into consideration, in order to enable the practitioner to form a correct diagnosis. Should the patient have swallowed plum-stones, or any other hard and indigestible bodies,

the probability then would be, that these gave rise to the obstruction. Should there be no suspicion of its being caused by the presence of a foreign body, there is reason to infer that it depends either upon an internal stricture, or upon an intro-susception. The stricture may be either a strangulation, or a simple contraction of the tube. There are, perhaps, no symptoms sufficiently characteristic to enable us to distinguish an acute contraction of any part of the tube, from internal strangulation. But it is very doubtful whether any part of the intestinal canal ever undergoes spontaneous contraction so suddenly as to give rise to symptoms of strangulation, without manifesting, previously, some signs indicative of the formation of a stricture.

But, it may be asked, is there any symptom pathognomonic of intussusception, by which it may be distinguished from internal strangulation? Mr. Stephens is of opinion that there is, and that this symptom is *tenesmus*, combined, of course, with all the symptoms of mechanical obstruction. When we consider the nature of intussusception—that an upper portion of the bowel insinuates itself within a lower—it is natural to suppose that a great irritation would be caused, and that a powerful attempt would be made by the invaginating portion to expel its contents, thereby giving rise to tenesmus, in addition to symptoms of acute obstruction. This symptom, consequently, may enable us to distinguish intussusception from internal strangulation; but it will not enable us to distinguish it, we are inclined to think, from the presence of cherry stones, or other foreign bodies, blocking up the canal, and causing inflammation. However, as substances of this nature cannot, very well, enter into the alimentary canal without the patient being conscious of having swallowed them, the history of the case will assist the practitioner to form a diagnosis upon this point.

The sub-acute form of mechanical obstructions, are those which are produced by some unfavourable adhesions of the bowels. They are to be distinguished from the acute by the greater mildness, and slower progress, of all the symptoms. 'Pain is felt at some particular part of the bowels, which pain has generally arisen after taking a meal; vomiting quickly supervenes, after which the patient is considerably relieved; these symptoms are again renewed upon taking food, and relief is again obtained after vomiting.' There is, of course, complete constipation, together with a sense of sinking, and the other symptoms of obstruction.

The symptoms of chronic obstructions come on, generally, very gradually; and the disease is at first unattended with any particular pain. This kind of obstruction is most com-

monly situated in the rectum, or in some part of the large intestine, and is generally caused by a contraction of the bowels. This affection is usually spoken of under the term stricture of the rectum.

It would appear that the pathognomonic symptoms of every variety of mechanical obstruction of the bowels, are, vomiting of fæcal matter, and complete constipation. We have already pointed out the distinguishing symptoms of the different varieties. The question to be considered next is, are there any signs, by means of which the situation of an internal mechanical obstruction may be known ?

Now, the constitutional symptoms of an acute mechanical obstruction, are the same in kind as those of strangulated hernia, differing in degree, according to the mechanical cause. When a portion of the gut is strangulated internally, the constitutional symptoms are exactly the same as when the strangulation takes place in the inguinal ring. The principal pain in external hernia is referred to the stomach ; the chief pain is referred to the same part in internal ruptures. Hence, the situation of an internal, acute obstruction can not be found out from attending merely to the principal seat of pain. But if the patient be asked where else he feels pain, he will refer to the hernia invariably; and Mr. Stephens thinks that, ' in cases of internal strangulation, if the patient were asked to point out any other situation, or origin of pain, besides the stomach, he would very correctly refer to the part immediately above the strangulation.'

In cases of sub-acute internal obstruction, the author is of opinion that the patient will be able, very easily, to point out the part where the pain originated, and where it is most constantly felt, and also the situation of his previous colics. Pressure upon that part will occasion slight soreness or tenderness.

We now come to the treatment of mechanical obstruction of the bowels ; and first of the treatment in the early stages. It is obvious that, when a portion of the gut is strangulated internally, or if a stricture exists, medical treatment alone must necessarily prove unavailing. But the practitioner can never be *certain* that a strangulation or a stricture does exist. It would, therefore, be rashness to attempt an operation before other means have been tried. These must consist in guarding against inflammation, or reducing it when it exists, and in endeavouring to procure evacuations from the bowels. In the acute and sub-acute forms of obstruction, the practitioner must resort to the use of the lancet.

The most important object is, to procure alvine evacua-

tions. This is generally attempted by means of strong purgatives, and injections. We perfectly agree in opinion with the author, that a perseverance in the use of strong purgatives is not only useless, but hurtful. These will tend to increase the sickness and vomiting, as well as to give rise to inflammation, or augment it when already existing. They are useless, inasmuch as they are immediately, or very soon, returned by vomiting. Calomel, combined with opium, may be tried, and persevered in, if retained by the stomach. If exhibited in the form of powder, mixed in a small quantity of syrup or jelly, some part of them will probably adhere to the coats of the stomach. We have often witnessed cases of violent enteritis, attended with very obstinate constipation, give way under the use of these remedies, after blood-letting injections, and purgatives of various descriptions, had been tried in vain. The use of injections should be persisted in as the principal part of the treatment; and the warm-bath, as well as all the usual remedies recommended for enteritis, should not be left untried. With respect to quicksilver, we cannot perceive what benefit can be expected from its employment. When the obstruction is suspected to depend upon intussusception, quicksilver injected by the anus may, as the author observes, prove of some service, if the patient be placed in such a position as to allow it to gravitate against the invaginated portion of the bowel. Before it can be of any service in this affection, the intussusception must be situated in the large intestine.

When all medical means have been tried, without success, and when the symptoms already described, as indicative of obstruction, are present, when, also, the practitioner has been able to form some notion respecting the situation of the obstruction, it then becomes a question whether or not it would be justifiable in him to have recourse to an operation for its removal? It should be considered, that such a step is proposed as the last resource, when the stercoraceous vomiting, and all the other symptoms, sufficiently denote that all hopes of success from any further medical treatment, as well as from nature, would be vain. In other words, ought the patient to be left to his fate? or ought he rather to be subjected to an operation, painful, doubtful, and uncertain even of having the obstruction found out, with the very distant prospect of having his life prolonged thereby? Looking at the subject in this light, we consider that there is no question in the case. The *duty* of a medical practitioner is straight forward when the question is between life and death. As regards his professional duty, the greater evil that can befall him is the death of his patient. We

should, therefore, say, without any hesitation, that, when no other means hold out the least prospect of success, an operation is justifiable. We state this as a general principle. It requires, of course, extensive experience, mature judgment, and a perfect knowledge of his art, on the part of the practitioner, to enable him to decide when it becomes *necessary* to resort to a capital operation, especially such an operation as that required for the relief of a mechanical obstruction in the bowels. The rectum should first be examined by the anus, for the obstruction may be within the reach of the finger, or of a bougie.

'In performing the operation,' says Mr, Stephens, 'the incision into the abdomen should be made through the linea alba, or linea semilunaris,in a situation near to the part where the obstruction is supposed to be; the opening may afterwards be enlarged, as the occasion may require, without fear of wounding the epigastric artery; the hand must then be introduced into the abdomen, and the intestines, at the part where the disease is suspected to be, must be drawn out. This is absolutely necessary, for without seeing the part, it cannot be remedied. When the intestines are thus brought into view, the part where the obstruction is seated will be marked by a greater discolouration, or appearance of inflammation, than any other; if there has been stercoraceous vomiting previously, it is not probable that there will be found any accumulation of the contents of the bowels above the obstruction; but if a vomiting of fæces has not prevailed, or but in a slight degree, some accumulation will probably be found. The particular morbid condition, or cause of the obstruction, is now to be ascertained. It is unnecessary to give any directions as to the course to be pursued to relieve a state of adhesion, of strangulation, or of intro-susception; the judgment and presence of mind of the operator will enable him to do what is requisite, and will also guide him through any particular difficulties he may meet with; for, in cases which must admit of such endless variations, no rule, or exact line of proceeding, can be pointed out.

'It may happen that, from a state of adhesion, or from some other cause, the intestines cannot be drawn out of the body, so as to expose the obstructed part; and an operator may probably, in such a case, be inclined to resign his attempt, and consider all further proceedings as useless. Although,in such a state of parts, the chance of success would be indeed very slight, yet having proceeded thus far, I should not be willing to abandon the case without doing something, if possible, in the way of relief. I would even enlarge the opening, so as to expose the intestines as they lay in the abdomen, and find out, if possible, the confined portion. However desperate such a proceeding may appear, I should consider it preferable to a total abandonment of the case, because it is affording a possible chance.'

We have no room to make any remarks upon the opera-

tion proposed by the author. We shall leave it to the consideration of our readers as to how far it may be applicable to the affection in question.

There is an Appendix to Mr. Stephens's work, 'containing a brief statement of the cause of the difference in size of the male and female bladder.' The bladder of the human female is generally found larger than that of the male. The cause of this difference has been attributed to the 'motives of delicacy and the habits of society not allowing females the same opportunities of relieving themselves as are possessed by the other sex.' But the fact appears to be, according to the author's account, that 'the bladder of the cow, of the ewe, of the sow, and of every other female animal of the class mammalia, is, under certain circumstances, larger than that of the male.' It is also the fact, that the bladder of a female which has produced no offspring, is not larger than that of the male; the difference, therefore, where it is found to exist, must depend upon circumstances connected with conception or with utero-gestation. Mr. Stephens does not pretend to account for it any further. His object is merely to point out the fallacy of the opinions of anatomists and physiologists in general respecting the cause of this difference.

We have been highly gratified by the perusal of Mr. Stephens's work. It contains, besides several very ingenious suggestions, founded upon the new views which the author has taken of the nature of hernia, a great number of practical facts of considerable importance.

II.—*a Sur l'Absorption.* Par M. Magendie.*
b Coup d'œil sur l'état de nos connaisances a l'égard du siége et de la nature de l'absorption. Par F. Hollard, D. M. P. †

It is a remarkable fact, that, notwithstanding the progress which most of the physical sciences, the medical among the rest, have made of late years, very little additional light has been thrown upon that of physiology. There are very few points in this science, if it deserve the name, respecting which physiologists agree. Even the principal and most important phenomena of the animal body are still involved in much doubt and uncertainty, as far as relates to the knowledge of the laws which govern them. It appears as if the phenomena of animal life were destined to perplex everlast-

* Dictionaire de Médecine et de Chirurgie Pratiques.
† Journal des Progres des Sciences et Institutions Medicales.

ingly the minds of physicians and philosophers. Nothing certain appears to be known respecting the properties of the most simple and the most palpable organs. We know, certainly, that a muscle contracts, but we are far from agreeing respecting the properties by means of which it does contract. Harvey found out that the blood moved from the heart, through the arteries, into the veins, and back again through these vessels to its original source. What more is known at the present day respecting the laws of the circulation? Harvey, like a true philosopher of nature, accounted for the movement of the blood in a simple and rational manner, upon principles which will stand the test of experiment; but most of those who have come after him, have not only not thrown any additional light on this interesting subject, but have involved it in all the vagaries which their imagination could invent. We know that secretion is performed by certain glandular organs, but are still far from agreeing respecting whether the glands merely separate particles already existing in the blood, or whether they convert the blood into a new fluid. The function of the nervous system is all a mystery. All that is known is, that certain impressions are conveyed along the nerves into the brain, and that certain impulses are again conveyed along the nerves from the brain, to the muscles, and other parts. We know not by what properties the nerves are capable of conveying these impressions and impulses. We are totally ignorant of the process which the impressions undergo in the brain; of the mode in which impressions apparently so different in their nature, as those derived by means of the various senses, are converted into the same kind of impulse, to move the muscles. We have no conception of the nature of the link which connects the impulse to the impressions.

If we consider another function of great importance in the animal economy, namely, absorption, we shall find the same uncertainty to prevail respecting it. The opinions of one set of physiologists at the present day differ little from those entertained, more than two thousand years ago, by Hippocrates. It is true, that the opinions of Hippocrates, as well as of the ancients in general, were somewhat vague, inasmuch as they were founded upon the general observation of nature, and that they do not go far towards explaining the particular function of absorption, owing to their authors not having been acquainted with anatomy; still, we find among the ancients the general views which most physiologists entertain at the present day respecting the laws of nature in regard to the nourishment of the body. Hippocrates was of opinion that every species of animal is endowed with the

property of attracting and of retaining that which is suitable to its nature, and conducive to its nourishment and well-being; and of, on the other hand, rejecting that which is deleterious or useless. This is the very doctrine of absorption, as relates to the lacteal vessels, which is generally taught at the present time. The father of physic, moreover, thought that the body possessed the property of transmeability, and that the nutrient particles were transmitted from one part to another, through the pores of the structure. We shall find, as we proceed, that this view of the subject does not differ materially in principle from that which the celebrated author of the article on absorption, in the *Dictionary of Medicine and Surgery*, at present entertains. In effect, M. Magendie is of opinion that absorption, in the first instance, is nothing more than imbibition, and that this imbibition is produced by the porosity of the structure, in the same manner as in inanimate porous bodies.

If we descend from Hippocrates to Galen, we shall find that the views of the latter are, that nature acts, in the animal body, by the interposition of certain faculties. To one of these faculties nutrition is confided, and, among its other attributes, is that of attraction, by means of which the nutrient fluids are introduced into the different organs and seats of the body. It is also endowed with the power of election, by which it separates substances which are nutritious and suitable to the growth and preservation of the body, from their mixture with others which are pernicious or useless. Galen, moreover, descends more into particulars, by assigning this attractive power to certain special organs. He seems to know, first, that the nutrient fluid, elaborated in the intestines, from the alimentary matter is conveyed into the blood; and, in the second place, he thinks that it passes directly into the veins, from the surface of the intestines.

The veins were regarded, without contestation, as the organs of absorption, until the period at which the lacteal vessels were discovered. Herophilus and Erisistratus, and after them, Massa, Fallopius, Eustachus, Pecquet, Rudbeck, and Bartholin, have since successively attributed this function to the lacteals. Asseli thought that these vessels pumped or drew up the chyle from the surface of the bowels, as leeches draw blood. This doctrine was generalized by John Hunter, who viewed the lymphatics as forming a part of the absorbent system. These, and the lacteals, were for some years considered as the sole agents of absorption of every kind. Some ingenious experiments, instituted by Hunter, seemed to corroborate this opinion. Hunter's doctrine, however,

was attacked, in 1809, by Magendie, who read a memoir at the Academy of Sciences, containing the history of some new experiments relative to the agents of absorption, which experiments went to prove that, of all the vessels of the then supposed absorbent system, the lacteals alone deserved the name of absorbents; that these absorped nothing but the chyle, and that every other species of absorption was performed by the veins.

Magendie's experiments went to prove that all other substances than chyle found their way, from the alimentary canal, into the blood, although a ligature had been applied to the thoracic duct; and even that poisons injected into a portion of the intestinal canal, all of whose vessels, both sanguiferous and lymphatic, excepting one artery and its corresponding vein, had been cut and tied, found their way readily into the system, and destroyed the animal with the same promptitude as if the vessels had been perfect in their integrity. The experiments of Ségalas, Tiedemann, and Gmelin, lead to the same results.

So far, then, as experiments are concerned, we are still as much as ever in the dark respecting the real agents of absorption. One set of experiments leads to the opinion that the function may be carried on without the agency of the veins, and another that it will go on without the aid of the lymphatic vessels. From the essay at present before us, it would appear that M. Magendie's views are somewhat altered, or modified, respecting the phenomena of absorption, since the period we have already mentioned. In effect, running from one extreme to another, he now considers it useless to discuss whether it is the veins or the lymphatics that absorb, inasmuch as all the tissues are endowed with that property. M. Hollard appears to take a similar view of this important function. Before offering any remarks of our own upon the subject, we shall lay before our readers a statement of the views at present entertained by Magendie.

M. Magendie says that there are two very distinct points in the phenomenon or function of absorption, namely, the *local action*, and the *transport* of the absorbed matter to the interior of the animal body. These two acts are entirely different in all respects, and it is owing to their having been confounded that the explication of absorption has been so much obscured. By the local phenomenon of absorption, he means the act by which a substance, susceptible of being absorbed, penetrates the animal tissue, with which it is in contact.

Bichat, whose views have produced so powerful an influence over the minds of physiologists, represented all the

membranes, all the organs, all the tissues, as being endowed with a particular vital property, in virtue of which these parts differ essentially in the state of life and in that of death. Dead, they manifest the physical properties common to all other bodies; they consequently allow themselves to be penetrated, by way of imbibition, by any fluid which may be in contact with them. Living, on the contrary, and in the enjoyment of organic sensibility, the same parts are in an entirely different state; they close their absorbing mouths against every substance, against every fluid, which has no relation to their organic sensibility, whereas, they permit to enter, with the greatest facility, all substances which have a relation with their vital properties.

M. Magendie observes, that it must be confesed that these ideas are agreeable to our imagination; we love to see imperceptible pores which shut against some substances, and which open to permit others to pass; we are fond of meeting, in microscopic objects, a sort of reason and understanding, and, in this case, as in many others, we please ourselves like the beautiful Narcissus, in contemplating our own image, with this difference, that we perceive not that it is it which amuses and pleases us. Unfortunately, we are obliged to renounce this ingenious romance, inasmuch as experience has long demonstrated, and does daily demonstrate, its falsity.

It is proved at the present day, says M. Magendie, by thousands of facts, that this pretended choice of the absorbent mouths has no existence. He was one of the first who attacked this doctrine, by opposing to it the result of experiments. He has shewn, for instance, that however irritating, or even caustic, a substance may be, if it be allowed to remain an instant in contact with any part of our tissues, it will be absorbed, in general, more promptly than other substances which do not possess the same characters. The practice of medicine demonstrates the same truth. Let a solution of sublimate, or, simply, sublimate in powder, be applied to any point of the skin, deprived of its epidermis; let it be administered in an injection, or place it in the mouth, will its general effects not be so well manifested as if it had been introduced into the stomach, or administered in the form of frictions? Moreover, a sufficient proof of this absorption may be physically acquired, for, by examining the blood of the patient, or of the animal subjected to the experiment, the matter which has been absorbed will be readily discovered.

But, by what physical or vital power does a substance, placed in contact with our organs, penetrate the tissue, and

arrive at the sanguiferous system, in order to run with the blood the circle of its movement? Without, says Magendie, recalling here all the errors which have obscured this important point of the science, and which still exist in many minds, otherwise very clear, we may say that absorption, considered in its local, or first act, is nothing else than the phenomenon of *imbibition*—a physical property common to all bodies, and as much the more manifest as they are more porous. This action, which has some relation to that of capillary tubes, ought to be carefully distinguished from it, if we would avoid falling into an important error relative to its theory.

He then concludes, as a demonstrated truth, that during all the time a fluid is in contact with any point of our organs, or of our tissues, it is imbibed, and it introduces itself into their physical pores. If the body which is to be absorbed be solid, it is necessary, first, that it should attract humidity from the fluid part of our humours, and, when it is dissolved, it presents the conditions suitable to enable it to penetrate into our tissues. If, on the contrary, a solid, insoluble body is in contact with one of our membranes, it will not be absorbed. It is thus that foreign bodies, the points of swords, leaden balls, needles, &c. remain entire years in the substance of our organs without ever being absorbed.

General Phenomenon of Absorption.—The second phenomenon of absorption consists, according to Magendie, in the transport of the imbibed fluid. This is as easy to comprehend as the first. Experiment shews that the imbibed substance passes, by the act of imbibition only, into the cavity of the capillary vessels, or even of the large vessels, if sufficient time be allowed it. If the carotid artery, or the jugular vein, be detached to a certain extent, and the vessel separated from the rest of the body by the interposition of a card, or a thin piece of metal; if then the artery or the vein be wetted with any fluid of a known and active property, the general effects of the substance will be seen to manifest themselves after a few minutes; and, if the vessel be opened, its coats will be found impregnated with the fluid used in the experiment, which fluid will be found to have penetrated into its cavity, and to have arrived at the heart, through the medium of the venous system. Thus, the first act of absorption is a physical phenomenon, and the second is a mechanical phenomenon, forming a part of the circulation of the blood.

It may be asked, what part do the lymphatic vessels perform in the office of absorption—those vessels which still

bear the name of absorbents, and which have been regarded, and are still considered, by most authors, as the sole agents of absorption? M. Magendie does not enter, at present, very minutely into this subject; he merely observes that, possessing the same physical properties as the other tissues, these vessels present, without any doubt, the local phenomenon of absorption, or, in other words, the faculty of imbibing. But, as it is seldom that the course of the lymph is apparent, and as we are ignorant when this course establishes itself, it is difficult also to know in what circumstances the lymphatic vessels produce the second phenomenon of absorption, that is to say, the transport.

M. Hollard seems to be of opinion that the cellular tissue, in its various forms or states of condensation, is the principal agent by means of which the imbibition, or, as M. Magendie calls it, the local act of absorption, is carried on. In seats where the cellular tissue is abundant, absorption goes on rapidly, as it also does from the surface of the serous membranes, which consist of cellular tissue in a state of condensation.

He remarks, that the cellular tissue is a substance more or less spongy, pervading every part of the economy, since it forms the original woof of all the organs, and appears to constitute almost exclusively some of them. This tissue abounds in the parts where absorption is most active, such as in the abdomen, and the inner parts of the extremities. It is traversed by a great number of nerves, and by vessels of all kinds, none of which terminate visibly; it is only by hypothesis the contrary has been maintained, and that some anatomists, such as Ruisch and Boerhaave, have attributed to the laminous tissues a vascular organization. Scarcely does it appear, in certain circumstances, to belong to the solids, nor can any particular form be assigned to it. It consists of a net-work of filaments and very thin layers, interlaced without order, between which, intervals, more or less considerable, exist. Animals of the lowest grade of existence are composed entirely of cellular tissue; infusion animalculæ, which seem to consist of only small portions of living cellulosity, are impregnated with the ambient fluids in which they reside. In some of these beings, life appears to depend upon their hygrometricity, since, after a dessication of many years, they become reanimated the instant when they are placed in a suitable fluid. This property is also very remarkable in animals of the first classes.

Condensed and disposed into membraneous strata, the cellular tissue forms, 1st, the serous membranes, in parts where contiguous organs move on each other; 2d, the inte-

guments, which, among other functions, have that of transmitting to the deep-seated parts the materials furnished for the economy by the external world; 3d, the canals which regulate the course of the fluids, or the vascular system; 4th, the fibrous envelopes of certain muscles and of some of the viscera.

Now, inasmuch as this tissue extends to every part of the body, and as absorption is continually going on in the structure, where anatomy has not enabled us to discover any trace of vessels, and where consequently we have no reason to suppose them to exist, we are authorized to admit, that, not only does the faculty of absorbing not belong to one order of vessels to the exclusion of others, but, furthermore, that the vascular form is not an essential condition of absorption. Moreover, in continuing to reason in this manner, in considering that the cellular tissue forms the woof of all the organs, that it constitutes, in different modifications, the serous membranes, the vessels, the integuments, &c., all the organs which absorb with activity; that, in fine, this tissue has a remarkable capacity of being penetrated by fluids which come in contact with it, we shall be led to regard the cellular tissue as the principal organic condition of all the absorption which takes place in the animal body. This view, *a priori*, will be confirmed by comparative anatomy. In the inferior animals, the infusoria, the polypi, &c. we find only a mass of cellular tissue without any trace of vessels, which tissue absorbs the ambient fluids, as much liquid as gaseous. It is only when the humours take some determinate directions towards such or such organ, that vessels are seen to arise. We are then led to understand that absorption is a general phenomenon, which is produced in the tissue of all the organs, or, in other words, that all the tissues have the faculty of being penetrated by fluids brought into contact with them.

Having given this exposition of the opinions of MM. Magendie and Hollard, we shall endeavour to point out how far they appear to us to have any truth for their foundation. Let it be understood that we do not pretend to be able to remove all the mystery in which this subject appears involved. We have already seen that experiments have thrown but little light on the nature of this function. Reasoning alone will, we are inclined to believe, throw as little. But anatomy, experiments, reasoning, and analogy combined, may enable us to arrive at some conclusion, perhaps, not far distant from the truth.

According to Hunter, absorption is one of the most important vital functions in the body; whereas, according to

MM. Magendie and Hollard, it is the most physical, the most contingent phenomenon in nature. According to M. Hollard, the cellular tissue is of a spongy texture, perfectly free from any kind of vessels, the nidus or original woof of all the other tissues, and the grand agent of imbibition or absorption. Hippocrates and the ancients, as well as Hunter, Bichat, and many other eminent authors, are firmly of opinion that Nature has some regard for her various living productions—that she implants some properties in them, by means of which they are enabled to take up that which is suitable to their kind, and conducive to their preservation, and to reject substances which are useless or hurtful. There are numerous facts to prove that animal beings are endowed with properties of this kind. Without multiplying examples, we may notice that which appears to stand at the summit of the scale of functions, namely, the formation of the tissues themselves, or their growth and preservation. We never find one kind of tissue where another ought to exist, nor do we find one tissue converted into another, excepting occasionally, in consequence of disease. The muscular fibres undergo a continual renovation, still the particles laid down to supply the places of the old ones are exactly the same in kind as those which have been removed. The office of growth and of the renovation of particles follows precisely the same law in the brain, glands, and every other tissue. It is in the very nature of animals to loathe substances as food which are not nutritive to them. Herbivorous animals will not touch food of an animal nature, nor will carnivorous animals eat vegetables, excepting as physic.

Thus, then, do we find sufficient proof of the existence of elective properties in the physical constitution of animal beings; but it appears to us that the principal error of those who have written on this subject, has arisen from the circumstance that they have set *no limits* to this property. Were it all powerful and without limitation, poisonous substances could have no effect on the system, because the vital properties of each tissue would reject them as unsuitable materials; whereas, there are facts of an opposite kind—facts which tend to prove that, although each tissue, by its peculiar constitution, has the property of rejecting *some* substances, which would be hurtful or useless to it, still other substances of a deleterious kind will combine with it, and alter or destroy its vital properties. The conclusion, then, appears to be, that the faculty of preservation in the animal tissues is not unlimited. It is influenced by circumstances, or by the quality of the substances which come in contact with these tissues.

Now, to apply ourselves more closely to the subject in question, we must consider absorption as of different kinds. In the first instance we may say that there are three kinds of absorption; 1st, of the chyle from the surface of the intestines; 2d, absorption from the surface of the body, and from the surfaces of the serous membranes of all descriptions; 3d, absorption of the organized materials which compose the structure, in order to make room for the deposition of new particles.

Admitting, in the first place, that all the tissues are penetrable to fluids which may come in contact with them, or to the less consistent parts of the animal fluids, it may be asked, is there no class of *vessels* destined to take up the nutritious part of the aliment from the surface of the intestines, and to convey it into the system of circulation? Or does the whole of the chyle penetrate the pores of the mucous membrane, and of the coats of the veins which ramify on the intestines, and arrive by that short course at the blood? M. Magendie considers the mucous membranes as tissues unfavourable to imbibition, inasmuch as the layer of mucus which lines them fills up their pores or defends their surface from the insinuating property of any fluid which may come in contact with them. This being the case, imbibition ought to be very slow from the surface of the intestines. But the fact is otherwise. We may notice some drunkards consume gallons of beer in the course of the day, still the intestines are not distended. In effect, the fluid is taken up, by some means, as fast as it is swallowed, and it passes off by the kidneys in the course of a few minutes. There is no surface from which absorption goes on so fast as that of the intestines. In this instance, then, theory (of imbibition) and facts are opposed to each other. But without wasting more of our own, and of the reader's time, it may be laid down as an established fact, that there exists a set of vessels which convey the chyle from the surface of the bowels into the blood. Anatomy furnishes a proof that these vessels extend their ramifications towards the intestines, and that they meet at the other extremity, so as to form a single trunk, through which the chyle has been found to flow, and in which it has been collected, for the purpose of experiment. If it be said that only a part of the chyle finds its way into the circulation through this channel, and that the rest is taken up in the way of imbibition, so as to directly reach the blood in the extremities of the veins, it may be replied, that no analogy to such a process can be discovered in the body. Every function is determinate, and in no instance do we find one tissue or one organ perform the office of another.

Taking it, then, for granted that the absorption of the chyle is performed by vessels, and that these vessels are distinct from those in which the blood circulates, it may be inquired how far this circumstance may be applied as an analogy to absorption from other surfaces than that of the mucous membrane of the intestines. Before, however, this inquiry is pursued, we may be permitted to offer a remark upon the mode in which the chyle first enters the extremities of the lacteals; or, indeed, speaking more properly, of the mode in which it probably is *not* taken up, for we have no positive knowledge on this point. M. Magendie's theory would lead to the inference that, although the 'transport' of the fluid be performed by vessels, still the 'local action' is nothing else than imbibition; for the chyle, and other fluids, might be supposed to enter these vessels by pores pervading every part of their coats. With regard to the chyle, which is generally of a consistence similar to that of the blood, we shall only observe, that, if the tissues are porous enough to permit the former to penetrate them, we see no reason why they should not also permit the latter to pass through, and to become extravasated. Moreover, if the chyle be able to penetrate the coats of the lacteals, why should it not penetrate the coats of the blood-vessels as well, and enter the circulating system in that way, instead of running a course through the lacteals and thoracic duct? But to proceed.

M. Magendie is of opinion that the chyle is the only substance absorbed by vessels, and, as he says nothing to the contrary, we suppose that he admits that the local act of absorption, as regards this fluid, is performed by vessels, namely, the extremities of the lacteals. All other fluids taken into the stomach are imbibed, according to him, by venous radicles or papillæ, which cover the mucous membrane. Admitting, for the present, that the chyle is taken up by a process different from that by which other fluids taken into the stomach are absorbed, it rests to inquire what the latter consists in? Is there sufficient reason to conclude that it is nothing more than the physical process of imbibition? Or do not facts and analogy furnish proof that it is carried on by means of vessels?

Now, M. Magendie states that he has found, that, if the communication be cut off between the body of an animal and one of his limbs, with the exception of the principal artery, and its corresponding vein, and that if poison be inserted into the limb thus circumstanced, the system will become affected by that poison in the course of a few moments; but that this effect may be prevented at pleasure, by obstructing the return of the blood through the vein. Hence, he con-

cludes, that the poison finds its way through the coats of the vein, according to the physical process of imbibition. Admitting the correctness of this experiment, it does not appear to us to lead, by any means, to the conclusion which is drawn from it. The inference, that the poison is *imbibed*, according to his meaning of the term, is perfectly gratuitous, and contrary to every analogy furnished by organized matter in a living state. For, in the first place, there is no proof but that it was taken up by the extremities of the vein, by a process similar to that performed by the extremities of the lacteals, according to M. Magendie's admission; in the second place, it might have been taken up by lymphatic vessels, whose other extremities open into the veins; in the third place, the active part of the poison might have been transmitted through the coats of the vessels by the medium of nerves, namely, the organic nerves or the fibrils of the nervous sheaths which surround the blood-vessels. Lastly, even if it be admitted that some active, rarefied, spirituous substances, may penetrate the pores of the tissues, and thereby impart their properties to the blood, it by no means follows that mercury, and other snbstances of a gross nature, can do the same; nor does it at all follow from such a fact, admitting it to be correct, that the general function of absorption is carried on, throughout the body, by this physical process.

Let us inquire, on the other hand, into the ground of our belief, that absorption is performed by the agency of vessels. As the first fact, we may notice the *existence* of a set of vessels, which have, heretofore, been considered as the agents of absorption. These vessels are supplied with valves, placed in such a way as to prove that the course of whatever fluid flows through them, must be towards the heart. If these vessels be not for the transport of the absorbed substances, what other office do they perform? And if they be intended for that purpose, would not analogy, founded upon the generally admitted fact, that the lacteals take up the chyle by their open extremities, lead us to infer that the lymphatics also absorb by means of open mouths? If these vessels be the agents which transport the absorbed fluid, the inference is, that they are also the vessels which perform the local act of absorption, and that substances which come in contact with absorbing surfaces are taken up by the imbibing property (if we may use the term) of the capillary extremities of these vessels, and not by any imbibing property of the mixed structures.

The next fact is furnished by the phenomena of disease, Although the proof is not positive, still it is strongly pre-

sumptive, that some poisons, inserted into the skin, are conveyed into the blood through the medium of the class of vessels just mentioned. A prick received in dissection is followed by lines of inflammation extending up the arm, and corresponding to the situation of these vessels. The absorption of the syphilitic virus produces similar effects. It is possible that the inflammation, in these circumstances, set up by the irritation of the poison on the surface to which it was first applied, may extend along the hitherto supposed lymphatic vessels, by continuity only, as it sometimes does over the peritoneum and other serous surfaces; but, in the absence of positive evidence on this point, it appears to us much more probable, considering all the circumstances connected with such cases, that the morbific matter causes the inflammation by actual contact, in its way along these vessels. The probability is rendered still stronger by the fact, that the lymphatic vessels are not more prone to inflammation than any of the other vessels, or tissues, when the local irritation is produced by any other cause than an absorbable poison, or virus. Did the virus find its way directly, by imbibition, into the extremities of the veins, it is reasonable to suppose that the inflammation would take place in, and extend along, these vessels towards the heart, instead of along vessels which had nothing to do with the transport of the poison.

Again, how is the phenomenon of dropsy to be accounted for according to the view of M. Magendie and others? Admitting that the tissues are penetrable by fluids, how is the circumstance to be explained, that these fluids penetrate in opposite dissections; in other words, how can fluid run inward and outward through the same tissue at the same time? For instance, we know that there is a constant exhalation of fluid on the surface of the serous membranes, and we know also that this fluid is constantly undergoing the process of absorption; now, as, according to M. Magendie, these are two physical processes, carried on by the agency of no vessels, and depending merely upon transudation and imbibition, it appears to us difficult to explain how the fluid can pass in and out at the same time, through the same pores. But with respect to the phenomenon of dropsy of anasarca for instance: does the cellular membrane—the chief agent of absorption, according to M. Hollard—lose its physical, imbibing quality, or its spongy texture, in cases of anasarca? If not, why should the process of imbibition cease, or so much diminish as to give rise to collection of fluid between the layers of this membrane? On the contrary, if it be said that the condition of the cellular tissue is

altered in these cases, and that it loses its imbibing or spongy property, it may be reasonably asked, how is it to be explained, that a smart purgation, by means of elaterium for instance, restores the imbibing property to it in the course of a few hours? We have many times witnessed fluid, to the amount of many quarts, (judging from the size of the anasarcous extremities) removed in the course of twenty-four hours, from the effect of a brisk purgative of elaterium and calomel. We are not aware that this circumstance can be satisfactorily explained according to the theory of MM. Magendie and Hollard. If it be said that the loss of the imbibing property depends upon a *plenum* in the blood-vessels, we may reply that, if this were the case, blood-letting ought *invariably* to cause the absorption of the dropsical fluid; whereas, in truth, blood-letting, or a privation of blood, owing to long continued illness, is a frequent cause of dropsy. It would be difficult to explain, according to our authors' views, why the determination of the fluid in dropsy should be greater in the outward direction than in the inward, towards the cavities of the vessels. Experiments prove that capillary attraction, or imbibition, is a phenomenon dependent solely on the pressure of the atmosphere, and not upon any attractive property subsisting between the fluid and the capillary tubes; if this be the case, it is necessary to prove, as has been already attempted, though with unsatisfactory results, that a vacuum exists in some part of the venous system, before the direction of the absorbable fluid can be supposed to have any particular tendency towards the veins, or before it can have any tendency to move, according to the process of imbibition, towards the centre of the body. Supposing this were proved, it would still remain to be explained, why all the fluid should not tend in that direction, instead of oozing out in the form of perspiration, or serous exhalation, or as dropsical effusion, as a part of it does. Moreover, if it be admitted that capillary attraction (which we consider identical in principle with imbibition, according to M. Magendie's meaning by this term) depends upon atmospheric pressure, this agent cannot act within the cranium as a cause of absorption; nevertheless absorption goes on sometimes very rapidly within the cranium; for, independently of the removal of apoplectic extravasations, or coagula of blood, we have witnessed instances of rapid diminution of the size of the head in hydrocephalous children.

The absorption of the contents of abscesses, under the application of stimulants, furnishes another fact difficult to explain upon the principle laid down by M. Magendie. By

what mode of action can local stimulants be supposed to augment the imbibing property of the textures? Having noticed this fact, we shall only remark, that the old mode of accounting for it appears to us to be the most probably true. We know that stimulants have the property of increasing the action of living parts, but we have no proof that they are capable of increasing the aptitude of physical bodies for the imbibition of fluids.

It has been generally supposed that the removal of the old particles which compose the fabric of the body, is produced by the same vessels, or by the same system of vessels, which absorb from the different surfaces and interstices of the structure. But certain facts would lead us to infer, that this function is carried on by some other agents. For instance, stimulants, applied to an abscess, will quicken the absorption of its contents; whereas, we have no proof that the absorption of the particles forming the surrounding structure is also quickened thereby. Again, it sometimes happens, after the administration of a smart dose of chathartics, or as the result of a spontaneous attack of diarrhœa, that the pus contained in an abscess, or that dropsical fluid contained in any of the cavities, or particularly between the layers forming the cellular tissue, is all very suddenly absorbed; still no sensible diminution of the structure takes place at the same time. If this fact hold good, the converse of it will be equally satisfactory; namely, that, although in anasarca there is a deficiency of absorption from the interstices of the structure, still no accumulation of organic particles takes place; in other words, the structure itself does not increase in quantity.

In reply to the above remark, it will, probably, be said, that dropsy does not depend upon diminished absorption, but that it arises from increased secretion, or, according to M. Magendie's theory, from increased exudation. If his theory of absorption were founded in truth, it would necessarily, or very probably, lead to this admission; for, as the structure is not likely to lose its physical property of imbibition as long as it preserves the characters of structure, we see no reason why it should imbibe more actively at one time than at another. But, certain facts lead to the inference, that the accumulation of fluid in anasarca depends, in some cases, rather upon diminished absorption than upon increased exudation or secretion. It must be considered that, if all the tissues be porous enough, during life, to imbibe fluids, they must be also porous enough to exude them, and *vice versa*. Now, if these pores enlarge, it should be explained why the exudation should predominate over imbi-

bition: the atmosphere (the cause of the imbibition) presses *towards* the centre of the body, not *from* the centre, and it also presses inward with a weight five or six times greater than that with which the heart presses the blood outwards. M. Magendie cannot exclude the consideration of these physical causes if he maintain that the phenomenon of absorption is a physical effect. The consequence, then, of an augmentation of the pores would be a preponderance of imbibition over exudation. Hence, a reduction of the plenum of the blood-vessels, by abstraction of blood, ought to be a certain cure of dropsy; or, indeed, we can scarcely suppose it possible for dropsy to take place, according to M. Magendie's theory, except within the cranium, the contents of which are, in a measure, protected from atmospheric pressure.

Before this subject can be discussed in all its bearings, there is a series of facts which ought to be taken into consideration. Our space will merely permit us to just notice a few of these, however interesting the inquiry may be to which they lead. In the first place, dropsical effusions are accompanied by diminished secretion of urine. This fact would lead to the inference, either that the kidneys are diseased, or that the serous part of the blood exudes from, or is effused by, the vessels, so as to leave but little work for the kidneys to perform. Either of these alternatives would render it probable that dropsy depends upon increased effusion, rather than upon diminished absorption. In the second place, diarrhœa, produced by medicine, or occurring spontaneously, produces a greatly increased effusion of serum from the surface of the intestines. This fact cannot be accounted for upon the supposition that the serum, thrown out on the different surfaces, is only an exudation. But we intend this fact to bear upon another point, namely, that, during the occurrence of the diarrhœa, the fluid is, sometimes, rapidly absorbed from the cellular tissue; and, under the same circumstance, the contents of an abscess will sometimes be rapidly taken up. There appear to be two alternatives founded upon this fact—either that the diarrhœa, by abstracting the serum of the blood, moving through the intestines, deprives the circulating fluid of that portion which would otherwise be thrown out into the cellular tissue, or upon the serous surfaces; or else that the action of the cathartic, or the spontaneous diarrhœa, imparts, by some means, an increased impetus to the agents of absorption throughout the body. The former alternative will not account so satisfactorily as the latter for the absorption of the contents of an abscess; nor will it, by any means, account for that of the granulations of wounds. In the third place, the cellular membrane,

although so delicate in structure, has two surfaces, each of which performs a distinct function. One surface is serous: the other secretes fat in some situations, muscular fibre in others, and, in fact, all the tissues appear to be the product of this tissue. Now, if M. Magendie's theory were correct, it might be expected that, in anasarca, the serous fluid would be found pervading the whole of the cellular tissue; whereas, in fact, it is only found on the serous side: none of it enters the cells in which the fat is contained. We may also state, that there is no proportion between the absorption of fat, and that of dropsical effusions. On the contrary, it generally happens that obesity diminishes in proportion to the increase of the serous effusion.

To conclude, the view which M. Magendie has taken of the phenomenon of absorption, appears to us to be opposed by many facts, and to be totally at variance with analogy. His experiments do not justify the conclusions drawn from them. They tend, in some measure, to prove, either that the veins absorb, or that there are absorbents which enter the veins at a short distance from their origin. Now, let us bestow a moment's consideration upon these alternatives. Let us first ask, by means of what known properties connected with the veins, can these vessels be supposed to absorb? We have no proof whatever that they perform any other function than that of forming passive channels for the return of the blood to the heart. Some experiments, it is true, tend to prove that poison inserted under the skin may enter the blood by means of other channels than the thoracic duct, but none prove that the poison is originally taken up by the veins themselves. Some poisonous substances, as prussic acid, destroy life before they can possibly have time to reach the heart through the medium of the blood, even if we suppose them to be instantaneously taken up by the extremities of the veins. We, therefore, infer that these substances communicate their properties through the medium of the nerves, or of some other agent, of a more subtle kind than the blood. Now, if the active property of a poison can extend, in this manner, almost instantaneously, over the body, it is not improbable that it was imparted, in a similar manner, to the blood in the vessels, in M. Magendie's experiments. Moreover, by inserting poisonous substances into the structure of a living animal, some of the minute branches of the veins are necessarily divided, so that a portion of the poison may enter in that way. We may, therefore, conclude, that experiments have, as yet, afforded no positive proof that the veins possess the power of absorbing. But let us consider the form and relations of the venous extre-

mities. It is true that we are now going to enter upon conjectural ground, but it is conjecture generally acknowledged as correct. The general belief, then, is, that the veins are continuous with the arteries, and that the blood passes directly from the latter to the former. If this be the case, how can we suppose it possible for the veins to absorb? Absorption must be performed either by the open mouths of vessels, or by pores, as supposed by Magendie. There is no reason to infer that the veins have any orifices which open upon the different surfaces, or in the intestines. If they have, it may be asked, how is it that the blood does not escape through them? With respect to the fluid entering the vessels through pores, we have already shewn the improbability of such being the case.

With regard to the other alternative, namely, that absorbent vessels arise from most parts of the structure, and terminate almost immediately in the veins, probably at their point of union with the arteries, it is by no means contrary to analogy. We know that the thoracic duct opens into a vein, and that its orifice is covered by a valve. It will, perhaps, be said that, if the lymphatic vessels open shortly into the veins, the lacteals ought to do the same, in order to establish the analogy. But there is a circumstance which will account for the lacteals not doing so, and which renders it necessary, in some measure, that they should join to form a single trunk. We know that the veins of the intestines all unite to form the vena portæ, from the blood contained in which the bile is secreted. It follows, from this, that, as what is, is necessary, according to the course of nature, either the blood returned into the liver would be unfit for the formation of bile if it previously received the chyle from the lacteals, or the separation of bile from it would deprive it of its nutrient properties, thereby rendering it unfit for the nourishment of the body. As the blood of other parts of the body does not furnish any secretion, but flows straight on towards the heart, no detriment would be produced by its receiving the contents of lymphatic vessels in any parts of its course. Thus, then, if we suppose, what appears to us probable, that many of the absorbent vessels, in most parts of the body, terminate almost immediately in the veins, the results of M. Magendie's experiments will be satisfactorily accounted for. Anatomy demonstrates, that many of the lymphatics of the extremities join the thoracic duct: every fact within our knowledge tends to prove that these are absorbing vessels. Although we have no positive proof, still experiments render it very probable, that many, also, of the absorbent vessels do not unite and empty their contents into the thoracic duct, but open directly into the veins.

In conclusion, we shall make two remarks: 1st, from all we know of the properties, and of the office, of the veins, they must be incapable of performing the part of absorbents: if any radicles be appended to their extremities, for the purpose of absorption, these cannot be considered as a part of the *venous* system, but another class of vessels, bearing characters, both as regards vital properties and function, very different from those of the veins: 2d, as the molecules of matter constituting different fluids, and other substances, differ considerably in size, it is not impossible that some of the most minute may permeate, like caloric, the pores of the tissues, and by that means impart some of their active properties directly to the blood; but, admitting this, it by no means follows that the general function of absorption is nothing else than the physical phenomenon of imbibition.

ORIGINAL COMMUNICATIONS.

I.—*Case of Abscess of the Spleen.* Communicated by Mr. R. Cooper.

Henry Price, æt. thirty-four, complained of excessive debility, loss of appetite, and a sense of distention in the epigastrium. His countenance was pale and anxious; he had evening exacerbations of fever, with profuse perspiration at night, attended with diarrhœa; pulse 106, weak. He stated that, about a month previously to his present application for relief, after having indulged in an excessive use of spirituous liquors, he had, on the following day, felt a slight twitching pain at the left side. This, after a short period, subsided; but he then became feverish, and was troubled with a slight cough; this also subsided.

Tonics, with nutritious diet, &c. were freely administered; but the preceding symptoms continued with unabated violence, until the termination of his life, which was on the 8th day after the notes of his case were made.

Autopsia.—Upon laying open the thorax, no appearance of disease was observed, if we except a few adhesions of the plura on the right side, which were not the result of recent inflammation. The contents of the abdomen were next exposed, and the following appearances were noted:—the liver was remarkably prominent and large; upon cutting into its substance, it was observed to be pale and exsanguine, but its structure was natural. The stomach was healthy. The spleen appeared to have been the seat of disease; it was

found adhering to the stomach, diaphragm, and liver. An effusion of lymph had been deposited recently between those viscera, as the adhesions were easily separated. A section of the spleen exhibited a breaking down of its structure; it was, in fact, converted into an abscess. A considerable quantity of coagulable lymph, in detached portions, was scattered over the surface of the intestines. The head was next examined: the vessels of the dura mater were distended with blood, and its removal exposed several patches of blood upon the surface of the brain: a considerable quantity of the effused blood had penetrated deeply between the convolutions. In the lateral ventricles two ounces of serum were found.

II.—*Thoughts on the Use of Emetics in the Suppression and Cure of Hemorrhage* *. By N. Chapman, M.D.

Conformably to its etymology, the term hemorrhage would embrace every effusion of blood, in whatever way induced. By the older writers, five modes were assigned in which it might take place: by rhexis or rupture—by diaresis or division—by diabrosis or erosion—by diapedesis or transudation, and by anastomosis or dilatation of the mouths of the exhalents.

An arrangement founded, in part, on these several modes of its production, was early made of hemorrhage, in which it was divided into traumatic and symptomatic, as occasioned directly by an actual lesion of vessels from acts of violence, or indirectly, by erosion from the acrimony of certain fluids —and, into idiopathic, when occurring spontaneously. The former, as appertaining to the province of surgery, will claim no share of attention in the present inquiry.

Generally, we are most liable to spontaneous hemorrhage, the exclusive subject of my remarks, about the season of puberty, when growth ceasing, there is a redundancy of blood. But inasmuch as in the progress to maturity, the several parts of the body are unequally developed, some exceptions exist to this rule.

Early in life, as we have hitherto been taught to believe, it proceeds from the arteries, and subsequently from the veins—plethora being at this transferred to the latter vessels, though this is not a universal law. It has, on the contrary, been commonly maintained, that in every stage of existence, it is mostly venous when coming from the hepatic, splenitic,

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* American Journal of the Medical Sciences.

gastro-enteritic or hemorrhoidal vessels, while that of the nose, the uterus, and lungs, is found, as uniformly, to issue from the arteries. Excepting melæna, and even this can scarcely be considered as an exception, since the portal circulation is not strictly venous, it seems to me highly probable, that all other genuine hemorrhages are of an arterial nature.

The causes of spontaneous hemorrhage are numerous. It has already been hinted, that one of these is intimately dependent on the change in the balance of the circulation at the period of maturity. But such bleedings are also occasioned by local irregularities in the circulation, arising out of some peculiarity in conformation or structure, by which blood is determined unduly, or with an increased energy to parts. Thus, the short neck and large head, predispose to epistaxis or apoplexy—while the narrow and ill-shaped chest equally invite to hæmoptysis. Certain persons, also, are singularly lible to the disease, and from different portions of the body, in whom nothing is to be discerned in the exterior configuration, to afford an explanation. It is indeed by no means uncommon for whole families to be thus distinguished. There is here, I suspect, an unusual tenuity and want of strength in the coats of the extreme vessels, or some anomaly in their arrangement, by which their capacity to resist the occasional momentum in the movements of the blood. Cases of this sort are more frequently to be met with in scrofulous habits, where laxity in the structure of the vessels generally exists.

To these causes, resulting from constitutional peculiarities, may be added others, of a nature accidental, accessary or exciting. We may enumerate among the latter, whatever is calculated to invigorating or quicken the circulation, or to direct or concentrate its force in any one part or organ of the body, the most prominent of which are:—

1st. External heat.—Its operation is witnessed on the first accession of the warmth of spring, or during the intense heat of summer, and most conspicuously in persons who carry on their occupations in close stove rooms, or work immediately over fires. It acts here, in the first place, merely as a stimulant, accelerating the circulation—and, secondly, by relaxing the integuments, which support the vessels.

2d. Cold to the surface is sometimes productive of hemorrhage. The mode of its action is very intelligible, and is different under opposite circumstances. Being suddenly applied, as in the shower or plunging bath, a vast shock is given to the system, and a correspondent impetus is given to the circulation, with a centripetal direction. But where the

application is gradual, there is an accumulation of susceptibility, and a reaction with febrile excitement, on an exposure to heat or any other stimulant.

3d. Diminution in the weight or density of the atmosphere also induces hemorrhage. It is illustrated chiefly in the ascent of elevated positions, and has been imputed merely to inordinate exertion. We are, however, told by De Saussure, who went to the top of Mont Blanc, the highest point of the Alps, that in a state of rest, among other effects which he experienced from the rare atmosphere, the blood gushed from his nose, ears, and gums—and which is fully corroborated by Baron Humboldt, by whom the mountains of South America were ascended to their utmost pinnacle.

The preceding may be considered as causes occasionally predisposing to, or exciting hemorrhage. But it is moreover produced by violent exertion—as by running, leaping, fighting, lifting heavy weights—or by eating or drinking in excess, or by vehement gusts of passion, or ardent venereal desires kept from indulgence, or suppression of other discharges, or by bent positions of the head or body, or by ligatures interrupting the regular return of the blood. Caused, however, in some of these modes, the case would not come within the definition of spontaneous hemorrhage, which, as I have previously stated, must be independent of any immediate external violence.

But hemorrhage may be of a secondary nature, dependent on interruption of the circulation from obstruction or other morbid conditions of remote organs, or consequential on similar states of the part itself from which it proceeds. Connected with the subject, it is also to be observed, that hemorrhage is very prone to metastasis, or shifting of position, occasioned either by the sudden suppression of other discharges, naturally, or by artificial interference, or by the course of blood being invited to a different part, from a higher degree of irritation creating a predisposition to such an afflux. Thus, among other instances, on checking the nasal, uterine, and particularly the hemorrhoidal effusion, hæmoptysis, hæmatemesis, or apoplexy has speedily followed.

Concerning the pathology of sponteneous hemorrhage, it seems now to be generally admitted, that it is owing to anastomosis, no satisfactory evidence existing of transudation taking place in the living state, the only other hypothesis on which it can be explained. This view of the subject has been very ably sustained by the celebrated Bichat, whose arguments I shall cite from his work. He observes,

1. 'That in no instance, where he has opened the bodies of

those who have died of hemorrhage, has he discovered any traces of rupture, though he employed the nicest care in washing and macerating the surfaces, and examining them with a microscope.

2. 'That in squeezing the mucous surface of the uterus in women who have died during menstruation, a number of small drops of blood may be pressed out, which manifestly correspond to the extremities of exhalent vessels.

3. 'That hemorrhages sometimes take place from surfaces, as the skin, where the blood indubitably comes from the exhalent vessels—and which renders it probable, that the same is the case with the mucous membranes.

4. 'That if rupture always preceded hemorrhage, the internal surface of the womb would be a mere collection of cicatrices, as we must suppose one or more ruptures to occur at every monthly period of the catamenia.

5. 'That if in active hemorrhages, where there is evidently a previous congestion of blood, we should admit the possibility of a rupture, how can we suppose it to take place in passive hemorrhage, where the powers of the vessels, almost destroyed by disease, permit the blood to pass freely from their orifices?

6. 'That it is difficult to reconcile many of the phenomena of hemorrhage—such as the extreme rapidity with which it is sometimes produced—its appearance in another part, when it has disappeared from that in which it previously existed, and its subjection to the influence of sympathy—with the supposition that it is produced by rupture.

7. 'The irregularity of the appearance of the blood in some hemorrhages—its copious flow in one instant, and its complete cessation the next—and so alternately many times in the course of a short period—are difficult to be accounted for, on the principle of rupture; for we must suppose the wounds to be opened and closed again at every alternation of the discharge.

8. 'Comparing hemorrhages allowedly proceeding from rupture, with others, they do not resemble them either in their phenomena or duration. Their cessation does not give rise to others: they are independent of all influence from sympathy—and the passions (which have a considerable effect on the common kinds) have none on these.'

Nor is the manner in which such effusions from the extreme vessels occur, at all difficult, in my opinion, conceive or explain. In a natural state, these vessels exercise the office of secreting, and throwing out a mucous, serous, or some more attenuated fluid. Becoming diseased, however, this capacity is sometimes utterly lost, and blood which enters them passes through unaltered, As an illustration of this position, the case of menorrhagia is exceedingly striking. In health, the uterine vessels, by a secretory action, converts the blood into a peculiar fluid, denominated menses. Disordered, however, they are deprived of this faculty, and pure blood escapes, constituting a real hemorrhage. The

hypothesis, under review, is further rendered probable by the circumstance of the blood, in some cases, being partially changed, a sufficiency of it only remaining, to colour the mucus or other secreted fluid. We meet with such appearances in hæmoptysis, and still more frequently in dysentery. The evacuations in this disease, which exhibit every variation from pure mucus to nearly pure blood, surely can only be accounted for on such a supposition. To be more explicit, these various aspects of the stools are owing either to gradations of diseased action in the vessels of the same portion of the intestine, or while one part may be elaborating mucus, another is effusing blood, which, mixed together, presents the complicated character described. Do we not discover nearly the same phenomenon in inflammation, where the vessels of the pellucid tissues are so changed as to admit partially or entirely red blood? The fact, indeed, supplies no slender proof of the intimate connection between the two conditions of hemorrhage and phlogosis. In each case, some change, apparently similar, is affected in the vessels, deviating from that of health, inducing, in the first place, a flow of blood to the part. Examined at this time, we shall have, in both instances, proof of irritation and congestion—in the former, however, relief is promptly afforded by an escape of blood, while in the latter, unless resolution takes place, by a tedious operation in which serum is extravasated, or by some of the still more lingering terminations of inflamuation. Why we have the one or the other result, is referable to some slight difference in the state of the vessels at the moment, not easily appreciable, and perhaps unsusceptible of a clear explication.

Hemorrhage from accidents usually occurs in a sound part, and if the injury be slight, without contusion or laceration, it seldom entails any permanent mischief, But in spontaneous effusions of blood, the vessels having been previously confirmed in wrong action, should not the loss of blood be adequate to the subversion of that action, inflammation arises, which runs through its ordinary course to its final eventuations. Examples to this purport we have in hæmoptysis. The lungs are exceedingly liable to hemorrhage, and which is usually announced by a group of precursory symptoms, too often succeeded by active phlogosis, suppuration, and ultimately inveterate consumption.

As I would wish it to be understood, the doctrine which I have endeavoured to expound supposes, that spontaneous hemorrhage is an effusion from the exhalents of some of the elementary tissues, and not at all occasioned by rupture of the large vessels entering into the substance of the organs.

Even in those cases where clots of blood are met with in the latter situations, they are owing to the same sort of exhalation. Hemorrhage may occur in the cellular and dermoid, and also in the serous membranes, the pleura, the pericardium, the peritoneum, and arachmoides, &c.—extravasated blood having been found in their respective cavities. But it is in the mucous tissue, in all its distributions, though especially in the lining of the alimentary and pulmonary passages, that it most commonly takes place, and which may be explained as well by the greater vasccularity of this tissue, as by its freer exposure to morbid agencies, Every one of the more common cases of hemorrhage, as epistaxis, hæmoptysis, hæmatemesis, and the uterine in the unimpregnated state of the organ, belong to this tissue, and are thus induced.

Most writers have considered spontaneous hemorrhage as either active or passive. The first variety is very often unequivocally an inflammatory affection. It is preceded by sensatious of local fulness and uneasiness, amounting, in some instances, to positive pain, attended by more or less of the febrile condition, and which view is confirmed by the sizy aspect of the blood that may be drawn. The febrile movement sometimes observes the law of periodicity. Epistaxis is an ordinary concomitant on the hot stage of intermittents, genuine and spurious ceasing with its subsidence—and cases are recorded of every variety of hemorrhage, which reverted with fever at stated periods, weekly, monthly, or at more distant intervals.

But hemorrhage is also of common occurrence, connected with constitutional debility, without any general increase of vascular excitement, and to which the appellative designation of passive is applied. Even here, however, we may mostly detect some local action or disturbance of function. Much idle discussion has been of late maintained, on the pathological distinction in hemorrhage to which I have alluded. Consulting what has been said on this point, it will be perceived, that it is really a dispute of definition, the parties attaching different meanings to the terms employed. The term passive was adopted, conveniently, to signify not an absolute want of action, as it strictly imports, but a weaker state, in contradistinction to that activity which belongs to febrile hemorrhage, and in this sense is not altogether inappropriate, and should be retained till a better is suggested, as practically useful.

Conceding so much, or that topical irritation and congestion may exist with general vaseular weakness, and this is all which, perhaps, will be demanded, I must still insist that

extravasations of blood do take place, though scarcely to be considered as genuine hemorrhage, from the feebleness of vital power, of which we have proofs at the close of malignant fevers, and other diseases of exhaustion. As after death where we often meet with large livid patches on the surface, from sanguinary exudations, as well as collections of blood within the cavities, which, as regards the former, there is a certainty they did not pre-exist, so does it happen in the last expiring efforts of life, under the circumstances above stated. Nearly, in the same way, have we serous effusions constituting œdema or more general hydropic disease, in the most opposite conditions of system, either as the result of a highly excited or enfeebled state, in the latter, from a mere leakage of the exhalents. It does, indeed, sometimes happen, that this tendency to sanguineous extravasations pervades the entire exhalent system, blood escaping most profusely from every tissue. In this fact we are furnished with a conspicuous illustration of the analogy between hemorrhage and dropsy, once urgently alleged, then abandoned, and recently again, and, as I think, properly revived.

In approaching the practical part of my subject, I am met at the very threshold by the qustion, whether it is expedient in any case of hemorrhage to interfere, or whether, at all times, it should not be left to the uncontrolled efforts of nature?

It was a doctrine originally advanced by Stahl, in which he was followed by his disciples, and some later authorities, that these discharges are designed to remove a dangerous repletion of system, which being sufficiently effected, they spontaneously cease. That such a view, with certain limitations, is correct, cannot be denied. Most hemorrhages are undoubtedly salutary in their tendencies, and it is also true, that the sudden checking of the hemorrhoidal flux is dangerous, where there is a disposition to any cerebral affection —and equally do these remarks apply to the bleedings from the nostrils in the same cases, as well as in fever and many other acute diseases. Nor can it be denied, that the flow of blood is often duly suppressed by the natural resources. But admitting this, it will still appear that we cannot uniformly confide to nature the charge of these cases. Generally wise and efficient in her endeavours, she is sometimes very much the reverse, and we are constrained, in order to prevent evil, to counteract her, by taking the management out of her hands. As an example, she frequently neglects, or is not able to give to these discharges a proper direction, and instead of blood issuing from the pituitary or rectal vessels, it is poured into some cavity, from which it cannot escape or

be removed. As much is her blindness or incompetency evinced in allowing a wasteful expenditure of blood, in enfeebled states particularly, productive of alarming exhaustinn, and where the hemorrhage is profuse, she cannot always, by syncope, or by any other means, afford relief. These then are the circumstances which demand the interposition of art, and without which, indeed, in numerous instances, the event must be inevitably fatal.

It may be useful, as preliminary to my remarks on the use of emetics in hemorrhage, to advert to those principles on which the treatment of the disease is generally conducted.

The leading indication in all profuse cases, is to suppress the flow of blood, and when they are active and febrile, it is done—

1st. By reducing the quantity of the circulating fluids, by direct evacuations, especially by bleeding, general and topical.

2d. By subduing the force of vascular action, by what are termed *refrigerants*, which may be external or internal, the one consisting of cold applications, and the other of a set of medicines so called, as nitre, &c.

3d. By the sedative articles, or such as are presumed to abate the energies of the moving powers of the circulation, without any depletion, as digitalis, &c.

4th. By constringing the mouths of the vessels. Whether there be a medicine with such a property, is to me exceedingly problematical, and perhaps does not exist. It is supposed, however, that we are in possession of many, as certain preparations of lead, of copper, of zinc, of alum, and the mineral acids, besides several from the vegetable kingdom. Directly applied to the vessels, some of these are styptics, But acting through the medium of the stomach, they probably have no such effect.

5th. Causing a revulsion in the circulating fluids, from the affected part to one less interesting to the animal economy, is another principle in the cure of hemorrhages, which occasionally succeeds, where the means are judiciously selected and well-timed. It is customary to resort to stimulating pediluvia, or embrocations of the same character, or sinapisms, or blisters to the extremities, with this view. Yet these are often equivocal remedies, and, in point of efficacy, cannot at all compare with leeching or cupping, and vesication, applied as nearly as possible to the seat of the mischief.

To prevent the recurrence of the hemorrhage, by removing the causes which dispose to its productions, is the second indication.

In the active shape of the disease, it is obvious that the most effectual measure will consist in such diet, as is the least calculated to fill the vessels with blood, or excite their movements. Every thing else, indeed, will be only palliative, and cannot be employed for any length of time without injury. Yet, when this alone does not prove adequate, we must recur to the evacuant means.

As relates to passive hemorrhage, in the ordinary acceptation of the term, the same objects are to be attained. It is to be recollected, that though here general debility may exist, there is topical congestion or phlogosis to be relieved by essentially similar means, as in the other form of the disease, graduated to the state of the case. The prophylactic course, however, is sometimes different.

Great debility existing, we endeavour to invigorate the system, and equalize the circulation by the well-regulated use of tonics, and by a course of living co-operating to the same end, without, however, it having any heating or stimulating tendency. Even in these cases, local irritations or congestions must be watched, and timely removed, by topical means more especially.

Not a little is to be expected from exercise, as an auxiliary to diet, in the prevention of each state of hemorrhage. It has eminently the power of promoting the secretions and excretions, of renovating healthy action, and especially of re establishing a just equilibrium in the circulation, thereby obviating those engorgements, or local accumulations, which prove the proximate cause of the effusion.

In the management of hemorrhage, however, too much importance is usually attached to the suppression of the flow of blood. When copious, great alarm is created in the individual himself, as well as in his friends, and from which the medical attendant is not always entirely exempt. Every exertion is therefore made to check it, and this being accomplished, the anxiety which previously existed heedlessly subsides. Thus lulled into false security, the patient reverts, after a time, to his former habits, without any permanent plan of treatment, till again awakened to a sense of danger by a repetition of an attack, and in this way he proceeds, till the complaint is often irremediably fixed. Now, the hemorrhage in itself is comparatively of little moment—for the most part, indeed, beneficial, and the real object of attention should be the correction of the morbid condition giving rise to it, and which, by neglect, in numerous instances, leads to the most disastrous consequences.

In contending for the utility of emetics in spontaneous hemorrhage, I do not mean to insist on their employment to

the exclusion of other remedies, or that they are adapted to all cases. Much nicety of discrimination, on the contrary, is sometimes required in the direction of them, and there are states of the disease to which they are utterly inapplicable. Thus, I should consider them as inappropriate, whenever high vascular excitement, or considerable topical affection, congestive or inflammatory, exists. These are states calling for direct depletion, by venesection or topical bleeding, and their immediate auxiliaries, as antecedent remedies. My experience with emetics is chiefly confined to passive hemorrhage, though I have occasionally tried them, and not unavailingly, in the reduced states of the other form of the disease. Their *modus operandi*, under the circumstances stated, seems not obscure, and the practice may be vindicated *à priori*, or independently of any evidence of facts in support of the deductions of reasoning.

It has been shown, that in hemorrhage there is a want of equilibrium in the circulation, occasioning irregular determinations of blood—some one organ being surcharged at the expence of other portions of the system. The impression of the emetic, in conformity with an old aphorism, "*ubi stimulus, ibi affluxus,*" probably invites, primarily, a current to the stomach as a centre of fluxion, and thereby immediately tends to exonerate the previously affected organ from its oppressive congestion—and, secondarily, by filling the cutaneous vessels especially, redistributes the blood. and hence restores that just balance which had been subverted. Effects like these, from puking, are very observable in the congestive forms of fever, and other acute diseases. In our late typhoid epidemics, both of the winter and summer, how effectual this process proved in relieving engorgements of the great viscera, is snfficiently known. Many were the instances which I saw myself of its extraordinary success, where the liver, or the spleen, or the lungs, even the brain, was unduly loaded.

But more than I have indicated, is to be ascribed to emetics in restraining hemorrhage. Nausea itself represses the force of the circulation, and in some cases must be useful—though it is to their controlling influence over the whole of the capillaries, changing that condition which admits of sanguineous exhalation, that their efficacy is mainly owing. Exactly as colliquative perspiration, watery diarrhœa, and hydropic effusion are sometimes arrested by vomiting, so does it operate in hemorrhage. The exhalents in all these cases, under certain circumstances, become morbidly relaxed, and a serous or sanguineous discharge ensues, according to the peculiar modification of condition which may exist at the time.

Nor is the use of emetics to be limited merely to restraining the flow of blood. By their revolutionary power, much advantage, when occasionally repeated, may be derived from them, in breaking up those habits and associations which continue the predisposition, and also in the removal of absolute disease, by which hemorrhage is maintained.

It did not, moreover, escape my recollection, in speculating on this subject, that doubting, as most practitioners do, the propriety of vomiting, nauseating doses of emetics, are highly approved in every variety of hemorrhage, as well to repress the flow, as to obviate its return, and it seemed to me, *a fortiori*, that the former mode of exhibition ought to be more effectual.

It now remains only to detail some of the results of my experience, in confirmation of the efficacy of the practice which has been suggested, to be illustrated by a few examples.

In 1807, I attended a young man of consumptive tendencies, who, for several months, had suffered from hæmoptysis, and was treated by digitalis. Being suddenly attacked with an alarming effusion of blood, he took, before my arrival, an exorbitant dose of the medicine, which exhited vomiting, and from that moment the hemorrhage ceased—he became convalescent, and ultimately recovered. Effects so decided, I did not, however, impute simply to the act of puking. As often happens, from the operation of digitalis, an extremely distressing nausea continued for several days, and to which, it is more likely, the permanent benefits were owing. Encouraged by this case, and perhaps, in some degree, influenced by my pathological views, I have since pursued the practice to a considerable extent, and with unequivocal advantage. The emetic, however, which I have, on the whole, preferred, is ipecacuanha, though sometimes the tartarized antimony was employed, against which, when cautiously prescribed, I can discern no solid objection. It will be well, in most instances, and especially where there is any increased vigour of the circulation, to follow up the impression of the emetic by nauseating doses of the same article for some length of time, so as to guard against relapses—and should such be suspected, from any premonitory symptoms, to anticipate the crisis, by a recurrence to vomiting.

This is no new practice in hæmoptysis. As early as the middle of the last century, emetics were strenuously recommended in the disease by Dr. Bryan Robinson, of Dublin, whose publication on the subject attracted great attention. To his evidence in favour of them might be added the attestations of several other respectable writers. Cullen, however, having tried the practice unhappily in a single case,

did much towards its condemnation from the great weight of his authority, as few traces are to be met of it subsequently in our medical records. Yet, though neglected, it was not entirely abandoned. We learn from an authentic source, that the late Dr. Willis, so celebrated for his skill in the treatment of mania, and especially for the cure of the King of England, resorted to it freely in hæmoptysis, and declared that a very lengthened experience had taught him to confide in it above all other means, as well as on account of its safety as efficacy.

Collateral support is also given to it from the alleged utility of emetics in pulmonary consumption. It has even been proposed to resort to them every two or three mornings for a succession of weeks, under the idea that the effects of a sea voyage might in part be attained. Commenced by Maryatt, this practice has since received particularly the approbation of Simmons and Thomas, of England, and Senter, of our own country—besides that of some highly respectable physicians of my acquaintance, who have withheld their testimony from the public. It has indeed been maintained by one of the writers on the subject, that emetics in these cases "by their wide and general operation, subdue vascular action, remove cutaneous constriction, promote absorption from the lungs, facilitate expectoration, lessen dyspnœa, allay cough, and check the sanguineous discharge, calm the system by equalising excitement, and re-establish that equality in the circulation on which the restoration and maintenance of health so materially depend." Even admitting that such language is dictated by an ardent enthusiasm, it must still be confessed that it is warrantable to a considerable extent, and leads to the conclusion that this remedy has been too little employed in phthisical affections, whether attended by hemorrhage or otherwise.

Efficacious, however, as emetics may be in hæmoptysis, they are not less so in hæmatemesis. This, according to the strict definition of the term, is a vomiting of blood, supposed to come from the vessels of the stomach. But since similar discharges may proceed from the intestines, the liver or spleen, and ejected by puking, the whole are comprehended under the same head by some of the modern writers. It is often indeed not easy, from the obscurity of the diagnosis, to make any satisfactory discrimination. But in the properly gastric cases, it will generally be found that a dyspeptic condition has previously prevailed. The precursory symptoms are anorexia, furred tongue in the centre, with florid edges—cardialgia, flatulence, sour fœtid eructations, oppression after eating, tenderness of the epigastrium, con-

stipated bowels, dry skin, either pale or sallow, depression of spirits, a weak, or corded and irritated pulse, and muscular weakness. An attack is mostly ushered in by a sense of tension of the stomach, and of burning or pricking in it—nausea—anxiety and straitness of the præcordia, with a disposition to syncope, attended by coldness of the surface, and with a still feebler pulse, and increased debiliity.

Consulted in time, the hemorrhage may be commonly prevented by topical bleeding, and an epispastic over the stomach, gentle laxatives, and abstinence. But where it already exists, and is profuse, which it is very apt to be, an emetic is the means entitled to the greatest confidence. Nor should we be deterred from its use by the appearance of exhaustion. It is a state to be expected, and so far as I have seen, the recuperative energies are uniformly revived by the operation of the remedy. I shall select two cases out of a number in my possession, to exemplify the safety and utility of the practice.

In 1818, I had under my care a girl of eighteen years of age, of a leucophlegmatic temperament, exceedingly distressed by the train of dyspeptic symptoms already enumerated, who, while under the common treatment for such affections, was in the night attacked with a vomiting of blood. On my visiting her, I learnt that in less than an hour she had thrown up about three pints, and the hemorrhage continued after I saw her till nearly one pint more was discharged. The usual astringent remedies were unavailingly tried, and as the exhaustion had become so extreme as to menace speedy dissolution, I resolved on the use of an emetic, encouraged by my experience of its success in some former cases of less violence, and ipecacuanha was accordingly exhibited very freely. In about twenty minutes she ejected a large quantity of dark grumous blood, soon after became composed, her pulse rose, the skin resumed its warmth, and before morning I left her doing well in every respect. No return of the hemorrhage took place on this occasion, and in a few weeks she went into the country, where I understand she completely recovered.

Two years ago, I was consulted by a lady, past the meridian of life, who informed me, that from the cessation of her menses, which had happened some six months previously, she had been much afflicted by head-ache, burning sensations in the stomach, præcordial uneasiness, tension and timidity of the epigastrium, nausea, and periodical vomitings of small portions of blood.

Her appearance at this time was altogether cachectic, and, on the investigation of the case, I was confirmed in the sus-

picion which I at once adopted, that, if not arrested, it must inevitably lead to a serious attack of hæmatemesis. But she was prepared to take a short journey, and confiding more in exercise and fresh air than in my prescriptions, it was agreed that they should be postponed till her return to the city. In about ten days afterwards my prediction was verified, for, in the act of getting out of a carriage, she was seized with a copious vomiting of blood, repeated at short intervals, till the whole amounted to several pints. Her pulse being active, the skin tolerably warm, and some sensibility of the epigastrium existing, the treatment was commenced by leeches, followed by cold applications over the stomach, and small portions of acidulated drinks. No advantage, however, resulted from these measures, and debility becoming alarming, she at length consented to take an emetic, which evacuated some considerable masses of blood, and for several hours she was greatly relieved. But the vomiting again recurred, and I had to repeat the emetic, which proved very effectual. Convalescence henceforward took place, and by a properly regulated regimen chiefly, her health was pretty well re-established.

Not much is to be found of this practice in hæmatemesis. Excepting indeed, some cases very analogous in character to those I have related, and which were contained in a late volume of the Dublin College of Physicians, successfully treated in precisely the same way by Dr. Sheridan, I have been unable to discover any notices of it.

As to the use of emetics in uterine hæmorrhage, I have not much to say. Elsewhere I have endeavoured to show, that the catamenia, instead of blood, as was formerly imagined, are a peculiar fluid, resulting from a genuine secretory action of the uterus. Nor is it true, that all periodical discharges from that organ are catamenial. Every case, indeed, of very profuse discharge which has come under my observation, consisted of pure coagulable blood. Menorrhagia, or inordinate menstruation, I believe, is of rare occurrence, and may be securely entrusted to nature. It is those effusions so liable to take place, when the uterus is no longer capable of performing its secretory office, as previously explained, and which sometimes recur with such regularity as to be confounded with menstruation, that call for artificial assistance, and will claim my attention. They of course belong to the unimpregnated state of the organ. In some instances, these hemorrhages are immediately dangerous, nearly always most seriously detrimental to health, and often prove intractable to the customary mode of treatment. Embarrased by a case of the kind, which had re-

sisted the best efforts of some other practitioners, I deter- to venture on an experiment with emetics. To this conclusion I was led by the reflection, that there is no peculiarity in uterine hemorrhage, not reconcileable to the common principle on which I had conducted the cure of other forms of the disease. It struck me, that by the revulsion of vomiting, distinct from the secondary effects of the process, the flow of blood might be checked, and that in the interval of its recurrences, by occasional repetitions of the remedy, the uterus might be reinstated in its secretory functions. Emetics, I was also aware, are among the most active and certain of the emenagogues, by which I mean a remedial power to arouse the energies, or otherwise to reinvest the uterus with the faculty of secretion when suspended or perverted. I had seen their salutary agency in this respect, as well in amenorrhœa as fluor albus, and indulged the hope, that, if in these cases, they could revive a natural action or rectify a depraved one, so might they be serviceable in the same way in hemorrhage.

The case to which I have referred, occurred at the close of the last autumn. It was that of a lady in the prime of life, from a distant part of the country, who came to consult me. Her appearance was sickly, and she told me that from her marriage, a year and a half before, she had been subject to hemorrhage, at first inconsiderable and monthly, progressively, however, increasing in quantity, and renewed at shorter intervals, till it had become so copious, on some occasions, as to endanger her existence. This distressing situation was greatly aggravated by her sterility.

As the ordinary routine of remedies had been ineffectually exhausted, I suggested a trial of a course of treatment, in conformity to the views I have just presented. With this advice she returned home, promising strictly to adhere to it. Two months ago I received a letter from her, in which she informs me, that on her journey, she had a comparatively slight hemorrhage, though, under an apprehension of its increasing, recourse was had to an emetic, which promply suppressed it: that by this favourable result, fresh confidence was inspired in the proposed practice, and she had accordingly taken six emetics at the interval of eight days each, when regular menstruation returning, all solicitude ceased, and more especially as her general health had sensibly improved.

How far emetics are proper in epistaxis, I am not able to determine from any experience. Governed, however, by the authority of Stoll, by whom they are recommended, as well as by analogy, I should be led, in certain cases, to resort

to them. Epistaxis, though usually checked with ease, does sometimes prove otherwise, and even terminates fatally, of which I have known two instances in this city, and many others are recorded. No hemorrhage is indeed occasionally more profuse, or in which such large quantities of blood are lost when it presents such a formidable aspect, much might probably be gained by vomiting, and especially as such an occurrence is usually in the atonic state of the disease.

In hæmaturia, the propriety of the practice is sanctioned by use, and I cannot see why it may not be appropriate to inward hemorrhoidal effusion, sometimes so exhausting and difficult of restraint. To hemorrhage, either of the cutaneous or cellular tissue, I know it is well adapted. But I cannot at present be permitted to occupy more space with details. The subject may hereafter be resumed.

I shall close these desultory remarks on hemorrhage with a case, which is well calculated to illustrate both the pathology and practice which I have attempted to support.

In consultation with my friend, Dr. Dewees, I was requested, in the winter of 1824, to visit a young man, apparently in other respects in good health, with bleeding from the gums to be traced to no assignable cause, which had continued for three days, averaging each day about three pints. On inspection, neither sponginess, nor other affection of the gums,seemed to exist. The teeth were also sound. But on wiping the gums with a cloth, the blood was perceived oozing, as it were, from innumerable pores, so that in a few minutes the mouth would fill with blood. Every plausible means of relief, general and topical, having been antecedently directed without success, an emetic was administered, and, on its operation, the hemorrhage ceased. Subsequently it partially returned, and by a repetition of this remedy, it was again suppressed, and we had no further trouble with the case.

III.—*Atherstone Self-Supporting Dispensary.*

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

GENTLEMEN—In your Journal for March, 1826, you noticed the attempt to establish a dispensary upon the principle of SUPPORTING ITSELF. This object was, it will be remembered, to be effected by individuals, wishing medical or surgical advice from the dispensary, paying a certain small sum by way of subscription, which sum *entitles* them to the best advice that the dispensary can afford. This plan, most

will be aware, though so consonant to the independent feelings of Englishmen, and still more so to the noble and disinterested feeling existing among the enlightened members of the medical profession, met with much opposition, partly from its novelty, and partly from its striking at the root of the, in many cases, iniquitous system of *farming the parishes*.

The attempt has, however, been made. The most sanguine expectations are justified from the present success; and Atherstone will rank high, at some future day, as having exhibited such a glorious example. At a general meeting, held at the Town-hall, Atherstone, January 2d, 1829, the following resolutions were agreed to, which, as they embody some of the benefits arising from such an institution, I shall take the liberty to quote them:—

'I. That district dispensaries will aid the *able and willing* among the labouring classes to maintain themselves in honest independence.

'II. That they will check mistaken charity, and point out those persons most worthy of assistance.

'III. That they will save many from becoming paupers, and render unnecessary the removal of paupers to their parishes, in very many instances, thereby preventing great misery and expense.

'IV. That they will have a great moral influence in impressing on their members the value of good character, the importance of systematic and periodical savings, and the honour of independence.

'V. That they will alleviate the distresses of paupers, and diminish the expense they occasion to the parochial funds.'

Every one who reflects must agree with these resolutions.

And now, gentlemen, with respect to the *good done*, and the *expense* at which this good has been effected. It seems that 765 cases have received advice and medicines, and that of these 589 are cured.

This is a benefit of itself; but what is more, some, the most needy, have been supplied with linen, and with good and nutritious articles of diet: and all this has been done, and there is a balance of £80 11*s*. 3½*d*. in favour of the dispensary, which sum the committee divided among the medical gentlemen of the dispensary; adding, "We conceive it less derogatory to the feelings of the profession to receive a certain gross sum, rather than to send bills individually to this class of persons, and drive them eventually either to quackery or parish relief."

Such is a brief statement of the experiment in reference to a self-supported dispensary—an experiment from which the most pleasing hopes may be entertained—an experiment testifying to the fact, the delightful fact, that the indepen-

dent feeling of our country-people is not yet destroyed by that curse upon our country, the poor-rates *.

AMICUS.

March 3, 1829.

IV.—*On the Effects of Calomel in producing Slimy Stools in Children.*

IT has often appeared to me that calomel is administered without much attention being paid to its effects, in the diseases of children. I am acquainted with some practitioners who rely almost wholly upon this remedy in most affections to which young children are liable. This practice appears highly objectionable, and likely to lead, in some cases, to fatal results. I shall state simply the effects which I have observed calomel produce on the alvine excretions, when administered in repeated doses, either alone, or in combination with jalap, scammony, or other cathartic medicines.

Children, until they arrive at the age of six or seven years, are very subject to attacks of disorder of the bowels, attended with green and slimy stools, and symptoms of general febrile affection. With the exception of the eruptive diseases, croup, and a few more inflammatory affections, green and slimy stools, accompanied with symptoms of general fever, may be said to form the most common characters of the diseases affecting children at this age. The colour and consistence of the alvine excretions, in these cases, are generally supposed to depend upon a superabundance of bile, or upon some morbid change in the quality of that fluid, and calomel is given with the view of correcting the action of the liver. Allowing, for the sake of argument, that the bile is secreted in too great a quantity, it does not appear to me that the principle upon which calomel is administered, with the view of changing the morbid excretions, is well founded. If it be, the principle upon which mercury is given when the bile is deficient, must be incorrect, for the same medicine

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* It is to be hoped that this example will be followed. We rejoice exceedingly at the result which is here presented; and we would ever be forward in endeavouring to impress on the minds of the public, that charity does not consist in giving away money, but in the application of our powers, whether of knowledge, of influence, or of wealth, in the ways best suited to do with the same the greatest possible good. We must, in other words, as the Bishop of St. David's observes, reduce "BENEVOLENCE TO A SCIENCE." Before concluding, we cannot help presenting the fact to the minds of our readers, that Mr. Smith, of Southam, by his work in reference to the subject before us, first gave that impulse which has ended in the establishment of the dispensary noticed. We feel proud that a work of such goodness was first commenced by one of our medical brethren. His own feelings will abundantly reward him.—EDITORS.

cannot be supposed to produce effects so opposite. When the stools are of a clay colour, which is supposed to be owing to the secretion of bile being deficient, a few doses of mercury, in the shape of blue-pill or calomel, will generally change them to a colour approaching the natural. This is a proof that mercury tends to increase the secretion of bile; but this being the case, upon what principle is it administered when the secretion is already too great?

I do not, however, believe, that the bile has much to do, in general, in producing the green and slimy stools in children. I have examined many bodies in which the lower part of the intestinal canal was found to contain a great quantity of green, slimy matter, but where its contents were of the natural colour towards the upper part, I have also noticed the colour of the bile in the gall-bladder natural in bodies where the contents of the bowels were perfectly unhealthy in appearance. There does not, therefore, appear to be sufficient reason for attributing the green or dirty colour of the stools, observed almost invariably in the diseases of children, to a morbid alteration of the bile, or to a superabundance of it. If the bile were secreted in too great a quantity only, the stools ought to be of a darker yellow than usual, and not green.

But what I am desirous of shewing is, that calomel is generally inadequate to convert the green stools of children to their natural colour. I have almost always found that, when calomel purges are given, the excretions continue of an unhealthy colour and consistence as long as the mercury is persisted in. I do not mean to say that this will always occur; but in the majority of cases it will be found that the stools become even more slimy than before, and, in some instances, they will present a greenish, flocculated appearance. I have witnessed these appearances kept up for several days, under the repeated use of the medicine.

Calomel purges are commonly given with the view of clearing out these morbid excretions, and these are repeated daily, or sometimes oftener, under the supposition that, as long as any portion of the green substance remains behind, irritation of the bowels will be kept up, and a return to health prevented. This is an erroneous view, and I feel satisfied that the intestinal irritation, as well as the unhealthy appearance of the alvine excretions, is often kept up by such a practice; and that it sometimes leads to serious consequences, by increasing the general fever, and by producing so much nervous irritation as to bring on convulsions in some instances.

Is there any criterion by which the practitioner may judge

when to stop? or ought the use of calomel to be dispensed with altogether in the common gastric complaints of children? I should say that, upon the whole, more harm than good results from the practice of giving mercury to young children, in simple gastric affections. I admit that, in acute inflammation, this remedy is the most valuable we possess, and that, in such cases, its effects on the bowels ought to be, in some measure, disregarded, as a more important disease requires to be subdued. But these are affections very different frem those accidental attacks of general fever and disorder of the bowels, to which children otherwise healthy are subject.

By attending to the state of the alvine excretions, the practitioner may determine, in most instances, when the further use of mercury is likely to prove hurtful. I have much doubt whether, in cases such as I have mentioned, calomel purges have any superiority over other aperients. It may be asked, what is to be expected from this medicine more than from scammony, jalap, or rhubarh, when only a purge is required? But admitting that the intestines are more effectually cleared out when a few grains of calomel are combined with another aperient remedy, it appears to me quite unnecessary to repeat the mercury so often as practitioners are generally in the habit of doing. If we find the stools continue slimy and green, after two or three doses have been administered in succession, we may rest assured that the mercury will not bring about a change for the better in their appearance. The longer we persist in the use of it, the more unhealthy the motions will appear. I have seen these continue of a greenish, unhealthy colour for weeks when it has been necessary to persist in the use of calomel in order to remove another complaint, or where it has been given with a view of correcting the alvine discharges.

It is well known that it is generally very difficult to affect the gums of children with mercury. When this is attempted, and when the medicine is administered in doses of a few grains two or three times a-day, for instance, for that purpose, the alvine excretions will always put on an unhealthy appearance. They will shew various colours, from nearly black to light grey, and sometimes dirty brown, or approaching to clay colour; at other times they will be frothy, and presenting the appearance of yeast. The reason, probably, that the mercury does not affect the gums, depends upon its passing off by the bowels, in combination with the large quantity of slimy mucus thrown out by the surface of the canal, under the use of the medicine. This slime lines the

surface of the mucus membrane, and prevents the mercury from being taken up by the absorbents.

The remedy which I have found most effectual in correcting the quality of the green and slimy stools in children, consists of small doses of carbonate of soda, mixed with a grain or two of rhubarb. The rhubarb, perhaps, changes their colour by imparting its own to them, but the alteration produced by these medicines is not only in the colour of the motions, but also in their other qualities. They become more consistent and less slimy under their use; and children, who have suffered a good deal of gastric irritation from the calomel, shew signs of being much relieved from pain, after a few doses of the soda have been taken.

CHIRURGUS.

London, March, 1829.

MONTHLY SYNOPSIS OF PRACTICAL MEDICINE.

1. *Fracture of the Dorsal Vertebræ, with Dislocation of the Head of the Femur* *.—A bricklayer, aged thirty-eight, was brought into the hospital January 6th, having fallen from the roof of a house three stories high. The house-surgeon saw him, and discovered an irregularity about the seventh dorsal vertebra. The integuments were also lacerated over the back of the foot. (A dose of house physic). 7th. Pain and difficulty of breathing; total loss of sensation and motion of all the parts below the navel; body cold; pulse feeble. The urine had been drawn off night and morning, and the house physic repeated this morning, but no motion obtained. Mr. Lawrence ordered calomel and jalap, should the house physic not operate. 8th. Slept a little in the night. Felt much pain about the middle of the back this morning, particularly when the nurse moved him on his side. The bowels acted last night after the calomel and jalap, and again this morning, involuntarily. The lower extremities are still cold, and the pulse feeble. 9th. Was very restless last night. There is more power in the pulse, and the lower extremities feel warmer. The circulation is altogether more vigorous; breathing very painful and difficult. 13th. Remains in a similar state. The urine drawn off, and the fæces pass involuntarily. The urine latterly has acquired the ammoniacal smell. Pulse weaker; countenance sinking; complains of much pain in the right side. 15th. The pain and tightness of the chest are now very distressing; breathing quick and difficult, with frequent coughing; bowels still act. 17th. Can scarcely breathe without coughing; pulse very quick and feeble; countenance much sunk. 19th. Died last night at half-past ten o'clock.

Sectio Cadaveris.—Blood extravasated into the substance of the

* St. Bartholomew's Hospital.—Lancet.

muscles of the back, around the seat of the injury. The rim, articular processes, and body of the 7th, with the superior articular process of the 8th dorsal vertebra, fractured. Slight effusion of blood upon the theca vertebralis. A considerable quantity of bloody serum escaped, on separating the arachnoid membrane from the chord, which was found in this situation, completely broken down and disorganised, having been pressed upon by the fractured rim of the 7th vertebra, being quite pultaceous at the seat of injury, and softened both above and below, especially for some little distance below, and presenting here and there, when cut into, patches of coagulated blood, which had been effused into its structure. On removing the sternum, with the cartilages of the ribs, for the purpose of examining the chest, the upper portion of that bone was found dislocated from the second, and a large quantity of blood discovered in the right cavity of the chest. Blood was also effused into the cellular texture of the pericardium. A curious appearance presented itself in the left lung, a sort of appendix, about two inches and a half in length, and one in breadth, at its base, gradually narrowing towards a point, was attached to its lower portion, an attempt, apparently, to form a third lobe. The unusual appearance in the position of the right lower extremity having excited the attention of one or two present, the limb being shortened and everted, a dissection of the upper part of the thigh was commenced, and the head of the femur was then found to be resting on the body of the pubes. On further examination, the ligamentum teres were seen to be ruptured, and the upper and internal position of the rim of the acetabulum broken away, the head of the bone having been thrust upwards and forwards. There was the usual effusion of blood into the muscular and ligamentous structures around. The external surface of the brain presented the strongest marks of nervous turgescence, with much effusion of lymph beneath the arachnoid. The internal parts of it were not examined. By some neglect, also, the bladder was not examined. Neither the dislocation of the sternum nor femur was discovered before death.

2. *Phlegmonous Erysipelas treated by Punctures* *.—A stout Irishman, aged thirty-six years, was admitted, December 13th, under the care of Mr. Vincent, having a considerable degree of erysipelas of the right arm and fore-arm, with much tension and swelling. The arm was in great pain. Around the elbow there was a small wound, which he said had been there nine days. He was working at a crane, and something struck his arm a violent blow. It was sore and bruised, but he did not rest the arm, and four days after he observed it looked red: this redness gradually increased, extending down the fore-arm. Upon feeling the arm over the injury there was a slight fluctuation perceived; this was opened, and half an ounce of matter discharged itself. The tongue was furred, and the pulse rather weak for so stout a man. He had been in great pain for two days. Mr. Vincent ordered that the arm should

* Ibid.—Med. Gaz.

be punctured in all directions, after the plan of Dr. Dobson; and accordingly between fifteen and twenty punctures were made all over the surface of the erysipelatous part. The arm was then placed in a warm bath, and suffered to bleed in it for an hour; it was then taken out and enveloped in a bread poultice. (Ordered four grains of calomel and ten of jalap). 14th. There was a great alteration in the appearance of the limb: the redness was much diminished, as also the tension and swelling. He had a good night's rest—the only one for the last week. There was not the slightest pain in the affected arm. 16th. All the redness had disappeared, and there was no pain in the affected arm, but where the bruise was, it had not healed. Poultice continued. Pulse quiet. Tongue cleaner. (Ordered another dose of colomel and jalap). He was discharged two days after this, but he returned again, having had a small abscess form about three inches below the elbow, upon the outside of the arm; but this got quite well in a week with poulticing.

3. *Case of Osteo-Sarcoma* *.—A woman, aged thirty-seven years, was admitted, January 14th, under Mr. Lawrence's care, with an osteo-sarcomatous growth, apparently proceeding from the anterior and upper part of the fibula of the right leg. Ten years ago, a very small enlargement appeared on this spot, but which gave no inconvenience; five years since, when the limb was measured round over this enlargement, the circumference of the leg was *half an inch* more than that of the other. It has always been as hard as bone, and free from pain till of late. Within the last few months, when there has been a change of weather, pain has been experienced in the part. In September last the patient walked to Hampstead and back, without material inconvenience, the limb only feeling a little stiff afterwards. The tumour has now increased in size, as also the pain in severity, so that she is obliged, in walking, to have the aid of crutches. The tumour is about the size of the half of a large lemon, cut longitudinally. It is quite hard around the base, with a degree of elasticity in parts of its anterior surface. Its appearance is rather more vascular than natural. There is a gland in each groin, immediately over the femoral vessels, as large as an almond. The patient is a thin spare woman, not of a very healthy appearance, though she states her general health is good. Pulse quiet and regular. On a consultation of the surgeons, they all inclined to regard the tumour as malignant. Mr. Vincent suggested the removal of the head of the fibula, and the external parts covering the tumour, with the view of saving the rest of the leg. Mr. Lawrence and Mr. Earle considered, that if the operation was to be undertaken at all, after making a puncture into it, that the entire limb ought to be removed. 21st. The patient having consented to the operation, she was brought into the theatre, and the limb removed by the circular flap, at the lower third of the thigh, by Mr. Lawrence. The patient was then removed to bed, but, unfortunately, either in

* Ibid.—Lancet.

consequence of the integuments having been left too short, or the muscles having retracted to a more than usual extent, the end of the femur forced its way through the dressing, nor has it been practicable to again cover it by the soft parts. The wound has discharged, and continues to discharge, considerably, though in most parts it presents a healing appearance. At the writing of this report (March 7), the end of the femur remains uncovered to the extent of about an inch. Examination of the diseased structure, after the limb was removed, fully proved it to be a case of osteo-sarcoma.

4. *Fatal Strangulated Hernia* *.—A middle-aged man was admitted, on the 6th of February, at one o'clock. He said he had long laboured under hernia, which, from his description, and both external rings being then distinctly felt, were believed to have been inguinal, and for these he had worn a double inguinal truss, without a spring. On the Friday preceding his admission into the hospital both herniæ came down, which he reduced himself, but with much difficulty, especially the one on the right side, and immediately afterwards he experienced great pain in the right inguinal region, which has continued: he then re-applied the truss. On admission, there was some tension of the abdomen, no tenderness on pressure, no evacuation since Thursday (the day prior to the descent of the herniæ); pulse 120, extremely small and thready; great anxiety of countenance; skin cold, particularly of the hands and feet; vomiting of fluid matter, having somewhat of fæcal odour, unattended with hiccough. Mr. Callaway, who had been sent for, examined him minutely, but could detect no tumour externally indicating the existence of a hernia at either of the abdominal rings, nor in the situation of the femoral herniæ. (He was ordered, Calomel gr. iv. Opii gr. iss. statim. Enema ex infus. sennæ et magn. sulph. Bottles of hot water to the feet). These means produced a scanty, dark-coloured motion. In the early part of the day he was again minutely examined, in reference to the existence of a hernia, by Mr. Cooper and Mr. Calloway; still no tumour could be felt. The patient now complained of the same pain; some tenderness on pressure, more particularly in the right inguinal region; the other symptoms much the same, excepting the general depressed state of the system, from which he had rallied a little. (Baln. tepid statim. Hirudines xx. parti dolenti abdominis. Calomel gr. i. Opii gr. i. 4tis horis. Rep. enema. 7th. The vomiting has ceased; he appears much relieved; less anxiety of countenance, and much less depression; he passed another motion, rather more copious than the one of yesterday; in other respects much the same. 8th. Has had three or four scanty evacuations; the pain has returned in the right side; fifteen leeches were applied. The next day he was much worse in every respect. Pulse still very thick, small, and thready. (Ol. Ricin. ℥iij. statim. Rep. Enema. Omitt. Pilul). The pills were omitted in consequence of his becoming affected by the opium he had taken; the injection

* Guy's Hospital.

returned, but bringing no fæcal matter with it. During the three successive days the symptoms became very much aggravated, with great pain on the right side; considerable tension and tenderness; bilious vomiting, with great depression. These continued till nine *p.m.* of the 12th, when he died.

Sectio Cadaveris.—On opening the abdomen, which was slightly distended, the peritoneum, covering both the parieties and the intestines, was seen pretty generally minutely injected, and of a dull red colour. There was very little, if any, fluid effusion, but the interstices between most of the convolutions of the intestines were filled with a recently effused coagulable lymph, of a light yellow semi-transparent colour, of the consistence of slightly boiled white of egg, and generally, although but slightly, adherent to the peritoneal surface, with which it was in contact. On the right side there was an inguinal hernial sac, into which one's finger might be readily introduced: it contained neither intestine nor omentum, nor was it distinctly seen what part of the intestine had formerly descended into it. A small quantity of light-coloured feculent matter, which had evidently escaped from the small intestines, was seen in the left inguinal region; the slight force employed in raising the parietes, and examining the intestines in the left inguinal region, occasioned a much more copious flow of the same material, which was observed to escape from a very small aperture just within the abdomen, at the mouth of a femoral hernial sac; the intestine was strongly adherent at this part. On removing the feculent matter, in order more minutely to examine this part of the abdomen, it was obvious that there had existed a small circumscribed cavity, formed between some convolutions of intestines, united by peritoneal adhesions. This cavity was lined by a thin and tender false membrane, which appeared to be of longer standing than that before mentioned, as filling up the interstices between the intestines: the irregular and discoloured surface of this false membrane rendered it probable that the cavity which it lined had contained a small quantity of escaped feculent matter. The femoral hernia, which still existed on this side, consisted of a portion of ileum, forming a knuckle of about the size of a nutmeg: the intestine was strongly and almost universally adherent to the mouth of the sac, and when both Poupart's and Gimbernat's ligaments had been carefully removed, continued strangulated by the condensed cellular membrane, which united the sac at its mouth to the sheath of the femoral vessels. The descended knuckle of intestine, which was adherent to the sac at its anterior part, was of a dull leaden hue, and apparently in a congested state, but it could not be decidedly said to be gangrenous; the portion of intestine above the stricture was filled with fluid feculent matter, and was dilated to nearly the size of his wrist: its mucous membrane was of a dull venous colour, but in other respects healthy. The alimentary canal, below the stricture, presented nothing remarkable, but was perhaps sligh tly contracted. The mucous membrane of the stomach was som ewhat mottled. The liver was tolerably

healthy: the gall-bladder was unusually large. The other abdominal viscera offered nothing remarkable.

5. *Difficult Case of Lithotomy* *.—A delicate boy, eleven years of age, was admitted, under Mr. Key, January 28th. He had a severe attack of pain in the region of the kidney when in his seventh year, the subsidence of which was immediately followed by symptoms of stone in the bladder, and these have continued with more or less urgency to the present time. He now suffers extremely from pain about the pubes, so that he is generally seen in a position of peculiar constraint, and with a countenanee expressive of pain; at the periods of micturition, as well as on any violent exercise, it amounts to the severest agony. His urine has not been bloody, but it contains mucus. On sounding him, Mr. Key at once struck the stone, which he judged to be of a very large size. The patient himself says, that when he makes water he can feel a large and hard tumour in the perineum. He was ordered to take every night tinct. hyoscyam. gtt. xx. liquor. potass. gtt. xv. notwithstanding the use of which his sufferings increased whilst in the house. Feb. 17.—*The Operation.* Its first steps need not be detailed: they were not remarkable, excepting that the incisions were, perhaps, a little more freely made than usual. The size of the stone, and its proximity to the neck of the bladder, occasioned considerable difficulty in the division of the prostate: on carrying the knife forwards, it was almost immediately impeded by striking the calculus, so that, not fairly entering the bladder, it was not easy to make the necesary section of its neck. This, however, a little manual dexterity accomplished, by passing (as it appeared) the knife in a lateral direction. On the introduction of the forceps, the size and place of the stone occasioned fresh obstacles; neither the blade of the instrument nor the finger could, without force, be insinuated between the stone and the bladder, which was firmly contracted around it. When at length the stone was grasped by the forceps, it appeared much too large to be withdrawn by the opening, and Mr. Key, without releasing it from the instrument, cautiously enlarged the incision; still, however, the calculus was too large to pass through it; but being soft and friable, it soon broke under the pressure of the forceps, and many fragments were extracted, leaving behind the larger pieces, which, owing to the firm contraction of the bladder, and the almost convulsive struggles of the patient, could not be removed. Mr. Key, therefore, gave the boy fifteen drops of laudanum, and proceeded to inject warm water freely into the bladder. This produced the effect, not only of mechanically distending the cavity, but also of causing the muscular coat to relax; syringeful after syringeful was thrown in, each making way for the more free introduction of the forceps, and the removal of portions of the calculus, until at length, by the alternate use of the syringe and the forceps, the whole was removed. The operation lasted above half an hour. Some of the fragments were equal in size to a walnut; their ag-

* Ibid.

gregate bulk could not be ascertained, owing to their minute division, but they went far towards filling a good sized saucer. The nucleus Mr. Key thought was oxalate of lime, and the laminæ around it the fusible calculus and the triple phosphate. The patient was put to bed, and ordered to take syrup. papav. ℥ss.

The patient appeared to do well for the first two days after the operation; but after that period there came on tenderness of the abdomen, followed by nausea, and bilious vomiting, with depression of strength and spirits. From this time he continued to get worse, until the 23d, when he died. The body was taken away by the friends of the patient, so that no inspection could be obtained.

6. *Cast of Spontaneous Tetanus* *.—A boy, fifteen years of age, was admitted February 17th, about twelve o'clock, labouring under acute tetanus. The symptoms then present were trismus and opisthotonos, with great rigidity of the abdominal muscles. It appeared, from his own account, that the symptoms had made their appearance four days previous to admission, and the only cause that could be assigned was, a chilblain which had ulcerated immediately over the right tendo achillis, in size rather larger than a shilling. He was ordered by Dr. Elliotson to take half an ounce of the subcarbonate of iron every two hours; enema, with three ounces of oil of turpentine, and a pint of decoction of barley, which produced three or four evacuations. Pulse strong, and rather full, varying from 100 to 140. 18th. Common enema; continue the subcarbonate of iron. Experiences no relief from any thing that has been done; evidently much worse. Expired about half-past eight, *p.m.*

An examination of the body took place eighteen hours after death, when the brain, spinal chord, thoracic, and abdominal viscera, were carefully inspected by Mr. M'Murdo, in the presence of Dr. Williams; nothing, however, was discovered in any of these parts, different to what is usually observed in health.

7. *Epilepsy* †.—A young woman, eighteen years of age, was admitted, February 5th, under Dr. Roots's care. She stated that she first became subject to fits during the period of dentition, but felt nothing of them afterwards, except an occasional rising in the throat, until about fourteen years since, when she had an attack of typhus fever, and the fits returned. They again left her, however, and she experienced nothing but an occasional sensation in the throat, which has always continued. About five or six years since, the fits returned, without any apparent cause, and have continued from that time. She says she now has them from once or twice, to six or seven times a-day, and seldom goes more than one day without an attack; is generally aware when a fit is coming on, from additional pain in the head, and the rising in the throat, and can then prevent herself from falling, by leaning on the table; but occasionally falls down suddenly. The fits continue from half an

* St. Thomas's Hospital. † Ibid.

hour to an hour, and always come on if she does not evacuate her urine as soon as she feels an inclination. Menstruate regularly, but in small quantities; has constant pain over the forehead; pupils not dilated; appetite good; bowels moved every alternate day; pulse 120, soft, and not full; says she often cries on recovering from a fit. Ordered to apply twenty leeches to the temples. (Castor oil, half an ounce; oil of turpentine, four drachms, tomorrow morning. Milk diet). 6th. Had no return of fits since admission; but says she felt a slight giddiness this morning; pain in the head somewhat relieved since the application of the leeches. Bowels have not been acted on. 7th. Had three fits last evening; took a dose of house medicine, which operated several times during the night. (Ammoniated copper, half a grain, three times a-day. Extract of colocynth, with blue pill, three grains every other night). Pulse 80, soft, and compressible. 9th. Has had no return of fits since Friday evening. Ammoniated copper increased to one grain three times a-day. 10th. Had no return of fits; headach gone, and quite free from pain. Bowels open, pulse soft. 11th. Had one slight fit at 4, *a.m.*, and a severe one at 2, *p.m.*; complains of pain in the stomach, after taking milk; pulse 108, compressible. (Powdered valerian root, half a drachm, with camphor mixture every six hours. Dry Diet). 12th. Slight fit, 6, *a.m.*; no headach; perfectly free from pain. 15th. Has continued free from pain, but had a fit this morning; pulse 100, small. 19th. Had a fit yesterday, and one to-day, but comparatively slight; bowels regular, and general health improved. 21st. Had two fits. March 10th. The patient still continues in the hospital, and has occasional returns of fits; but the attacks are feeble, and continue a much shorter period than at the time of admission; her bowels are regular, and general health tolerably good. She is now taking two grains of ammoniated copper three times a-day, which is being gradually increased. The bowels are kept open, and tartar emetic ointment has been rubbed into the nape of the neck.

8. *Colica Pictonum**.—A man, aged twenty-six years, glass-cutter, in the habit of using white lead, was admitted, Feb. 5th, under the care of Dr. Roots. Has had pain in the abdomen for three weeks past; it became more violent on Sunday last, and was attended by vomiting, which continued up to the time of admission. Abdominal muscles strongly contracted, and the pain so severe, as to cause him to writhe in great agony. Pain somewhat relieved by pressure; has had no stool since Tuesday, and then but one. Pulse 80, full, but soft; tongue white, and loaded. (Ordered, a warm bath immediately; and calomel, ten grains, with opium, four grains, afterwards; castor oil, one ounce, with oil of turpentine, one drachm, every four hours, until the bowels are opened. Milk diet.) 6. Has experienced but trifling relief, though the bowels have been freely acted on. (Warm bath repeated. Extract of henbane, twelve grains.) Feels rather better. 7. (A blister to the abdomen, and to take diluted sulphuric

* Ibid.

acid, fifteen minims, with half a drachm of tincture of henbane, every six hours.) 9. Bowels open, free from pain, and, in every respect, much better; complains only of weakness. 10. Considerably better; nearly convalescent; complains only of weakness.

9. *Singular Cases of Coma**.—Two Irish labourers, engaged in working on the new London Bridge, were brought to the hospital, at noon, January 14th, both in a state of complete coma.

Case 1.—C. D., a healthy man, aged twenty-five years, was brought in completely insensible. His pulse was full and labouring, and about fifty. The breathing was stertorous. The skin had a profuse, warm perspiration. The pupils were contracted, and insensible to light. He was put to bed, and soon afterwards the head became very hot, and the face much flushed. (V.S. ad ℥xx. Ænema, Ol. Terebenth.) After the bleeding, the pulse became quicker, harder, and more distinct. The stertorous sound in respiration ceased, but there was still a peculiar sound, arising from the lips being closely pressed together, while the cheeks, from want of action in the buccinators, flapped loosely backward and forward with each expiration and inspiration. On the supposition that he had taken poison, the stomach pump was next employed. A brownish fluid, very much resembling porter, was obtained, and was set aside in order to be analysed. At the end of two hours the insensibility continued unaltered. The breathing was as above. The feet in the first instance, and afterwards the hands, had become very cold, and the whole surface, (with the exception of the head, which continued hot, and was bathed in a profuse perspiration) had sunk below the natural standard of temperature. The pulse had also become much weaker. It was now determined to give stimulants, and therefore brandy and sp. ammon. co. were administered. A marked change in the patient's condition followed this alteration in the treatment. He became violently agitated, tossing his arms about, rolling from side to side, and apparently making efforts to get out of bed: so violent was he at one time that two or three strong men were necessary to keep him in bed. While thus agitated he moaned loudly, and appeared to attempt to articulate something: the countenance at the same time changed much. He opened his eyes and stared around him with a marked expression of suffering, and an appearance also of some consciousnes; and that some return of consciousness had taken place was plain, from the circumstance that when called to loudly by his christian name, and asked whether he was in pain, he answered, 'Ye—e—s;' and when asked, where? mumbled out something which sounded very like 'my head.' At this time the face became still more flushed, the pulse rose considerably, and the feet and hands became warm. He continued in this state of agitation more than two hours, and then suddenly became quiet and rational. He continued so for some time, and then

* Ibid.—Med. Gaz.

fell asleep. He awoke in order to have a stool, walked without support to the closet, returned to his bed, and at ten *p. m.* he was sleeping easily and quietly, with a pulse of 100 in the minute, his respiration natural, and his surface comfortably warm and perspirable. The next day he was quite well, and in a few days he left the hospital.

Case 2.—M. S., plethoric and short-necked, aged twenty-one, was brought to the hospital at the same time with the former. There was complete insensibility and loss of power over the voluntary muscles. The pulse was full, and labouring, and below 40. The surface was covered with a copious, warm perspiration, and the breathing was loudly stertorous. When the eyelids were raised, so as to admit the light to the retina, the pupils at first dilated a little, and then slowly contracted. (V.S. ad ℥xvi. Ænema Ol. Ricini.) The pulse became quicker and harder. In about two hours, the pulse being still very strong, with no abatement of the other symptoms, the patient was cupped between the shoulders to ℥xx. Zinci sulphi. ℈ij. were also given as an emetic, and Ol. Crot. Tig. gtt. iij. to produce a powerful action on the bowels. After the second bleeding the pulse decidedly fell, becoming both weaker and slower. The breathing ceased to have any unnatural sound, and the skin, particularly of the extremities, became cold. The head, however, continued hot, and, a copious vapour of perspiration arose from it. At the termination of four hours the head had lost its superabundant warmth. The extremities were cold, and the pulse 44, feeble, and slightly irregular. The coma continued. Neither the emetic nor the purgative had acted in the slightest degree. The good effects of the stimulus had by this time been observed in the other patient, and it was determned to try it on this. Independently of any analogy between the cases, it was plain that stimulants were loudly called for. Two tablespoonfuls of brandy caused the pulse to rise ten beats in the minute. Shortly afterwards, the stomach was emptied by means of the pump. The brandy was repeated, and the patient very soon recovered, without having been agitated in the way in which the other was. At ten *p. m.* he was perfectly sensible; the pulse was 90, weak and irregular in force; the breathing easy; and he complained of nothing but slight pain in the head. The bowels had been well opened. On the following day this patient also had completely recovered, and in a few days he was discharged.

It was observed, in both the above cases, that the lips, especially the lower, were, on the evening of the first day, and for a day or two following, much swollen and redder than natural.

These two men, with a number of others, were at work on the new London bridge. It was the duty of the sufferers to turn the wheel of a crane which had a winch at each end of the axle. After taking a good breakfast, they both went to work at seven, *a. m.*, and continued at the winch constantly until half-past eleven, *a. m.* Some warm porter, *with ginger coarsely powdered*

mixed with it, was then brought to them, and, according to the account of this individual, two vessels were filled, and handed to *him and his comrade first*. On this point, however, the evidence varied—some of the other workmen, who certainly drank of the same porter, stoutly maintaining that the two men who were attacked did not drink first. Soon after they had drank (each about a pint) he observed that his companion began to look, as he expressed it, 'foolish,' and as if he were about to faint. The men who were around saw this, and caught him in time to prevent his falling. He himself continued to work for twenty minutes from the time that he had taken the porter, but then he found his senses fail him, and he would have fallen if he had not been supported by his companions. He remembered that they carried him towards the shore, but he became quite unconscious before he had gone many yards. The fluid obtained from the stomach of each was carefully analysed by Dr. Burton, but no trace of any poison could be detected.

10. *Fungus Hæmatodes of the Eye-ball* *.—A child, aged three years, labouring under this formidable disease, was admitted by Mr. Green, December 18th. The mother of the child stated, that her attention was first attracted to the eye by observing a yellowish body at the back part of the ball. This had gradually advanced forward, until the whole eye was involved in the disease. It had then begun to enlarge, and had finally become protruded from its socket. At the time of admission there was a tumour as large as an orange, and nearly circular, protruding from the left orbit. Its surface generally had a bright red colour, like that of mucous membranes; but a little to the inner side of the axis was a circular greyish opaque spot, which appeared to be the cornea, and on the outer side was a point where the tumour had begun to slough. The surface (especially at the upper part where it appeared to be denuded of the covering which enveloped the rest) often bled a little. The bones forming the orbit appeared quite free from disease. The child appeared to suffer very little actual pain, and, according to the mother's account, this had been the case from the first. A distressing feeling of weight was, however, complained of, unless it was supported, which had generally been done by a handkerchief tied round the hand; and when this was removed the little sufferer sustained it with both her hands. The patient was pale and somewhat emaciated, and her health was a good deal affected. Mr. Travers and Mr. Tyrrell were requested to examine the case, and gave their opinions: the former against any operation, the latter in favour of attempting the removal of the diseased organ. Mr. Green's experience having convinced him of the almost utter impossibility of extirpating the disease in cases of this kind so completely that it shall not return, he agreed with Mr. Travers in advising the mother not to have an operation performed, and she accordingly left the hospital last week. The only change which had then taken place in the

* Ibid.

disease was the separation of the small slough observed on her admission.

11. *Fracture of the Fourth Cervical Vertebra* *.—A man, aged twenty-four years, porter, was admitted January 21st, under Mr. Tyrrell. About half an hour previously he had been carrying a weight of 1½ cwt., when his foot slipping, he fell, and he believes the load fell upon him. He was insensible for a short time, and when consciousness returned, he found himself utterly incapable of using his hands or arms. When brought in he was in a state of great depression. The pulse was below 40, and feeble; the surface was pale and cold; the breathing not affected. When he had been placed in bed, a more careful investigation was made. There was complete loss of sensation of every part of the surface below an imaginary line drawn round the body, opposite to the sternal extremity of the fourth rib. It is not meant that feeling ceased here suddenly; for an inch or two below this point it gradually became less and less distinct, until quite extinguished. There was very considerable loss of feeling in the arms. The numbness was greatest in the hands, less in the fore arms, and still less in the shoulders. When handled at all roughly about the shoulders, he complained of a pricking sensation. There was also an extensive deprivation of the power of motion. This was completely lost in all the voluntary muscles situated below the point already mentioned, as that at which feeling ceased; viz. the fourth rib. Some ability to move the arms still remained, but it was restricted to slowly rotating the humerus to the extent of two or three inches. Priapism, in an excessive degree, took place shortly after the injury. The intellect did not appear entirely to have escaped injury. There was evidently slowness of comprehension, and hesitation in forming the proper answer. He also spoke very inarticulately, but it was difficult to determine how much of this effect might be attributed to the accident, as his friends said that he had always stammered; and, from cold, his teeth chattered in a very remarkable degree. Although he complained much of cold, the surface was not below the natural standard of temperature. It was thought that he still retained the feeling of heat and cold in the parts dead to every other sensation, but of this there was some doubt, and, unfortunately, it was not put to the test of experiment. A very careful examination of the spine was made by Mr. Green, in the absence of Mr. Tyrrell. No fracture of any vertebra could be felt, but there was tenderness over the fourth, fifth, and sixth cervical, and the patient complained of pain there when his head was moved. Mr. Green recommended that, in the event of complete reaction taking place, he should be bled to such an extent as the pulse might warrant.—Nine, *p.m.* Some reaction; pulse 55, and stronger, but still weak; complains much of cold; some typanitic swelling of the abdomen; no desire to evacuate the bladder or rectum. The urine was drawn off.—22d. Ten, *a.m.* Pulse 50; very feeble. More difficulty in speaking, and greater slowness of comprehension.

* Ibid.

Decidedly more feeling in the arms, and more power of motion, as he can with an effort raise them from the bed, but they immediately fall again. No stool.—The symptoms continued much the same until the time of his death, which took place on the morning of the 24th. There was no stool up to the period of his death. The urine did not become amoniacal. He had no sleep; the breathing appear easy from first to last.

Sectio Cadevoris forty-eight hours after Death—The external surface of the body presented nothing remarkable. No displacement of the spinous process of any vertebra could be felt. The integuments and museles were dissected from the whole length of the spinal column, and a fracture was then found running through the right side of the arch of the fourth cervical vertebra, very near the articular process. Under this a small clot of blood was found lying upon the theca, or extension of dura mater covering the cord. This covering was entire, and did not present any marks of inflammation. From the nature of the fracture, there was necessarily no displacement of the arch of the vertebra, and therefore no compression of the cord. The theca was next laid open. It contained more serous fluid than usual. Opposite to the fracture the cord appeared swollen, as if from blood extravasated within it. Its remaining membranes were there more injected than usual. A section was afterwards made through this portion of the cord, as it was found that blood really was extravasated through its substance, appearing as innumerable red points, intimately mingled with the natural colour of the medulla. When the cord was removed, another fracture was detected, extending longitudinally through the body of the fourth cervical vertebra. The brain was next examined. The vessels of the pia mater were unusually full, both veins and arteries. On the surface of the cerebellum, under the pia mater, there was a considerable quantity of blood extravasated, in very thin layers or streaks. The substance, both of cerebrum and cerebellum, was healthy. On the fore part of the spinal column, opposite to the fracture, there was much extravasated blood. Thinking, from the great depression of the heart's action, that the superficial cardiac nerves might be compressed, Mr. Tyrrell dissected down to their origin, and found that they were involved in coagulated blood. The lungs were filled with dark blood, as were the right chambers of the heart. The colon and rectum were filled with hard fæces. The bladder and every other viscus were healthy.

12. *Penetrating Wound of the Abdomen* *.—A healthy-looking girl, aged sixteen, was admitted in the evening of the 11th of December, with a wound in the right groin, just above the pubic end of Poupart's ligament, extending upwards and inwards for two or three inches. The finger, introduced in this direction, reached the posterior surface of the rectus muscle; from which the peritoneum appeared to be a good deal detached, though no actual

* St. George's Hospital.

wound could be found in it. The pulse was slow and weak. She stated, that whilst standing on some steps, and stretching over the iron railings in front of her house, her foot slipped, and one of the spikes produced the wound described above. Very little bleeding took place, and the patient was brought to the hospital shortly after the infliction of the injury. The wound was dressed tightly with lint and adhesive plaister; and at ten, *p.m.* the pulse having risen to 100, and pain being felt in the right side of the abdomen, twelve ounces of blood were abstracted from the arm. She vomited shortly afterwards, and then procured some sleep; on awaking from which the pulse had fallen, and the pain in the abdomen was relieved. The blood drawn was buffed and cupped. (Hirudines xx. abdomini.) On the morning of the 12th she appeared to be proceeding in a favourable manner, the abdominal tenderness not having increased, and the countenance expressing no anxiety whatever. The pulse was 80, and rather weak; the bowels had not been opened since her reception in the hospital. She was ordered salines, with sulphate of magnesia, every six hours; and the leeches to the belly were repeated. At noon she took an ounce of castor oil; and at six *p.m.* an enema of twelve oz. of decoct. avenæ was administered. No motions were procured; and the pain becoming worse towards night, accompanied with occasional vomiting, a second bleeding, of twelve ounces, from the arm, was directed. When eight ounces had been drawn, the patient grew faint; and at the house-surgeon's visit, in the course of a couple of hours, the pulse had risen to 112. She complained of having passed little water since the accident; the bowels were still unmoved. (℞. Hyd. Sub. gr. v. Ext. Op. gr. ½ statim. Haust. Sennæ, ℥j. post horas quatuor.) Next morning the abdomen was fomented; the enema repeated, with the addition of an ounce of castor oil; twenty leeches at noon applied to the abdomen; and three drachms of the sulphate of magnesia, in aq. menth. pip. directed to be taken every second hour. When we saw her, at four, *p.m.*, the countenance was pale, and rather, but not extremely, anxious; the pulse was small and sharp; the tongue dry and whitish; there was burning thirst, and a great deal of pain on pressing the abdomen. At nine, *p.m.*, she was bled to eight ounces, and at one, *a.m.* of the 14th, the catheter was introduced, and more than a pint of urine drawn off. The bleeding, as before, though small, had produced faintness; but the pulse, within two hours after, rose to 130.—14th, twelve, *m.* The pain and tenderness on pressure have diminished, and her manner is more cheerful. The bowels, however, are still confined, and the urine requires to be regularly taken from her; the pulse is as low as 80. (Cont. Haust. c. Sulph. Mag. Injiciantur aq. calidæ. oct. ij. pro enem.)

Up to the 15th the patient had been doing comparatively well, but on that day a change for the worse took place, and every succeeding one ushered in more and more untoward symptoms. On the 16th she was irritable and extremely feverish; the tongue was dry, and inclined to be brown; the pain in the abdomen was occasionally very severe. Salines, with antimonial wine, prescrib-

ed. In the afternoon a diarrhœa set in, which continued, without the slightest "let or hinderance," up to the latest hour of her life. Chalk mixture, with laudunum, were given after every stool; and on the 17th Mr. Brodie saw the patient for the first time. The pulse was then quick; the skin hot; the tongue dry. Something like obscure fluctuation, together with an evident swelling, were felt in the neighbourhood of the wound; and Mr. Brodie observed, that if the symptoms continued next day, he should feel himself justified in making an incision, in order to ascertain whether matter was forming or not. In the interim, salines, with the tincture of opium, were administered every six hours, as well as an opiate enema. On the morning of the 18th she complained of more pain in the abdomen, to which twenty leeches were therefore applied without much material relief. At half-past twelve Mr. Brodie arrived, and proceeded to examine the wound, particularly that swelling to which we have alluded, and which, for the last few days, had attracted notice. Having passed a director into the wound as high as it would go, the sharp-pointed bistoury was then introduced along the groove, and the wound laid freely open. A mass now appeared, which looked like, and, on close examination, proved to be omentum. It was lifted up, and after the wound had been fairly dilated, found to be protruding from the abdomen through a wound in the peritoneum. After some deliberation, the omentum thus protruding, exposed as it was to external injury, and likely to prove a source of irritation, was cut off 'close' by Mr. Brodie. A fold of intestine, which shewed itself beneath (within the abdominal cavity), was apparently healthy in its structure, and free from inflammation, No collection of matter, either in or about the omentum, or the wound, was discovered; no quantity of fluid of any kind escaped. An artery, which bled pretty smartly in the cut omentum, was secured, and the threads cut short. The patient was removed to bed with a pulse weak, quick, and low; a surface pale, and approaching to collapse; tongue brown; much thirst; and a tendency to hiccup. The diarrhœa persisted, and was harassing her sadly. She was ordered chalk mixture with laudunum, and a blister to the abdomen. She got not a wink of sleep that night, and next day was evidently and rapidly sinking. Salines with opium, opiate enemata, port wine, &c. were employed, and the patient seemed to rally. On the evening of the 18th so violent an attack of dyspnœa came on, that those around her thought that she was dying. During the height of the dyspnœa the respiration appeared to be performed entirely by the intercostal muscles, assisted by those of the neck, and the patient at the same time suffered from a short dry cough. The violence of the fit, after a time, passed away, but the breathing continued hurried and painful; the purging persisted; and at six, *p.m.* of the 20th the poor girl died, retaining her senses nearly to the last.

Sectio Cadaveris.—The peritoneum investing the intestines and abdominal parietes was almost universally inflamed, particularly where it is reflected from the liver to the diaphragm. Although there were observed many flakes of coagulable lymph, very little

fluid was found in the abdominal cavity. The omentum was free from suppuration, and little inflamed upon the whole; on separating it from a portion of jejunum to which at one spot it adhered, an ulcerated opening was found to exist in the parietes of the gut. Another ulcer, two inches in length, and half an inch in breadth, was perceived in the mucous membrane of the colon, at its transverse arch, the muscular and peritoneal coats being sound. There were several other ulcerated holes in the course of the intestinal tube, some of which had passed through all the coats, although no extravasation of fæces was discovered. Examination of the thorax detected marks of recent pleuritic inflammation—viz. depositions of lymph on the pleuræ, and sero-purulent effusion in their cavity. The original opening made in the peritoneum by the spike was large enough to admit the passage of two fingers; but the portion of intestine corresponding to it (on dissection) was perhaps as healthy as any other part.

13. *Removal of Nævi* *.—A child, about three months old, was brought to Mr. Brodie on the 13th of February, with two nævi on the scalp. One, about the size of a nut, was situated on the left side, a little anterior to the coronal suture; the other, rather larger, was placed further back, and over the median line, apparently at or near the fontanella. The first presented a sort of superficial scab, the traces of vaccination unsuccessfully applied by Dr. Locock; the other bore no such mark. The child was transferred to the operating theatre, and the following proceeding was adopted by Mr. Brodie:—A hare-lip pin was passed transversely through, or, more properly speaking, *under* the base of the larger nævus, so that either end of the pin projected beyond the margin of the tumour, for a quarter of an inch or more on each side. The pin being held in this position, a straight needle, armed with a double ligature, was then passed under the base of the nævus, and under the pin, which it crossed exactly at a right angle. The needle was drawn through, and cut from the ligatures, which were allowed to remain. The two silk threads were next separated, the one drawn to one side, the other to the other, and each tied tightly under each extremity of the hare-lip pin, the point of which had been withdrawn. The ligatures being thus firmly drawn, just as they are in the operation for piles, constricted and strangled the base of the nævus. The ligatures were once or twice twisted round and round under the hare-lip pin, in order that the constriction might be perfect, when, after the pin had been included (to prevent its slipping) in one of the knots, the ends were cut close. The same proceeding was adopted with the smaller nævus, and the infant consigned to its mother, who carried it home. The pain was, of course, severe, but the child did not seem to suffer in any extraordinary degree.

Mr. Brodie, in the course of some observations to the pupils, stated the mode in which he is accustomed to treat with success the maculæ or spots in children, arising from enlargement of the

* Ibid.

minuter vessels, without tumour. Selecting the largest of these little vessels, he punctures it with a lancet, and gently touches the puncture with the caustic potash, scraped into as fine a point as possible. Vinegar is immediately applied to stop the penetrating action of the alkaline caustic, and prevent the formation of a scar; which, indeed, would be full as bad as the disease. These cases, Mr. Brodie observed, seldom came under treatment except in the higher ranks, where personal appearance forms such a permanent object of attention.

14. *Apoplexy of the Heart**.—A woman, aged above eighty years, had been affected for many years with disease of the heart. She presented herself, in February last, at the Infirmary of the Salpêtrière, complaining of difficulty of breathing, and palpitations. She died very shortly afterwards.—On examination, the heart was found considerably increased in size; it was covered externally by a false membrane, which completely enveloped it, and which extended in the form of a sheath over the roots of the aorta and pulmonary artery. Thicker towards the apex of the heart than at is base, this membrane, of a reddish aspect, appeared exactly, both in consistence and colour, like a coagulum of blood, differing, however, from blood by its membraneous form and well-marked vascular aspect. It had contracted no firm adhesion to the heart, from which it was easily detached, and it was separated from the pericardiac covering of the organ by a considerable quantity of fluid blood. The pericardium presented no trace of inflammation. This membrane having been removed with precaution, the heart exhibited, in the middle of the anterior surface of the left ventricle, a small fissure, and several dark-coloured spots. A probe introduced into this opening, and left to its own weight, penetrated very easily into the cavity of the ventricle, under one of the carneæ columnæ. The internal parts surrounding this aperature did not appear diseased. The spots, or ecchymoses, already mentioned, were visible on the external surface only of the heart. Each dark-coloured point which formed them, was the termination of a small canal filled with coagulated blood. These canals joined in some points, but in others they were entirely isolated, and had then less the form of a canal than that of a cavern, or of a rupture similar to that observed in the brain of persons who die from recent hemorrhage of that organ. Besides these alterations, the heart presented a hyperthrophy, with a dilatation of the left ventriele, without ramollissement of the parietes; an ossification, and, consequently, a considerable contraction of the aortic orifice. The aorta was dilated as high as its arch, but recovered its ordinary size below that part. It contained ossifications at many points of its course. The orifices of the subclavian and carotid arteries were reduced in size by several points of ossification which surrounded them.

15. *Black Cancer*†.—A married woman, from the neighbourhood

* Hospice de la Salpêtrière—La Lancette Française.
† Hôtel-Dieu. Ib.

of Chartres, aged twenty-four years, of an ordinary complexion, presented, on various parts of the body, large, crusty pimples, which M. Dupuytren called cancroid; and, on the right leg, cicatrices, which were, probably, the effect of scrofulous abscesses, altogether exempt from syphilitic infection. Sixteen months previously, without any known cause, a small tumour made its appearance behind the maxillary angle, on the right side. It remained indolent, and without increasing in size, until about six months before her admission to the hospital. It was then about the size of a small nutmeg. After that period, it went on rapidly increasing, and was attended with shooting pains, not only in the tumour, but also in the corresponding side of the head. The tumour, bounded behind by the sterno-mastoid muscle, before by the larynx, inwardly by the vessels and nerves, and above and before by the angle of the jaw, formed, externally, a round, uniform protuberance, of the size of an adult's fist, without any alteration of the skin. Its apex was soft, and it communicated a fluctuating feel, like a degenerated scrofulous tumour, for which M. Dupuytren took it. The removal of the tumour having been determined upon, a semi-elliptic incision, whose concavity was backwards, brought it into view. It was then dissected out without much difficulty; but a portion, about the size of an almond, still lodged in the part: M. Dupuytren then extracted this with his fingers, and then cut out, with a pair of scissars, the tissues which appeared altered in structure. The patient lost but little blood; it was not found necessary to tie any vessels.

The tumour, on being examined, was found to be the true black cancer, of the size of a turkey's egg. It was easily divided with the scalpel, and the incission presented a polished surface. Pressure on the tumour gave exit to a black fluid, like ink. Chlorine did not destroy this colour. M. Dupuytren observed, that if he had suspected the presence of black cancer, he would have taken care not to perform such an operation, for that it is, of all diseases, the most liable to return. The patient had an attack of shivering, followed by heat, after the operation. She was bled immediately after. She said that she had been subject to the cancroid pimples of the skin ever since she was ten years old, which still increased M. Dupuytren's fears.

16. *Remarkable Case of Paralysis**.—The subject of this case was a woman, who had been several months in the Hospital of la Charité, and who was affected with hemiplegia of the right side. She presented the singular coincidence of abolition of sensation and motion in one of the extremities, and of that of motion only in the other. She had been ill for some time when she entered the hospital. On her arrival, she manifested symptoms of recent cerebral hemorrhage. Her appearance was dull, and the hemiplegia complete. The mouth was drawn to the right; the arm was without movement and sensibility; the thigh and leg without movement,

* Hôpital de la Charité.

but possessing sensibility. She had, however, enough presence of mind to answer correctly any questions addressed to her; she complained of no pain in the head, nor had she any stupor. She stated that the paralysis came on suddenly, after a tranquil sleep, without any precursory symptoms. She was of a plethoric appearance. M. Chomel ordered blood-letting. She remained in much the same state, until within about a week before her death, when erysipelas of the face came on When this occurred, the patient recovered the use of her arm, and her joy was great when she found this to be the case. M. Chomel, who, we should suppose, thinks that Nature can never do wrong, applied a blister to the nape of the neck, in order to assist her efforts. The erysipelas, which, before, only affected the face, now extended rapidly to the scalp; delirium supervened, then coma, and death.

Sectio Cadaveris.—The thoracic and abdominal viscera did not present any thing worthy of notice. The scalp was thickened, and impregnated with serum, which also existed underneath it; but there was no collection of pus. The redness of the face had partly disappeared; the cellular tissue contained much serum, but no pus was discovered in any part. The membranes of the brain appeared healthy; their vessels were not even injected. Successive incisions into the medullary substance exhibited some red points. Even with the left corpus striatum, outside of the ventricle, on the boundary of the anterior and middle lobes, at the point corresponding to the fissura Sylvii, was found an anfractuous cavity, filled with a whitish, gelatinous fluid. When this fluid was evacuated, the parietes of the cavity sank in; their surface was uneven and anfractuous; they were soft and of a yellowish colour. The softening was altogether superficial, being only about half a line in thickness. All the rest of the brain was healthy.

17. *Death from Retention of Urine**.—A man, aged fifty-seven years, a great drinker, contracted, at the age of thirty, a gonorrhœa, which lasted more than ten years. One day, having drunk punch to excess, the discharge suddenly ceased altogether. From that period, until about two years before the time he entered the hospital, this man experienced no complaint. At the period last mentioned, he was seized with retention of urine, which came on after a debauch. He then went into the hospital, where he was submitted to the use of bougies; and, eight days after, he left, considering himself perfectly cured. For eighteen months he continued in this state, but, after this, he found a difficulty in passing the urine, which increased daily. He had recourse to the use of white wine, with the hope of facilitating the urinary execration. In the beginning of January last, the scrotum began to swell, and the passage of the water became very difficult; when, on the 7th of that month, it only came away by drops. He then took to his bed, and a cataplasm, with *terra sigillata*, was applied. This application, far from affording any relief, gave rise to inflammation; it was, therefore, removed, and substituted by a linseed-meal poul-

* Hospice de Perfectionnement.

tice. On the 10th of January, the retention of urine was complete. He now entered the Hospice de Perfectionnement. The scrotum was as large as the head of a full grown fœtus ; the skin distended and shining. An attempt was made to introduce a catheter, but about three quarters of an hour elapsed before this could be accomplished ; and it was then done with violence. The catheter was a small silver one. A coagalum of blood blocked up the holes in its end, and only a few drops of urine came away. Two incisions were made in the most depending parts of the scrotum, which gave vent to a great quantity of sanguinolent serum, without any urinary odour. (Bleeding from the arm ; hip-bath.) At the moment the patient left his bed to enter the bath, he felt a strong inclination to make water ; and, after some effort, he passed a great quantity of urine. An attempt had been previously made to replace the silver catheter by a gum elastic one, but without success. 11th. Another attempt was made to introduce an elastic catheter, and with success ; it was allowed to remain in. (Cataplasm to the scrotum.) In the course of a few days, the cellular tissue corresponding to the incisions became gangrenous ; erysipelas made its appearance on the genitals, which extended to the thighs. This was accompanied by a typhoid fever, diarrhæa, and pain in the abdomen ; and he died on the 19th of the same month. The treatment consisted of lavements, the warm bath, and nitre tisan.

Sectio Cadaveris.—The external appearance presented nothing particular. The thoracic organs were in their natural state. The stomach and the small intestines were healthy, but the large intestine was injected throughout. There was no trace of pus in the cellular tissue of the pelvis, nor was there any in the veins. The urethra was laid open from one end to the other. At the bulbous part, several crevices were found, which communicated, by fistulous passages, with purulent abscesses formed in the substance of the scrotum. The right testicle was in a great measure denuded by the suppuration, and it was covered by its fibrous tunic only. One of these purulent abscesses communicated with one of the incisions made in the scrotum. It was evident that the bulbous part of the urethra was contracted, but that it had been in some degree dilated by the catheter. The extremity of the instrument, in penetrating into the bladder, had elevated a portion of the mucous membrane, before it reached the cavity, in such a manner, as that this membrane was perforated in two places, forming a bridge, under which the instrument passed. The coats of the bladder were in a thickened state. The organ was contracted, and did not contain a drop of urine.

18. *Œdema of the Glottis.—Tracheotomy* *.—A woman, aged forty-two years, entered the hospital on the 25th of January. She manifested symptoms of some obstacle to the penetration of the air into the lungs, situated at the superior part of the air passages. All the symptoms announced an œdematous angina. She had

* Hôpital de la Charité.

dyspnœa, hissing respiration, &c. The skin was hot; pulse 140 in a minute; and she had a high degree of febrile action. Sixteen ounces of blood were taken from the arm, and immediately followed by the application of leeches to the neck. The next day the symptoms were relieved, although the pulse still continued very frequent. M. Chomel, on examining the throat, perceived that the epiglottis was red and swollen, with some white spots on the left side; and it appeared now to have become a question whether the case was one of œdematous angina, or of false membrane. An emetic was ordered, but without exciting vomiting, and forty leeches were applied to the throat. For the next two days the symptoms continued without any material change, but on the third the respiration became more difficult than hitherto, being sonorous during expiration as well as inspiration. Another large bleeding, and the application of leeches, were once more had recourse to, but on this occasion without benefit. The difficulty of breathing gradually increased, and by five o'clock in the afternoon suffocation appeared to be impending. M. Chomel sent immediately for M. Roux, when it was agreed to perform the operation of laryngotomy. The incision was made in the interval between the cricoid and thyroid cartilages, and continued down to the membrane. A vessel, apparently a vein, bled so freely, that M. Roux was obliged to suspend the operation, with a view of tying it. The patient, however, who up to this time had breathed with difficulty, now ceased to do so, the pulse was lost, and life appeared extinct. M. Roux, regardless of the flow of blood, instantly plunged the knife through the crico-thyroid membrane, making a large opening, into which, however, the blood only flowed, and the chest still remained without movement. M. Roux then introduced a sound, and repeatedly forced in air from his own lungs, and drew it out again with part of the blood. After this artificial respiration had been kept up for a few minutes, the patient made a slight movement, and natural respiration was gradually restored; the sound was removed, and a silver canula introduced in its place, sufficiently large to fill up the aperture in the larynx, thus preventing the blood from being able to flow into it. On the 12th of February, a fortnight after the operation, the patient had begun to breathe by the larynx, the wound in which, however, was still kept open.

19. *Carotid Aneurism—Ligature on the Vessel**.—A woman, aged twenty-nine years, of a lymphatic temperament, was admitted into the Surgical Clinic of Pavia, in the beginning of the year 1827, on account of inveterate syphilis, the principal symptoms of which were violent nocturnal pains, exostoses on the right tibia, and indurated tumours of the cervical glands. After a mercurial treatment of some weeks, the patient finding her general health much improved, left the hospital; but the glandular tumours having shortly afterwards increased again, and at last formed large abscesses, she returned to submit again to the treatment, which she

* Ann. di Med. Sept. 1828.

had so imprudently interrupted. The ulcers eventually healed, and the swelling of the glands subsided, but there remained a tumour below the angle of the lower jaw, which, by its strong pulsation, was soon recognised as an aneurism of the right carotid. No information could be obtained from the patient, as to the cause by which it had been produced; she only related, that since its formation, she had felt a continual tingling in the ear, and slight vertigo; her sight had been impaired, and she had suffered much from palpitation of the heart. The tumour was of the size of an egg, about an inch below the angle of the lower jaw; it was examined by Professor Scarpa, who recommended the operation, and it was according performed, on the 23d of May, in the following manner:—An incision, of about two inches and a half, terminating at the sternum, having been made along the internal margin of the sterno-mastoid muscle; the sterno-hyoideus, and sterno-thyroideus, were pushed towards the trachea; and the carotid artery having been laid bare, was isolated from the jugular vein and pneumo-gastric nerve, and tied by a simple knot, between which and the vessel, a small cylinder of linen, covered with cerate, was placed according to the method recommeded by Scarpa. Immediately after the application of the ligature, the aneurismal tumour ceased to pulsate, and was reduced to a third of its former size; the temporal and external maxillary also ceased to pulsate; the patient fainted; and, after the recovery of her senses, complained of palpitation of the heart, dimness of sight, and of a sensation of cold over the right side of the face, which became pale, while the left half retained its natural colour; all these symptoms gradually disappeared within a few hours after the operation. The pulse of the right radial artery was much stronger than that of the left side. The wound, except in its middle part, which contained the ligature, was healed by the first intention. For some days after the operation, the patient complained of slight headach, some difficulty of swallowing, and an unpleasant sensation of heaviness in the right arm, the veins of which swelled considerably, but these symptoms soon disappeared, and, on the twenty-first day, the ligature came off with the linen cylinder. The cicatrization of the wound remaining, however, for a long time incomplete, and its margins assuming an œdematous, fungoid appearance, it was suspected that the syphilitic affection, of which there was still some slight traces, produced this effect; and the method of Cirillo (consisting of frictions of the oxymuriate ointment on the soles of the feet) having been accordingly employed, the wound was perfectly healed at the end of the second month. On the first of August, the aneurismal tumour was hard, free from pain, and the size of a filbert; the general health of the patient was considerably improved; her intellectual faculties, as well as hearing and sight, were not in the least affected, and the pulse was equally strong at both wrists; the right temporal and facial arteries only had a weaker pulsation than those of the left side, and the right side of the face appeared not so well nourished as the left.

20. *Prolapsus and Rupture of the Uterus during Delivery* *.—A woman, aged thirty years, of a weak constitution, who had, since her last confinement, been affected with incomplete prolapsus uteri, became again pregnant. During the latter period of gestation, the uterus gradually re-ascended into the pelvis, and at last regained its natural position. The incipient stage of labour seemed perfectly natural; the contractions of the uterus were very powerful; the os uteri had dilated to about half an inch, and the head had entered into the small pelvis, when, on a sudden, during a pain, the lower portion of the uterus prolapsed. On examination, Dr. Henschel, who attended the patient, found a large fleshy mass protruding from the vagina; it was of cylindric form, six inches in length, and two and a half in diameter, very tense, and of a bluish red colour; the upper portion appeared somewhat thinner than the lower, in which the os uteri, the edges of which were much tumefied, was easily distinguished. The patient was very much exhausted, and complained of excruciating pain in the prolapsed mass. The head of the child having descended through the lower aperture of the pelvis, lay between the labia pudendi, and was forcibly pressed, by the contractions of the uterus, towards the cylinder; the upper portion of which being violently distended on each uterine contraction, threatened immediate rupture. The os uteri having, meanwhile, dilated to more than an inch, Dr. Henschel resolved upon terminating labour by the immediate application of the forceps; which having been readily introduced, the head was without much difficulty brought towards the aperture, when the upper portion of the cylinder all at once began to burst; the forceps were accordingly withdrawn, and the head made to descend as slowly as possible, to prevent further laceration, but without success; for when the head descended through os uteri, the external surface of the cylinder, a little below the symphysis, presented a transverse rupture of about two inches in length, and of considerable depth, without, however, as it appeared, penetrating through the paries of the uterus. The child was born alive, but died within a few hours. After the removal of the placenta, the prolapsed portion of the uterus powerfully contracted; it became considerably shortened, but increased in thickness, so that when Dr. Henschell attempted to return it into the pelvis, its size occasioned great difficulty. This was, however, at last accomplished. On examining the internal surface of the vagina and lower portion of the uterus *in situ*, no trace of any wound could be discovered. During and after the laceration, the hemorrhage was slight, but the sufferings and exhaustion of the patient were very great. Emollient injections were thrown into the uterus, and small doses of opium given internally. The ensuing night was very restless; the patient lost much blood, and complained of violent pain over the whole abdomen, which was tense, and very tender on pressure; the upper portion of the uterus had completely contracted, but the lower was still very tumid and painful. The

* Sieb. für Geburtsh.

opium and emollient injections were continued, and a poultice laid over the abdomen. On the second night, the tension and pain of the belly considerably increased; the patient was very feverish, and in a desponding state. After the application of an emollient glyster, and some leeches to the hypogastric region, the inflammatory symptoms gradually subsided; the breasts filled with milk, and the lower portion of the uterus began to contract; so that on the seventh day it had nearly regained its natural size. The lochial flux was very profuse, and contained much purulent matter. Four weeks after delivery, the patient was perfectly cured. On examination of the vagina and uterus, no trace of any previous laceration could be discovered; the uterus was of the natural size, and, in the lower portion only, there was a slight degree of tenderness.

21. *Calculous Concretions in the Nasal Cavity.*—A middle-aged woman, of a robust constitution, had, for two years before her admission, been subject to a constant pain in the left side of the nose, accompanied by disposition to sneezing, coryza, mucous discharge, and subsequent ulcerations round the nostrils; these symptoms having continued for some time, the left nasal meatus became completely obstructed, and its parietes began to swell in such a manner, as to compress the lachrynal duct, in consequence of which the tears flowed over the cheeks, and the skin was very extensively excoriated. The continual irritation in the nose induced the patient to use many efforts to remove the obstruction, by blowing through the affected side of the nose; she soon felt something moveable in it, and at last succeeded in expelling a calculous concretion of a considerable size. This was just before her admission. The pain and irritation had considerably diminished since the discharge of the stone; the swelling had somewhat subsided, and the obstruction appeared less complete. On examining the affected side of the nose, no stone could be found, but the mucous membrane was ulcerous, and considerably thickened, and there was a constant discharge of purulent matter. To prevent a second formation of calculus, a solution of the carbonate of potasa was injected into the nose, and, after a few months, the patient was perfectly cured. The calculous concretion which had been discharged from the nose, was of an oval form, eight lines in length, and twelve in thickness; very hard, of a greyish brown colour, and had an uneven surface. On being sawn asunder, its nucleus was found to consist of a small cherry-stone. the kernel of which was reduced to a thin membrane; round the nucleus the calculous matter was deposited in thin concentric layers of different colours. The patient could give no information as to the manner in which the foreign body had entered the nose. On this occasion Dr. Graefe related a case which he had observed in his private practice:—A man affected with gout had, a long time ago, experienced the same local affection as the above patient; on introducing a probe into the diseased side of the nose, a deep-seated foreign body was felt, which, on attempting to extract it, broke into small pieces, and these having been eventually discharged, all

the symptoms caused by the mechanical obstruction of the nasal cavity, and by the irritation of the mucous membrane, gradually subsided.

22. *Ligature on the Spermatic Arteries for the Cure of Varicocele* *.—A man, of a robust constitution, had enjoyed good health up to his fifteenth year, when he observed a tumour forming on the left side of the scrotum, which gradually increased, and at last attained such a size, as almost entirely to prevent him from walking. Several surgeons had been consulted, who recommended absolute rest and cold lotions; but, as the tumour continued to enlarge, he applied, in October last, to M. Amusat. Fifteen years had then elapsed since the first appearance of the tumour, which had now become of the size of a child's head, and, although, free from pain, and unaccompanied by any general constitutional disturbance, rendered almost every movement so difficult, that the patient was anxious to have it removed by an operation. The nature of the enlargement having been clearly ascertained, M. Amusat resolved not to remove the testicle, but to place a ligature round the spermatic artery of the affected side. The incision through the skin having been made, as in the operation for inguinal hernia, M. Amusat experienced considerable difficulty in laying bare the artery, which was closely covered, and surrounded by the enlarged veins; but he at last succeeded, and tied all the arteries going to the testicle; the wound was simply dressed. Sortly after the operation, inflammatory symptoms, and, on the following day, a considerable œdematous swelling of the scrotum ensued; but, after copious venesection, and under the application of hot fomentations, these symptoms subsided; and, on the fifth day, the wound presented a healty suppurating surface. On the evening of the same day, however, an abscess formed on the left side of the scrotum, and, when opened, discharged a large quantity of fetid, purulent, and gangrenous matter; a great portion of the scrotum became eventually gangrenous, but, fortunately, the deep-seated parts were not affected, and the large ulcer, resulting from the mortification of the skin and cellular tissue, was at last completely healed. The wound of the operation was cicatrised on the eighteenth day after it; the ligatures having come away a few days before. At the time of the report (on the 21st of February), the patient was perfectly cured, except that the left testicle had become atrophic; the spermatic veins were changed into hard and tortuous chords.

23. *Insensibility of the Eye to certain of the Rays of Colour.*—Two cases of this singular phenomenon are related by Dr. Colquhoun, in the last number of the *Glasgow Medical Journal*. The gentleman who forms the subject of the first case has a decided taste for painting; and, from that cause, has long had his attention directed to the peculiarities of his sense of sight.

Case 1.—This gentleman relates his own case. He observes, that he does not invariably confound colours, to the distinction

* La Clinique.

between which his eyes is generally sensible. Thus the brilliant reds and greens in the plumages of certain birds, and in some fruits, he can always appreciate with perfect accuracy, whilst to the generality of eyes the difference between such colours, and those which he is certain to confound, is not perceptible, neither can he himself explain in what the peculiarity consists, which thus enables him to appreciate their quality truly. The colours between which he has the most difficulty in distinguishing the difference, are, in the first place, those reds which approach nearest to scarlet, and the yellower greens, such as the leaves of the lime tree, the birch, the elm, &c. When blue is added to scarlet, even in a minute proportion, he perceives the original scarlet changed; but when the same proportion of blue is added to the tint of green with which he is apt to confound scarlet, he is unable to distinguish the difference between this bluer green, and the scarlet to which blue has been added. If the blue be made to predominate decidedly in both mixtures, he can then perceive the difference, so long as the tint, or hue, is deep; but if these colours be diluted, the difference between them is not perceptible to him,—thus he does not confound dark green, and dark purple, but pale green, pink, and pale blue, all appear the same colour to him. He is also apt to confound dark, or rather deep green, and black, and the deeper shades of brown. If grey be of precisely the same depth of tint as the pale green, pale blue, or pale red, with which he may contrast it, he is almost certain to confound it with these colours; but he is particularly sensible of the difference between it and them, when the grey is strengthened by the addition of a portion of black. He is inclined to explain the circumstance of all persons who have the defect of vision in question, being what is termed long sighted, (that is, seeing distinctly objects at a considerable distance,) to their being very sensible to the contrast between black, and pale blue, pale green, and such other colours, whilst deep green, deep red, deep brown, &c., appear to them the same as black. All objects whatever, when viewed at a distance, lose their local colouring, and assume, more or less, of a pale, or azure blue tinge, which painters term the colour of the air, which is interposed between the spectator and the distant object. No colour contrasts to this gentleman so forcibly with black as this azure blue, and as the shadows of all objects are composed of black, the forms of objects which have acquired more or less of this blue hue, from being distant, become defined, and marked by the possession of shadows, which are invisible to him in the high coloured objects in a fore ground, and which are thus left comparatively confused, and shapeless masses of colour. So much is this the case with him, when viewing a distant object, as to overcome the effect of perspective, and the shading in the form, and the garments of human beings at some distance from his eye, is often so predominant, and marks them so distinctly, as to overcome the effect of diminution of size; and although he sees the object most distinctly, he is unable to tell whether it be a child near him, or a grown-up person at a considerable distance. It

has been suggested to him that this seeming defect of vision was ideal, and that it arose from a carelessness in naming colours on his part, but this certainly is not the case, for he has made many trials on the subject, which were quite decisive. Thus, he cannot perceive a bit of red sealing wax if thrown down upon the grass, nor a piece of scarlet cloth hung upon a hedge, till he is almost near enough the latter to touch it, although in one instance which he particularly remembers, this was so conspicuous to ten or twelve other persons as to be distinctly visible to them a mile off. He once gathered some lichen, as a great curiosity, from the roof of a fishing-house, situated on the estate of a friend. This lichen appearing to him of a bright scarlet, from the circumstance of its seeming to be of the same colour as the roof of the house which was composed of fancifully shaped tiles,—in reality the lichen was of a bright green, and the tiles of an unusually brilliant red. Upon another occasion, when in a party of foreigners, he happened to mention his inability to distinguish the difference between pale blue and crimson, a lady, who used rouge, left the room, and soon after returned, having supplied its place with a coating of a blue pigment, Prussian blue, and although the effect appeared monstrous to every one present, except himself, he remained totally unconscious of the change which had been made till it was explained to him. By candle light, all yellows appear white, crimson appears scarlet, and pale green appears blue, orange appears of a dirty red. He is not aware that any of his relations have the least peculiarity of vision. This gentleman's eyesight, although he is of an age when, with some people, it becomes rather defective, continues good, when he is not troubled with inflammation of the eyes, to which he is subject.

Case 2.—A man, of about fifty years of age, is an orchardist in Clydesdale. The different parts of his eye are, to all external appearance, perfectly well formed: the iris is bluish grey coloured, and there is a narrow circle of deep yellow round the pupil. It can distinguish the form of distant and minute things with the same distinctness which is found to be possessed by that organ when perfectly well formed in other men, at least it did so until about twelve months ago, when he found it necessary to have recourse to spectacles, for the purpose of reading, and of examining small objects in detail. But from early youth his perception of colour has been very defective. The first time, so far as he recollects, when his own attention was forcibly called to this point, was when at the age of about fifteen, he happened to be along with other boys in an orchard. He was then surprised to find that the difference of colour betwen the fruit, and the leaves of many trees, enabled his companions to discern between them at a distance, at which they were quite undistinguishable to his eye. Afterwards he became a weaver, and, in his instance, as in the recorded case of a tailor, whose organ of sight was similarly defective, awkward mistakes were constantly recurring, from the use of threads of improper colour for the patterns of his web. Especially if he happened to work when the day was dusky or clouded, it

was in vain for him to attempt to make an accurate selection among red, black, green, or purple threads, as he was always liable to confound the one with the other. He soon abandoned that business, and became an orchardist. In the course of last summer, by means of repeated experiments, certain facts were obtained respecting his powers of vision. His own leading division of colour is into the light and dark shades. The statement, given by Dr. Colquhoun, relates to colours as they appeared in full day-light, and as they appeared in the dusk of evening. 1. In full day light. *White:* All the different shades of white appeared alike. *Yellow:* He could always distinguish this colour. *Orange:* He considered as merely and intense and deep yellow. *Red:* In his own words, this generally appeared to him "a dark colour." But his ideas varied considerably respecting it, according to the different shades of red. He could readily distinguish the paler from the darker hue of every colour. *Green:* He was very deficient in perceiving this colour, and generally considered it a shade of drab. *Blue:* Upon the whole he was pretty accurate respecting this colour. *Purple:* He confounded with blue. *Brown:* He was very doubtful respecting the various shades of this colour. Umber brown he doubted if it were drab, brown, or black; liver brown, he considered to be black, and yellowish brown, drab. *Grey:* All greys he considered drabs. *Black:* Unless this colour was very deep, such as an ink or velvet black, he was very much at a loss to say to which of the darker colours it belonged, and even as to these decided blacks he did not speak with perfect confidence. Greyish, bluish and greenish blacks he suspected to be browns, and also pitch and reddish blacks, though, in these two latter cases, he seemed puzzled whether to call them black, brown, green, or red. 2. In the dusk of evening. The principal difference in his power of perceiving colour, when it was dusky, naturally amounted to no more than this, that his faculty of discrimination was in most cases still more deficient than in full day-light, so that his impressions seemed to be more vague and uncertain. In white, yellow, orange, grey, and blue, he seemed to be but a little less accurate than in a brighter light. 3. In strong candle light, he appeared still more deficient respecting some colours. When colours were removed to a little distance from this man, his power of discrimination seemed to cease entirely, except in so far as he might be able to feel that they either belonged to yellow among the light, or to blue among the dark colours. Thus, for example, on the occasion of a bright rainbow appearing in the sky, he could only discern two colours in it, the yellow and the blue; yet he was able not only to trace its figure distinctly, but was himself the first to point out a comparatively faint, secondary bow, that accompanied the other. When a piece of printed calico was exhibited to him, in which small red flowers alternated with a double stripe of pale and dark blue, he could, by a near scrutiny, discern all the colours, but at three yards distance the paler blue had become invisible, and he could not distinguish the red from the dark blue. On looking at a red tiled house, standing about

three or four hundred yards off, in the middle of a green field, his eye discovered no difference between the colour of the roof and the surrounding grass.

24. *Case of Extensive Suppuration, and Death, succeeding the Prick of a Pin**.—A woman, while washing or dressing clothes, received a prick from a pin, in the point of her forefinger. She continued her work t ll evening, without paying any attention to the occurrence; during the night, however, she felt hot and restless, with pain and swelling of the finger and hand. Under the belief that matter was forming, she applied poultices for two days; but finding the hand becoming worse, she requested Mr. Cunninghame to visit her on the third day from the accident. She was about fifty-six years of age, of a very spare, delicate habit, with a peculiarly anxious and irritable expression of countenance; she had always enjoyed a tolerable share of health, but never could bear much fatigue, or exertion. She had resided the greater part of her life in the country, and had very lately come to town, since which she had fallen off with respect to appetite and general health. There was much febrile excitement, with pain and swelling in the finger and hand. There was evidently no pus as yet collected, in either the hand or finger; but, with the view of relieving tension, an incision was made down to the bone, in the place where she had received the injury, a cold solution was applied to the part, and a cathartic administered internally. This practice was preserved in for a while, without any mitigation of symptoms; the incision in the finger began to discharge a thin unhealthy looking pus; the absorbents were observed to be inflamed as high as the elbow, but there was no tension higher than the wrist; leeches were applied, and aperients and diuretics given inwardly. The unfavourable symptoms still continued to increase, the sympathetic affection of the constitution became greater, the pulse was frequent and weak—great debility, with constant retching and vomiting,—appetite gone,—the pain in the arm, when moved, was excruciating,—the discharge from the incision had become black and fœtid,—the first phalanx of the finger was insensible, and the bone was felt in a semi-dissolved state,—there was no fluctuation in any part of the arm, nor were the glands in the axilla, at this time, affected. Another incision was made over the second phalanx of the same finger,—more leeches applied,—turpentine liniment to the finger,—and the arm fomented with a decoction of poppies, and a solution of acetate of lead. Sulphate of quina and sulphuric acid were ordered internally, with the alternate use of opiates and cathartics; still no improvement took place. On the twelfth day from the injury, the phalanx, now completely sphacelated, was removed The glands in the axilla were swelled and painful, but there was no indication of suppuration having taken place, either there or in the arm. The irritability of the stomach still continued, and she was unable to swallow the medicine. She was ordered wine and beef-tea, with a cataplasm to the armpit. On the seven-

* Mr. Cunninghame—Glasgow Medical Journal.

teenth day, fluctuation was distinct over the inferior angle of the scapula; an opening being made, two tea-cupfuls of a thin fœtid pus were evacuated. It was found that great detachment had taken place, and that the matter had burrowed extensively down the lateral and posterior parts of the chest. An opening was at the same time made in the axilla, but no track could be found extending down the arm. It was now evident, from the very debilitated state of the patient—from her inability to take nourishment of any kind—and from the great extent of suppurating surface, that but small hopes could be entertained of her recovery. Counter-openings were made at the most depending parts of the abscess—stimulating injections, pressure and bandaging, were all had recourse to, while tonics and cordials in every form were tried, but without in the least improving the quality of the secretion, or causing the slightest disposition to adhesive inflammation. Towards the end of this poor woman's life, large shreds of cellular membrane came away by the wounds, and, for a day or two previous to her death, some parts of the ribs were quite bared of their coverings. She died on the thirty-eighth day from the injury, and the eighteenth from the opening of the abscess.

25. *Amputation of the Lower Jaw* *.—A woman, aged thirty-seven, was admitted, on the 5th of May, 1823, under Dr. Anderson's care, at the Glasgow Infirmary. Two years previous, after a long continued attack of tooth-ache in one of the grinders of the superior maxilla, a projection of the left side of the palate took place, accompanied by the formation of a tumour on the face, near the situation of the left lachrymal sac. These swellings went on increasing in size, and it became ultimately necessary to lay open the antrum to remove a soft fungus, which completely filled it. The operation succeeded well; the opening in the antrum gradually closed, and no fungous regeneration could be discovered. In April last, besides general debility, rheumatism, and lameness, in consequence of a fracture of the neck of the femur from a fall, she complained of toothach in the lower jaw. As one of the grinders appeared loose, she was recommended to have it extracted. This was soon after done, and it was here that the fungus for which the amputation of the jaw was required, made its appearance. The first time Dr. Anderson saw this tumour was on the 5th of last September, when it was only the size of a pigeon's egg. At his request, the patient was brought to town, and carefully examined by several of his professional friends. The removal of the affected portion of jaw was reckoned practicable; but the infirm state of her health, and a suspicion that the fracture at the neck of the femur had arisen from a disposition throughout the constitution similar to that manifested in the jaw, were considered by the majority of those who saw her, to render so severe an operation unadvisable; and, under these circumstances, he did not feel himself warranted to undertake it. On the 23d October, he visited her again, in consequence of a request that something should be

* Dr. Anderson—Ibid.

done, as she had suffered repeated attacks of hemorrhage, and was daily losing ground. The tumour had now attained a much greater size; but as Dr. Anderson still thought it could be safely removed, he advised a consultation with his colleagues of the Infirmary. The following is an account of the appearance of the case at this time: A firm spongy tumour occupied the left side of the inferior maxillary bone, from the symphysis backwards to the angle. It pervaded the whole thickness of the bone, projecting below it towards the neck, where several small glands were felt enlarged; whilst, above, it pressed inwards on the tongue, and outwards on the face. It felt soft and elastic, and its upper surface was flattened, covered with a grey sloughy matter, and indented by the teeth of the upper jaw. She complained much of a thin fœtid fluid which oozed constantly from the mouth; and hemorrhage had occurred repeatedly to such an extent as to induce syncope. The grinders which remained on this side were carious, and the whole of the incisor teeth loose. The tumour was occasionally affected with gnawing pain, which extended to the head. The countenance was sallow, and the left side of the face considerably disfigured by what appeared to be exostosis of the superior maxillary bone, in the situation of the former operation on the antrum. The pulse was 110 and small, appetite bad, and strength much reduced. Had slight shortening, and the other usual appearances of fracture at the neck of the left femur, on account of which she was obliged to use a crutch in walking.

The members of this consultation differed in opinion respecting the propriety of operating. However, an operation was at last decided upon, and it was performed on the 30th of October, in the following manner:—The ascending plate of the bone was felt to be sound beyond the tumour, and the operation was commenced with the intention of applying the saw a little above the angle on the left side, and at the canine tooth on the right side, by which it was expected that the whole of the diseased structure should be removed. Having seated her on a chair, Dr. Anderson began by extracting the right canine tooth; but, in doing this, the socket yielded so as to excite a fear that it was unsound, and he determined to include also the two anterior molares. The first incision extended from the angle of the mouth to the lobe of the left ear. The knife was carried through the masseter muscle, which was speedily detached from the bone, and the whole substance of the cheek being dissected from the anterior surface of the tumour, and from the chin, was turned downwards on the neck. A small straight saw, rounded off at the point, was now applied immediately posterior to the second grinder on the right side. When the bone had been about half divided in this way, it was snapped across with the forceps, recommended by Mr. Liston. The same process was practised above the angle on the left side, and the bone, having the tumour attached to it, was then removed. Here Dr. Anderson expected to have finished the operation; but on examining the anterior section of the bone, it was discovered, notwithstanding the apparent soundness of its outer shell, its medul-

lary cavity was filled with the same fungous growth as that which had protruded on the left side. A further exposure of the jaw, therefore, became necessary, and this was affected by detaching the cheek as far as the right angle, without any new external incision. It now became obvious, that although there was no fungous protrusion on this side, there was even more extensive disease than on the opposite, and the necessity for extirpating the whole was a duty equally unexpected and imperative. The previous removal of the bone on the left, permitted so much retraction of the cheek on the right side, that Dr. Anderson at first attempted to complete the operation at the joint, from within the mouth; and in this, he believes, he could have succeeded, having no occasion here to apply the saw. But expedition became a most important object; and he therefore divided the cheek as on the left side, from the angle of the mouth as far *dextrad* as the masseter muscle. Having detached this muscle from the bone, he experienced some of the difficulty described by others, in separating the insertion of the temporal muscle from the coronoid process. In effecting this, and endeavouring to open the joint anteriorily, by depressing the divided end of the bone, it broke across at the neck, immediately below the articular process. He proceeded to divide the pterygoidæi, and other muscles, towards the pharynx and mouth, by carrying the knife forwards in close contact with the inner surface of the bone, until the whole was removed. Having accomplished this, and finding that the fracture below the condyloid process had proceeded from diseased softening, he laid hold of the small portion that remained with a pair of tooth forceps. Along these he carried the scalpel, with which the capsular ligament of the joint was opened, and the head of the bone extracted. The whole of the lower jaw was thus removed, except that portion of the ascending plate, with its processes, measuring an inch and a half, which remained above the application of the saw on the left side. This, on examination, was found to be the only sound part, and even here the nerve was afterwards discovered by the microscope to be more pulpy than usual. The bony structure was quite destroyed where the tumour had protruded on the left side. Throughout the whole of the right side, even to the joint, the bone was uniformly enlarged, and contained the same spongy substance as had been observed at the first section with the saw; no part, therefore, was unnecessarily removed.

The hemorrhage from this operation was less than Dr Anderson had anticipated, being more from the general vascular surface than from the division of important vessels. About a pound of blood was lost, and only two ligatures were found necessary. But the previous debility, and the urgent symptoms during the operation, were calculated to excite very serious alarm. She became excessively restless, alternately vomiting the blood which she had swallowed, and appearing about to suffocate from some obstruction about the larynx, probably similar to that which occurred to Professor Lallemand, viz. a reversion of the tongue from the contraction of the divided muscles, for which he was obliged to

perform tracheotomy. The wound, which had a hideous aspect, was quickly closed, by hare-lip needles at the angles of the mouth, and stitches and plasters towards the ears. Dossils of lint were inserted on each side of the tongue, and the whole was supported from without by a compress and bandage. The pulse was feeble, but distinct; the dyspnœa subsided. She had fifty drops of laudanum in brandy and water, through an œsophagus tube; and was put to bed. No secondary hemorrhage took place. The wound united, and the patient appeared to do well for about ten or twelve days; but symptoms of disease of the chest—cough, and pain and uneasiness, at the top of the sternum—came on, and she died on the thirteenth day after the operation.

Sectio Cadaveris.—The incisions on both sides had united completely, except at a point which might have admitted a split pea, near the lobe of the left ear. The union was not confined to the skin, but extended through the whole thickness of the cheek, and required the scalpel for its division. A section being made through the anterior half of the antrum, that cavity was discovered to be of nearly three times its natural size, and contained about an ounce of transparent yellow fluid. It had no communication with the mouth, and it was lined with a firm, smooth, and shining membrane. The anterior and upper walls were nearly an inch thick, and the exostosis here was so soft as to be easily cut with the knife. Towards the palate it was thin, and almost quite cartilaginous. About eight ounces of sero-purulent effusion were found in the upper part of the right side of the thorax, and on the same side inferiorly, the surface of the lung adhered firmly to the pleura costalis and diaphragm. The substance of the lungs appeared sound on both sides. There was a fracture at the neck of the left femur, within the capsular ligament. It had united by cartilage, but was still slightly moveable. The shortening of the limb arose chiefly from the change of position which the head of the bone had assumed in relation to its neck, and not from absorption. There was no evidence of other diseases in the osseous system.

26. *Phthisis cured by Smoking Belladonna* *.—Professor Cruveilhier has lately used the belladonna in phthisis with great success, in the following manner: the fresh leaves were infused in a strong solution of opium, and then dried up like tobacco; the patients began by smoking two pipes a day, and the quantity was gradually increased to six pipes. In several cases of confirmed phthisis, the cough became less frequent and violent, the pain and irritation of the larynx subsided, the dyspnœa disappeared, the expectoration diminished, and became less troublesome, the profuse nocturnal sweats, the heat and febrile excitement, became less, and the disease seemed to be completely arrested.

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* Nouv. Bibl. Med.

GENERAL MISCELLANY

OF THE ACCESSORY SCIENCES.

1. *Medicinal Plants which flower in April.*—Pinus Larix, P. Abies, Prunus Domestica, Laurus Nobilis, Salix Fragilis, S. Alba, S. Maritima, S. Caprea, Oxalis Acetosella, Leontodon Taraxacum, Quercus Rober, Rorismarinus Officinalis, Cardamine Pratensis.

2. *On the Compression of Water in different Vessels.*—A series of very interesting researches have been made lately by different philosophers on the compressibility of fluids; but a serious difference of opinion has arisen relative to the effect of the pressure used upon the vessel containing the fluid experimented with. The fluid is put into a vessel, as a globe with a very narrow neck, and then this vessel being immersed in water, or some other fluid, pressure is applied to the latter in such a manner that it not only presses upon the fluid in the first vessel, in consequence of the neck being open, but also with an exactly equal force on the outside of that vessel; so that, in reality, the pressure on the inside and outside of the measuring vessel is exactly equal. Then arises the question of what alteration takes place in the form and capacity of this vessel in consequence of the pressure. MM. Colladon and Sturm, whose memoir has been rewarded by the Academy of Sciences, think that the bulk and capacity of the vessel has been *diminished* in the same proportion as would have occurred if it had been the outside layer of a solid body of the same form and material; whilst M. Oersted, and others, reasoning upon the circumstance that as the pressure increases on the outside an equal increase on the inside is opposed to it, think that, in reality, the capacity is *increased*, but by a quantity so small as not to be appreciable. The only effect of the pressure is in this case supposed to be that of making the vessel a little thinner.

M. Oersted, to prove his opinion, compressed water in vessels formed from very different materials, and having very different compressibilities in themselves. Thus, he compared the results obtained in lead, with those obtained in glass; the former, according to him, being eighteen times more compressible than the latter. After making the necessary corrections, he found that the apparent compressibility of water in lead was a very little more than in glass—the difference being only two millionths of the whole volume of water under the pressure of one atmosphere. Instead of this result, he states that the water ought to seem to expand, if, as his opponents say, the vessel contracts under the pressure as if it were the exterior of a solid mass of lead.

Similar results were obtained with bottles of brass and tin, and the details of all the experiments will shortly be published. M. Oersted cautions experimenters against the errors occasioned by bubbles of air, often found when water remains long in contact with metals, and also against an apparent effect of great compressibility when water has been for a short time only in contact with the surface of glass or metal.

In a note, appended to the remarks of M. Oersted, is a mathematical investigation of the question by M. Poisson, in which he arrives at the directly contrary result, *i.e.* the opinion adopted by MM. Colladon and Sturm, and states, that a hollow sphere, equally pressed within and without, suffers, when all other things are equal, the same diminution in radius as if it were a perfectly solid globe. From the same train of reasoning he also draws the conclusion, that, calculating from the same experiment, on the compression of a bar of lead, as that referred to by M. Oersted, the dimiuution, in capacity of a leaden bottle, is only one half of that stated by the latter philosopher in his remarks.—*Ann. de Chemie.*

3. *Maximum Density of Salt Water.*—A highly interesting set of experiments

upon the maximum density of solutions of common salt has been made by Dr. Erman, fils, the results of which are as follow.

i. Salt water, of specific gravity 1.027, has no *maximum* of condensation whilst it remains liquid; even when ice is forming in it, the portion remaining increases in density as the temperature falls.

ii. Salt water, of specific gravity 1.020, has no maximum of condensation or, at least, its maximum is not sensibly distant from 1. 25. R. (34. 8. F). which is the point of congelation.

iii. Salt water, of specific gravity 1.01, has a maximum, but very much lower than in pure water, for it is attained at the temperature of 1. 5. R. (35. 4. F.)

It appears, therefore, that the addition of common salt makes the point of maximum density of water descend, and, ultimately quite disappear; or, what appears more probable, puts it, as it were, below the point of congelation. This is a circumstance shewn to exist, with regard to the alloy of Rose, and which might, perhaps, be met with in many other bodies, if the changes in their volume occurring near the point of congelation were examined.—*Ann de Chemie.*

4. *Chemical Powers of Magnetism.*—The following experiment is by the Abbé Rendu:—If a bent glass tube be filled with the tincture of red cabbage, and two iron wires suspended to the poles of a magnet, be immersed in the liquid in the two branches, the tincture will, in a quarter of an hour, become blue, or of a deep green, in both branches of the tube, although the magnetism of the two wires must be of different kinds. The same result is produced, if well-tempered and polished steel needles be used in place of the wires. If one wire be removed, the effect takes place only in the other branch of the tube where the wire remains. The same results occur if the wires are not in contact with a magnet; but being then cleaned, they are found to have become magnetic. Tincture of litmus undergoes similar changes, but far more slowly, and the colour becomes green only in the leg containiug the north wire.

M. Biot considered that the oxidation of the wires might, in these cases, produce the ordinary effects of a voltaic current, but that as magnetism exerted its influence, notwithstanding the presence of interposed bodies, he advised M. Rendu to separate his wires from the tincture by small glass tubes closed at their lower extremities. In this case even, according to M. Rendu, the same phenomena were produced, but much more slowly. The tincture of red cabbage, however, became perfectly green in two days.—*Mem. de Savoie.—Bull. Univ.*

5. *Table of Atomic weight of Bodies, by* Berzelius.—The table by Berzelius is stated to be according to the most recent and exact analyses. We do not think it necessary to give any more of it than that part which relates to hydrogen as unity. The atomic numbers adopted by Berzelius are often double, and sometimes triple and quadruple those of other chemists; but these cases generally explain themselves, and, for the simple substance in the following list, are marked by preceding figures:—

2	Oxygen	16.026	2 Uranium 434.527
	Hydrogen	1.000	2 Bismush 213.208
	Nitrogen	14.186	2 Tin 117.839
2	Sulphur	32.239	2 Lead 207.458
2	Phosphorus	31.436	2 Cadmium 111.665
	Chlorine	35.470	2 Zinc 64.621
2	Bromine	150.821	2 Nickel 59.245
	Iodine	123.206	2 Cobalt 59.135
2	Fluorine	18.734	2 Iron 54.363
2	Carbon	12.250	2 Manganese 57.019
2	Boron	21.793	2 Cerium 92.105
6	Silicium	44.469	2 Zirconium 67.348
2	Selenium	79.263	2 Ittrium 64.395
2	Arsenic	75.329	3 Glucinium 53.123
2	Chromium	56.383	2 Aluminium 27.431
2	Molybdenium . . .	95.920	2 Magnesium 25.378
2	Tungsten	189.621	2 Calcium 41.030
3	Antimony	129.243	2 Strontium 87.709

4	Tellurium . . . 129.243	2	Barium 137.325
	Columbium . . . 184.896	2	Lithium 20.474
2	Titanium . . . 62.356	2	Sodium 46.560
	Gold 199.207	2	Potasium . . . 78.518
2	Platina 194.753		Ammonia . . . 34.372
2	Rhodium . . . 120.305		Cyanogen . . . 52.872
2	Silver 216.611		Sulphuretted hydrogen . 34.239
2	Palladium . . 114.526		Muriatic A. . . 72.940
	Mercury . . . 202.863		Hydrocyanic A. . . 54.872
	Copper 63.415		Water 18.026
	Nitrous oxide . . 44.398		Protoxide Tin . 133.806
	Nitric oxide . . . 30.212		Peroxide Tin . . 149.892
	Nitrous A. . . . 76.449		Protoxide Lead . . 223.484
	Nitric A. 108.503		Minium . . . 462.995
	Hyposulphurous A. . 48.265		Peroxide Lead . . 239.511
	Sulphurous A. . . 64.291		Oxide Cadmium . . 127.691
	Hyposulphuric A. . 144.609		Zinc 80.649
	Sulphuric A. . . . 80 317		Nickel . . . 75.271
	Phosphoric A. . . 143.003		Cobalt 75.161
	Chloric A. . . . 151.071		Peroxide cobalt . . 166.349
	Perchloric A. . . 167.097		Protoxide Iron . . 70.389
	Iodic A. 326.543		Peroxide Iron . . 156.804
	Carbonic A. . . 44.302		Protoxide Manganese . 73.045
	Oxalic A. . . . 72.578		Deutoxide Manganese . 162.117
	Boracic A. . . . 139.743		Peroxide Manganese . 89.071
	Silica 92.548		Manganesic acid . . 194.161
	Selenious A. . . 111.315		Protoxide Cerium . . 108.132
	Selenic A. . . . 127.341		Peroxide Cerium . . 232.282
	Arsenious A. . . 230.790		Zirconia 182.775
	Oxide of Chromium . 160.845		Yttria 80.425
	Chromic A. . . . 104.462		Glucina 154.325
	Molybdic A. . . . 143.999		Alumina . . . 102.942
	Tungstic A. . . . 237.700		Magnesia . . . 41.404
	Protoxide Antimony . . 306.565		Lime 57.056
	Antimonious A. . . 161.296		Strontia 103.735
	Antimonic A. . . . 338.617		Baryta 153.351
	Oxide Tellurium . . 161.296		Lithia 36.501
	Columbic A. . . . 417.878		Soda 62.646
	Titanic A. . . . 94.409		Peroxide Sodium . . 141.318
	Protoxide Gold . . 414.441		Potassa 94.541
	Peroxide Gold . . 446.493		Peroxide Potassium . 126.593
	Oxide Platina . . . 226.806		Sulphate Potassa . 174.859
	Rhodium . . 228.689		Protosul. Iron . . 150.706
	Palladium . . 130.552		Persul. Iron . . 397.754
	Silver . . 232.637		Protochloride Iron . . 125.303
	Protoxide Mercury . . 421.752		Perchloride Iron . . 321.545
	Peroxide Mercury . 218.889		Protochloride Mercury . 476.666
	Protoxide Copper . . 142.856		Perchloride Mercury . 273.803
	Peroxide Copper . . 79.441		Ferrocyanate potash . . 370.008
	Protoxide Uranium . . 450.553		Alum 951.378
	Peroxide Uranium . 917.132		Feldspar 567.673
	Oxide Bismuth . . 474.495		

6. *Preparation of Hydriodic Acid.*—Dissolve sixty grains of iodine in a sufficient quantity of alcohol; diffuse oue ounce of finely divided starch through four ounces of water, and add this, drop by drop, to the former solution; allow the iodine of starch to settle, and pour off the clear liquid. Pass a current of sulphuretted hydrogen through the deposit, the colour will at first change to orange yellow, from the formation of an iodide of sulphur, then it will become yellow, and ultimately white. The whole is to be filtered, the insoluble part washed with small quantities of water, and the solution slightly heated to dissipate the sulphurretted hydrogen. The solution may be obtained of specific gravity 1.5. and is pure dydriodic acid.—*Brande's Archives.*

7. *Two Sulphates of Manganese.*—If black oxide of manganese be digested with sulphuric acid, and the solution be evaporated, two proto-sulphates of manganese are obtained, distinct in their physical properties and chemical characters. One crystallizes in quadrilateral prisms, colourless, transparent, and terminated obliquely at the extremities. It is composed of 28 parts of water, 28.06 sulphuric acid, and 43.34 protoxide of manganese. Carbonate of potash throws down a carbonate of manganese, which becomes brown by exposure to air. The other salt is in the form of rhomboids, of a rose-colour, and consists of water, 44 parts; sulphuric acid, 32 parts; and protoxide of manganese, 24 parts. This salt is not precipitated by subcarbonate of potash.—*Pfaff.—Jahrbuch de Chimie.*

8. *Absorbent Powers of Salts for Water.*—The following results have been obtained by M. Brandes. The substances after being dried, even by a red heat, when they would bear it, were then placed in the atmosphere of a close vessel containing a little water:—

Carbonate of potash—100 parts absorbed 360.3 of water in 42 days; the solution itself is hygrometric; but the power varies with the state of the atmosphere.

Sulphate of potash—100 parts, heated for half an hour, lost 1.25 parts, and regained them immediately in a moist atmosphere.

Biturtrate of potash—100 became 96 by drying, and then 100.2 in the moist atmosphere.

Tartrate of potash—100 absorbed 82.3 of water in 53 days, and became liquid.

Acetate of potash—100 absorbed 91.1 in 4 days, and became liquid.

Sulphate of soda—100 became 41 by drying; then absorbed 54.6 in 36 days.

Phosphate of soda—100 lost 63 by drying; the rest absorbed 65 in 21 days.

Nitrate of soda—100 absorbed 80 in 220 days, and became liquid.

Borax—50 parts lost 18 by calcination; the rest absorbed 41 in 130 days.

Acetate of soda—100 lost 39.2 by heat; the rest absorbed 64.2 in 38 days.

Rochelle salt—100 dried became 82.5; these absorbed 26.75 in 8 days.

Chloride of calcium—100 absorbed 124 in 96 days; the whole was liquid on the 4th day.

Sulphate of magnesia—100 gave 57 by heat; these absorbed 44.68 in 83 days

Alum—100 lost 42.9 by heat; the rest absorbed 46.5 in 25 days.

Sulphate of copper—50 parts absorbed 17.35 in 62 days.

Verdigris—100 became 74.5 by drying; these absorbed 30 in 12 days.

Crystallized chloride of antimony—50 parts absorbed 55 in 70 days.

Emetic tartar—50 lost 1 by heat; the 49 absorbed 1.5 of water in 18 hours.

Protosulphate of iron—100 gave, when heated, 55.25 not quite anhydrous: these absorbed 52.75 in 14 days.

Sulphate of cadmium—25 p. absorbed 35 in 220 days.

Sulphate of zinc—100 gave 64 by heat; these absorbed 39.8 in 21 days.

Acetate of zinc—100 lost 23 by heat; the 77 parts absorbed 23.7 in 19 days. —*Jahrb. der Phys.*

9. *New Vegeto-Alkalies.*—The list of these bodies is exceedingly fluctuating. The highly interesting nature of a few of them confers great importance on the class, whilst the large number which are unimportant prevents that quick and specific verification of the announcements given to the world from various quarters which is desirable. It is only, therefore, occasionally, that some are struck out of the list, and that a great number remain of doubtful character.

M. Wackenroder describes one of these substances, which he calls *corydalia*, in consequence of its having been procured from the tubercles of the *corydalis tuberosis*. The tubercles in coarse powder are to be macerated for several days in water. A deep brown, slightly acid, liquid is obtained, which, being precipitated by an excess of sub-carbonate of soda, yields a clear grey precipitate. This digested in alcohol forms a greenish-yellow solution, which, filtered and allowed to stand, produces small crystals of *corydalia*. The largest part remains, however, in solution; the liquid, therefore, must be evaporated, the residue dissolved in dilute sulphuric acid, and the filtered solution precipitated by an alkaline carbonate. The precipitate is also *corydalia*.

This principle forms colourless, prismatic or scaly crystals, without taste or

smell; very little soluble in water; soluble in alcohol, and then acting on agents as an alkali; neutralizing acids, and forming saline compound of extreme bitterness.—*Kastner's Archives.*

Guarania is another of those substances described by M. Martius. He obtained it from the fruit of the *Paullinia Sorbilis.* The fruit is to be digested in hot alcohol; as the alcoholic solution cools, it deposits a fat oil, which is to be separated: it (query? the alcoholic solution or the fatty matter?) is again to be heated, and the *Guarania* will sublime. To obtain it quite pure, the sublination must be repeated. This substance is white, crystalline, and has a penetrating odour when heated: it readily dissolves in alcohol; with more difficulty in water; the solutions have a bitter taste, and act like an alkali on alcoholic tincture of roses, and litmus paper. The aqueous solution precipitates the solutions of nitrate of silver, proto-nitrate of mercury, and the acetate and sub-acetate of lead.—*Kastner's Archives*, vii. 266.—*Bull. Univ.* A. x. 170.

10. *Composition of the Mud of the Nile.*—The composition of the deposit from the Nile waters, according to the analysis of M. John, is sand, water, and clay coloured with a little oxide of iron, with a few grains of quartz, and mica, 76 parts; carbonate of lime, 10 parts; carbonate of magnesia, 1 part; oxide of iron, 3 parts; sulphate of lime, 3 parts; extractive soluble in carbonate of potash, 5 parts, with a little extractive soluble in water. The latter substances explain the fertilizing property of this deposit. The specimen analysed was taken from off a wall disinterred at Thebes.

According to M. Regnault a portion of a deposit from Nile water, taken out of a canal, five hundred toises from the river, and dried in the air, contained 11 parts of water, 6 of carbon, 4 of silica, 4 of carbonate of magnesia, 18 of carbonate of lime, 48 of alumina.—*Journal du Bas Rhin.*

11. *Preparation of Grain and Seeds by Chlorine.*—M. Remond has been convinced, by numerous trials, that grain of all kinds, maize, the seeds of cruciform plants, potatoes, &c., by treatment with chlorine, are very much increased in vegetative power, are sooner ripe, and produce a crop three or four times as great as that obtained under ordinary circumstances. His process is, to steep the seed for 12 hours in river water, (never in well water,) then 14 or 15 drops of a strong solution of chlorine is to be added for each litre (two pints) of water, the whole well mixed, and the maceration of the seed continued for six hours longer in the sun light, and under a bell-glass, or, for want of a bell-glass, under a cover made with oiled paper. The seed is then to be separated from the liquid on a cloth, and, for the convenience of sowing, mixed with a sufficient quantity of cinders, sand, or dry earth. When sown, the water of maceration is to be poured over the ground.

When possible, it is advantageous to water the ground, once or twice at long intervals with water acidulated by muriatic acid, and in the same proportions as those mentioned. In addition to this process the ground must be cultivated in the ordinary way.—*Courier de l'Ain.*—*Bull. Univ.* D. x. 192.

12. *Man in the North of France.*—The Frenchmen of the northern provinces is, by nature, a superior animal to either the Englishman or the German; but that, by education, including the influence of government, religion, and the backward state of the useful arts, he is, at present, inferior to them. The cause of the natural superiority we consider to be principally the climate, and chiefly the superior purity and freedom from moisture of the air. This element is inhaled by us for what may be called its nutriment, during every moment of our existence, and its quality must, therefore, have an effect upon our constitution and character, so much greater than all the other elements of nutrition put together, that it is hardly possible for us to form an adequate idea of the full extent of its influence. The next powerful natural agent is temperature, and, we think, it may be very safely affirmed that of any two people, alike in respect to education, and civilization, those will be highest in the scale of excellence, who have been born, and who live, in the purest air and mildest climate. If agriculture and the useful arts, including government and religion, were as far advanced in France as in England, we think the Frenchman would be the superior character to the Englishman; and were the arts in France equal to the arts in England, and the state of education equal to what it is in Wirtemburg, we can not avoid coming to the conclusion that the Frenchman, in the latitudes of

Paris and Rouen, would be the first being in the west of Europe. Some may think this conclusion humbling, but we cannet see how it is to be avoided There is some presumption that man, in certain parts of Asia Minor and Greece, and possibly of Italy, might attain to a higher degree of perfeetion than in France, as civilization first began to spread in these countries; but our comparison does not extend to them.

The native excellenee of the character of the French consists in the warmth of their affections, and in the clearness and rapidity of their intellectual faculties. Their native faults are, of course, the extremes of their native virtues; insiucerity, because they are led by the warmth of their feelings to promise more than, upon trial, they find they can perform; and specuative rather than useful science because the reward of the latter is the work of time, and requires the exercise of patience, while the lustre of a brilliant invention encircles the head of the inventor with rays of immediate glory.

The defects in the natural character of the French, are to be counteracted by the progress of civilization, and more especially by inducing, among all ranks, a greater taste for what an Englishman calls the solid comforts of life. To improve the country people, to the utmost, in a physical point of view, it is necessary that they should eat a greater proportion of animal food, drink better wine, cider or beer, and that their houses should be more commodiously planned, and more fully stocked with furniture. The introduction of an improved agriculture, and of useful manufactures, will effect both these objects; and if, while this improvement is taking place, care be taken to educate, not slightly, but effectually, every individual, so as to elevate the moral character and taste of the laborious classes, and prevent them from falling into that state of degradation and misery which is connected with improved agriculure and the extreme of manufacturing industry in England, every thing will be attained which the friends of human nature could desire.—*Magazine of Natural History.*

13. *Aërolites contained in Hail.*—It is said by M. Nelioubin, that hailstones fell in the month of January, 1825, in the circle of Sterletamak, in the government of Orennbourg, which contained small stones; these being collected and analysed, gave, per cent.,

Red Oxide of Iron	70.000
Oxide of Manganese	7.50
Magnesia	6.25
Alumina	3.75
Silica	7.50
Sulpur and loss	5.00
	100.000

Kastner's Archives—Bull. Univ.

14. *A Lightning Stroke at Sea.*—On Friday, September 7th, at half-past one o'clock, the Dart steam-boat, passing through the water at about thirteen miles per hour on the five fathom channel, opposite Whitstable, running for Margate, was overtaken by a stiff squall from the west, with heavy rain. Several claps of thunder had been previously heard. After the squall had lasted a few minutes, and curled up the sea in a curious manner in patches, the denser part of the cloud seemed to settle down towards the vessel. Whilst noticing its proximity, *first* a very faint illuminating light waved over the starboard paddle-box, and immediately a strong flash and burst took place about nine or ten feet from the deck, directly between, although a little higher, than the paddle-boxes. The *noise* of the explosion somewhat resembled the discharge of a large howitzer, when close to the hearer, having in addition a hissing noise like a Congreve rocket, yet of shorter duration. The form and appearance of the fire was that of a flash from a twelve or fourteen inch mortar seen at night, accompanied by some thirty or forty red sparks, like those from red hot iron, when struck on the anvil. The flash, sparks, and hissing, seemed to go over the larboarp paddle-box towards the sea. One of the seamen on the look-out near the head of the vessel was thrown forward, bent, as he expressed it, to the deck. Two others near him received violent blows on the legs, all which, I have no doubt, arose from the sudden expansion of the air; indeed the expansion sensibly shook whole vessel, and the passengers on the aft-part of the deck felt the heat in

their faces from the flash. Luckily the rain had driven the passengers from the fore-deck either into the cabins or under the awnings of the after-deck.—*Quarterly Journal.*

15. *New Metal, Pluranium.*—This new metal is described by M. Ossann, as one of those he has discovered in Russian platina. The part of this native platina, insoluble in uitromuriatic acid, is to be operated upon for osmium; that is. treated with potash, evaporated to dryness, the dry mass mixed with a few crystals of nitre fused, and when cold, digested in water: the insoluble portion is to be again acted upon in the same way, until the part left has no metallic appearance, and then the various solutions so obtained with the undissolved residue, are to be mixed together, and nitric acid added in slight excess; a black precipitate is deposited, and the odour of osmium disengaged. The liquid is then to be distilled for the purpose of separating the osmium, and when reduced to one half its bulk, is to be left for twenty-four hours at rest, in which time long prismatic crystals will be produced, white, with a tinge of rose-colour, and very brilliant. These are perfectly soluble in water, and are reproduced by evaporation. Being heated on charcoal, they are decomposed, one part subliming, and the other being converted into a metallic globule. On adding a little muriatic acid and a piece of zinc to the aqueous solution, the zinc becomes covered with a dark grey reduced metal. When the crystals are heated in a tube, the substance sublimes entirely and unaltered, recrystallizing above.

That this oxide in crystals is not a compound of osmium is proved by its want of odour, and its distilling over in the solid instead of the liquid form, which belongs to the latter. It is not an oxide of bismuth, tellurium or antimony, because it is entirely soluble in water. A portion being sent to M. Brezelius, he confirmed the results of M. Osann, and says, 'according to all the trials I have made to convince myself, you have really found a new substance; for the small crystals which sublime, cannot be confounded with any other known body. At first, I thought them to be oxide of tellurium or antimony, but they do not sensibly dissolve in bi-hydro-sulphuret of ammonia, but are converted into a grey metallic sulphuret. This sulphuret easily fuses, becoming transparent and reddish yellow, but, on cooling, acquires an opaque, metallic, grey appearance. It may be easily roasted, and the oxide so produced sublimes at a dull, red heat. This easy sublimation, and the properties of the sulphuret, prove that the crystals are not a compound of bismuth.'—*Annalen der Physik,*

16. *Phosphoric Acid in Potash.*—According to M. Kobell, phosphoric acid is found in nearly all potash, in crude tartar, and in the ashes of most plants. It may usually be found in potash by saturating the alkali with muriatic acid, evaporating and crystallizing, redissolving the crystals, adding ammonia to the solution, and then muriate of lime. A precipitate forms more or less slowly, which has the characters of phosphate of lime before the blow-pipe, and moistened by sulphuric acid, communicates a green colour to the flame of a spirit lamp.—*Kastner's Archives.*

17. *Formation of Cyanide of Potassuim.*—When nitrogen gas is passed over a mixture of potash and charcoal, heated to redness, a considerable quantity of cyanide of potassium is obtained. When ammoniacal gas is passed over a heated mixture of carbonate of potash and charcoal, the same result is produced.—*Ann de Chimie.*

18. *Method of preparing the Sugar in the Ganjam District.*—After the cane is ready, it is cut in pieces of a foot or eighteen inches long; and on the same day it is cut, these pieces are put into a wooden mill*, which is turned round by bullocks. On one side of the mill is a small hole, sufficient to let the juice pass

* A very large wooden mortar, the pestle os which rests obliquely towards the side, and is so moved round in a circular manner, by means of a lever fixed at its top projecting esght or ten feet over the side, to the end of which lever two bullocks are yoked. It is the common oil-press of the Hindoos, but is exceeding inconvenient for extracting the juice of the sugar-cane, and shews how far behind hand the natives of that district are in in this part of the process, when compared with the small convenient mill employed hereabout. Nothing can shew more clearly how exceeding averse these people are to any change in their old customs.

through, which is received in an earthen pot placed for the parpose. The juice is then strained into other pots, containing about twenty-four puckar-seer, or 48 quarts *, and to each pot of juice is added about six dubs weight, or three ounces of quick lime. It is then boiled for a considerable time, till, on taking out a little, and rubbing it between the fingers, it has a waxy feel, when it is taken off the fire, and put into smaller pots, with mouths six inches in diameter. The mass may now be kept in this state for six or eight months, or more; and it is necesary, at any rate, to do so for a month or six weeks. When the process is intended to be continued, a small hole is made in the bottom, through which the syrup drains off. It is then taken out of these pots, and put into shallow bamboo baskets, that any remaining syrup may exude; after which it is put in a cloth, and the syrup is squeezed through the cloth, adding a little water to it occasionally, that it may be more perfectly removed. The sugar is then dissolved in water, and boiled a second time in wide-mouth pots, containing only three seers, with not too fierce a fire, adding, from time to time, a little milk and water, and stirring it frequently; which is used by these people to clarify it, instead of eggs, which their religion forbids them to touch. The scum is removed as it is thrown up; and when it resumes the waxy feel, on rubbing a little of it between the fingers, the process is finished, and the sugar is put into small wide-mouth pots to cool and crystallize; after which a small hole is bored for the purpose of draining off any little quantity of syrup that may still exude. The outside of the pots are now covered with cow-dung; and for the purpose of making the sugar white, or removing any syrupy or blackish appearance, the creeping vine, called in Moors, *panicha-dub*, and in Tellingas *necty-nas*†, growing in tanks and marshy places; it is put on t he top of the sugar in the pots, and renewed every day for five or six days. Should the sugar, on taking it out of the pots, be blackish or less pure towards the bottom, the bottom of the loaf being set upon this plant and renewed daily, will effectually remove that appearance. If it is wrapt in a wet cloth, and renewed twice a day, the sugar will also become white; it must be then thoroughly dried, and kept for use.

To make sugar candy, the sugar must be again dissolved in water, and boiled in the same manner as before, adding milk to it in small quantities: the proportion of three seers of sugar and half of milk, with water to dissolve the sugar. It is then put into other wide-mouth pots, with but three seer in each pot, putting thin slices of bamboo, or some dried date leaves, which prevents the sugar as it candies, from running into large lumps.—*Roxburgh on the Mode of Cultivating and Manufacturing Sugar.*

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* A mistake, for a puckar seer is two pounds, of course one quart.

† Conferva verticillato. It grows in great abundance, particularly in clear standing brackish warer near the sea.

BOOKS RECEIVED DURING THE MONTH.

1. A Treatise on Obstructed and Inflamed Hernia, and on Mechanical Obstructions of the Bowels internally; and also an Appendix, containing a Brief Statement of the Cause of Difference in Size in the Male and Female Bladder. By Henry Stephens, Member of the Royal College of Surgeons. 8vo. pp. 191 London, 1829.

2. Elsments of Pathology, and Practice of Physic. By John Mackintosh, M.D., Acting Surgeon to the Ordnance in North Britain, Lecturer on the Practice of Physic in Edinburgh. &c. &c. Vol. I. 8vo. pp. 484. Edinburgh, 1829.

3. A Treatise on the Principal Diseases of Children, with a Simple Method of Curing them; adapted for general use, and especially for Parents. By J. Gervino, M.D., Member of the Medical Colleges of the Universities of Pavia and Turin; late Professor of Surgery in Piedmont. 8vo. pp. 293. Underwood London, 1829.

ERRATUM.

In Mr. Gaskell's Paper on the Secale Cornutum, which appeared in our last Number, for 'fifteen hours,' read 'fifteen *minutes*' from the time of administering the secale the child was born.

All Communications and Works for Review, to be addressed to the Editors, to the care of Messrs. Underwood, 32, Fleet Street.

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CRITICAL REVIEW.

I.—*Elements of General and Pathological Anatomy, adapted to the present State of Knowledge in that Science.* By David Craigie, M.D. 8vo. pp. 816. Edinburgh, 1828.

Since morbid anatomy has been studied generally, as a branch of medical science, the practice of medicine has, undoubtedly, been pursued with much more satisfaction to the physician than when the phenomena of disease were attributed to causes of an impalpable and spiritual nature. A knowledge of, or an inference respecting, the structural condition of organs or tissues, forming the seats of internal diseases, imparts a degree of confidence or boldness to the practitioner, which he could not otherwise acquire by any course of study. He regards them as objects possessing a "local habitation," seizing originally one tissue in preference to another, and destroying, in their progress, the natural characters of the living structure. Thus, we learn from morbid anatomy, that diseases are objects of sense; that they are allied to particular forms of structure; that most of them, at the commencement, present analagous characters, differing, however, in modification, according to the nature of the tissue affected, and several other circumstances not well understood; that, in their progress, they change the sensible condition of the structure; that their extension appears to take place generally by continuity, as well along the same tissue as to other tissues in connexion with it. Morbid anatomy enables us also to prove the correctness, or to discover the error, of our diagnosis respecting the seats and pathological characters of diseases.

Allowing all these advantages to be derived from the cultivation of morbid anatomy, still the attention of the practitioner may be directed too exclusively to this branch of me-

dical science. Without any wish to undervalue the importance of morbid anatomy in any degree, we may be allowed to observe, that the practice of medicine still follows much the same course as it did before. The grand and sole object of the healing art, is the cure of diseases, and every branch of science capable of adding to our means of accomplishing this object, is not only worthy of cultivation, but demands particular attention on the part of the practitioner. It is not sufficient that he should be acquainted with the changes which the structures undergo while under the influence of disease, or that he should have the wisdom to foresee the extent of the disorganization likely to result in the seat of the malady, and its effects on the general system, if allowed to proceed: it behoves him, also, to have an idea of the vital properties of the parts concerned in the disease, and of the relation which connects it to the structure. Moreover, it will not suffice him to know that certain remedies are, in general, capable of removing certain diseases of a particular character: he ought to be able to infer, from his knowledge of the principles of general science—principles which govern universally the phenomena of nature—by what mode of action, or by the possession of what physical properties, such remedies have the power of bringing about a cure. We are not now going to draw a line of distinction between what ought to be considered facts, and what should be considered theory. We shall, however, state, unhesitatingly, that, as regards the practice of the healing art, facts, without theory relative to their application, are quite as useless as theory without facts. If those who pretend to disregard every thing which they have not recognized by the senses, were to analyze their knowledge, they would be, perhaps, surprised to find how few real facts they possess upon which to place their reliance, and how very limitedly useful these would be to the purposes of life, and to the advantage of society, if all theory or analogy relative to their application were excluded. If this be the case with respect to general knowledge, how much more is it so with regard to medical knowledge. The morbid anatomist may prosecute his inspections during all his life-time, and may make himself acquainted with all the minute morbid changes to which each tissue, or to which the structure in general, is subject, still he may be perfectly ignorant of the vital processes which have led to those changes, as well as of the mode of averting them. Diseases, differing widely in their pathological characters during life, frequently present the same kinds of morbid appearances after death; and maladies may be so intense as to destroy life, without leaving any

morbid trace by which even their existence could be inferred from *post mortem* examination.

These remarks are adduced, not with the view of shewing that the cultivation of morbid anatomy is of no importance to the medical practitioner, for we admit it to be not only of importance, but absolutely necessary; but what we maintain is, that other branches of the science are equally important. Physiology, especially inductive physiology, deduced from a knowledge, as well of the physical characters of the different tissues, as of the principles by which the general phenomena of nature are governed, forms a principal share of the foundation upon which the practice of medicine rests, when pursued as a science. The science of pathology, also, rests principally upon this basis. Morbid anatomy, cultivated in relation to these branches of medical science, as well as to therapeutics, is calculated to confer the greatest honour on the profession, and benefit on society. But it must be admitted, that the healing art, properly so called, has not advanced, of late years, in proportion to the advancement of morbid anatomy, especially as regards the province of the physician, and even that of the surgeon, if we exclude the increased confidence and manual dexterity which guide him in the performance of operations. This circumstance may be easily accounted for. Morbid anatomy enables us to discover the effects only which disease is capable of producing on the structure; and these effects, being very few, and manifesting, as objects of sense, many characters in common, compared with the immense varieties of pathological characters presented by diseases during life, lead to the supposition that most maladies require a similar plan of treatment; whereas experience sufficiently demonstrates that nothing can be more erroneous than such a supposition. For instance, the most common morbid appearance dicovered after death, is inflammation; and, unfortunately, students are generally taught that all other changes of structure are merely *effects* of this. The consequence is, that, as violent measures, so far as regards the subduction of the strength and energy of the system, have been, and still are, considered necessary to the cure of inflammation, such measures are too commonly resorted to in cases where a plan of treatment quite different is best suited to the nature of the malady. The evil, as regards this circumstance, would be materially diminished if practitioners would keep in mind that inflammation as the disease, and bleeding, violent purging, &c. as the treatment, are not *necessarily* related. It would still be better if it were kept in mind that inflammation is, in reality,

not the disease, but the necessary *effect* of a great variety of diseases, whose essential properties are very different.

It is generally admitted, at the present day, that the only rational foundation for the classification of diseases consists of the different tissues of which the body is composed. According to this method of classification, disease is traced to its original seat, and nosology becomes a simple study, and likely to lead to useful ends. We have already remarked, that morbid anatomy leads us merely to a knowledge of the *effects* produced by disease in the different tissues. Disease is only related to living parts; it should, therefore, be remembered, that what morbid anatomy points out to our observation, or the preternatural marks observed in seats which have been under the influence of disease, are useful only as they enable us to infer the nature of the morbid process which went on during life, as forming a link between the symptoms or external characters of the malady and its tendency, or effect, on the local seat. After tracing diseases to their origin in the tissues, it is easy to admit that a particular disease may affect one tissue only, or that it may involve more than one. Indeed, it is by no means improbable that all the tissues bear a share in some maladies, especially in some kinds of fever. But this is a subject which we shall not here discuss. The next step is to consider that each tissue may be affected in different ways, or with different diseases, which lead to different morbid changes in the structure. These changes it is the province of morbid anatomy to point out. Every thing beyond these is matter of inference, which is excluded by the mere morbid anatomist, or by those who never permit their minds to embrace any thing beyond palpable facts, but which is absolutely necessary to the pathologist and medical practitioner. However, our duty leads us at present to notice, principally, the effects of disease as they are pointed out in the work before us.

Different attempts have, of late years, been made to form a classification of the tissues. To accomplish this object would, at first view, appear very easy; for it merely requires to follow the order which nature has chosen in their arrangement. But, when we consider how near the apparent characters of some of them approach those of others, and how extremely complicated they are in their arrangement, we shall not be surprised that almost every anatomist should differ from his predecessors in his plan of classification. Differing from Bichât, Dupuytren, Meckel, Mayer, and others, Dr. Craigie proposes the following division: 1, filamentous or cellular tissue; 2, adipose tissue; 3, artery or arterial tissue; 4, vein or venous tissue; 5, system of

capillary vessels; 6, erectile tissue; 7, system of exhalants; 8, lymphatic system; 9, lymphatic glands; 10, nerve or nervous tissue; 11, brain; 12, muscular tissue; 13, tendon; 14, white fibrous system; 15, yellow fibrous system; 16, bone; 17, cartilage; 18, fibro-cartilage; 19, skin; 20, mucous membrane; 21, serous membrane; 22, synovial membrane. To these are added "the compound membranes, for instance, the fibro-mucous and fibro-serous, and, lastly, the peculiar matter which forms the liver, the kidney, the female breast, the testicle, and other organs termed glands."

We shall offer no remarks as to the merits or demerits of this division, compared with those of other anatomists, as we know but little yet respecting the component structure of the different tissues. They have been hitherto classified according to their external qualities, or to the analogy of functions which they are supposed to perform; and this method is still followed so far as anatomists agree respecting these qualities. Thus, for instance, the serous membranes are supposed to be similarly constituted in all parts of the body where they exist; so are the mucous membranes, as well as all the other tissues which bear the same denomination. This, however, is not strictly the case; for the mucous membrane of the nostrils furnishes a secretion very different from that furnished by the lining of the stomach, intestines, or of the urethra; and it may be noticed also, that the muscular fibres of the heart, for instance, bear but a very distant resemblance in modification or function to those of the deltoid, glutei, and several other muscles.

Dr. Craigie's work is divided into twenty-four chapters, according, chiefly, to the number of distinct tissues which enter into the composition of the structure; and each chapter is sub-divided into two sections; the first containing the general, and the second the morbid, anatomy of each tissue.

Chap. I. *Division of the Textures.*—This chapter is devoted to the history of anatomy, and to an exposition of the classification of the tissues proposed by former anatomists. We have already noticed the arrangement adopted by the author.

Chap. II. *Filamentous or Cellular Tissue.*—Dr. Craigie prefers the term *filamentous* to that of *cellular*, as applicable to the tissue in question, because "the component lines, which do not exceed the size of the silk-worm threads, are so slender, that they do not form those distinct partitions which the term *cell* implies." He thinks that "the most distinct way of forming a true idea of the structure of the cellular tissue is to suppose a certain space of the animal body which is divided and intersected into an infinite mul-

titude of minute spaces *(areolæ)*, by slender, thready lines crossing each other." These spaces do not exist as distinct cavities in the healthy state, so that they cannot contain any substance, either solid or fluid. But there is a sort of vapour, or serous fluid, constantly exhaled from, and again absorbed by, this tissue, which fluid is more abundant in some situations than in others. In parts which are free from fat, such as the labia, the nymphæ, the scrotum, &c., it is said to be in greater quantities than in other situations. The filamentous tissue is said, by most anatomists, to be supplied with arteries, veins, and nerves; and it is also said to possess exhalant and absorbent vessels. But others have denied that any vessels or nerves terminate in it, although they perforate it in their way to the supply of other tissues. This question has not been decided by facts; it is therefore useless to enter into any speculation here respecting it.

Pathologically considered, "the filamentous tissue is liable to *inflammation*, acute and chronic; circumscribed, and with exudation of lymph; or diffusive and spreading, generally without this exudation, and with the production of purulent matter; to induration; to hemorrhage; to serous infiltration; to ærial distention; and to new growths." Strictly speaking, however, it is doubtful whether all these affections can be properly considered to have their seats in the filamentous tissue. If it has no vessels, as some suppose, it cannot be subject to inflammation, to hemorrhage, or to the production of purulent matter. Even admitting that it is supplied with vessels, hemorrhage and serous infiltration cannot be properly considered as diseases of this tissue itself, but of the arterial extremities which supply it.

Inflammation of the *acute* kind of the cellular tissue shows itself under two different forms, viz. the circumscribed and the diffuse. When circumscribed, and situated in the subcutaneous tissue, it constitutes phlegmon; "a name," says the author, "applied rather in reference to our observation of it near the surface of the body, than with a view to the natural relation between an organized texture and its pathological processes." It is seldom recognized in other situations before it has passed to the stage of suppuration. The diffuse form of inflammation of the filamentous tissue constitutes what is generally called erysipelas. This may occur in any part of the body, and may affect the superficial, subcutaneous, or the deep-seated layers of the tissue; nevertheless, it is more commonly observed in some regions than in others.

Inflammation of a *chronic* kind is not uncommon in the cellular tissue. This does not generally give rise to much

pain; and, when deep-seated, as it commonly is, it often happens that scarcely any notice is taken of it before the formation of purulent matter has taken place. It is the kind of inflammation which precedes the formation of chronic abscesses, and which, perhaps, continues in an inferior degree so long as any pus is effused. But, according to our idea, it is quite a perversion of the term to call this affection inflammation, unless we conclude at once that every disease consists in inflammation, in a higher or lower degree. Such an arbitrary conclusion would certainly tend to render pathology so simple as to enable any child to comprehend it; but we can perceive no advantage that the healing art would derive from it. On the contrary, it might tend to mislead many practitioners.

Hemorrhage into the filamentous tissue, independent of external violence, is not very common. Dr. Craigie observes, that "of spontaneous and idiopathic hemorrhage, no authentic example has been recorded." We scarcely know what should be considered idiopathic hemorrhage of this tissue, for its vessels are too small to carry red blood, in the healthy state. But we occasionally observe petechial or purpural spots, in cases where the system does not appear to suffer under any disease. The hemorrhage may, in these cases, be considered spontaneous, though small in quantity. However, we are inclined to attribute the hemorrhage which takes place *into* the cellular tissue, in scorbutus, purpura, and certain malignant fevers, to disease of the capillary system of *vessels*, rather than to any affection of the cellular tissue itself; because hemorrhage, in such circumstances, not only occurs in this tissue, but also proceeds from the gums, nostrils, and other surfaces where the cuticle is not thick enough to confine it, or wherever, in fact, the capillaries are thinly covered.

Induration of the filamentous tissue sometimes takes place, so as to give rise to what Underwood and Burns call the skin-bound of infants. This singular affection was first noticed by John Andrew Uzembezius, in 1718, since which period it has undergone the researches of various pathologists. The disease has been hitherto observed in infants only, and very soon after birth. Its duration varies, but the greatest number of infants die on the first, second, or third day, from the date of attack. The body, after death, appears hard, firm, and leathery, and of a violet or brownish colour, interspersed with yellow patches. The subjacent cellular tissue is very dense and granular, and when cut into, a reddish serous fluid oozes, and quickly coagulates. In the tissue itself may be observed greyish or yellowish granules,

which give a brawny aspect and sensation on cutting into it. "The bodies of infants, cut off by this disease, are small, being of the medium height of seventeen inches; and all the organs are imperfectly developed. Thus, the lungs are hard, marbled, uncrepitating, and sink in water; the windpipe is small, and the alimentary canal is shorter than usual in healthy infants of the same age. The heart, however, is large, and generally contains blood in clots. The foramen ovale is often open, and the arterial duct is never closed. The pericardium, and frequently the cavities of the serous membranes, contain more or less serous fluid." Nothing is known respecting the cause of this disease.

Serous infiltration, or anasarca, is a disease too well known to require any description here. We shall only remark, that, although anasarca consists of a preternatural quantity of fluid *in* the cellular tissue, still we do not consider it a disease *of* the tissue itself, strictly speaking. Some remarks upon this subject may be found in our last number.

Emphysema, or a collection of air in the cellular tissue, is not an uncommon affection. It generally takes place from lesion of some part of the surface of the air passages; but it may take place spontaneously, or it may occur as an effect of gangrenous inflammation and mortification. In the last instance it is always partial, being confined to the affected limb.

The *new growths* of this tissue consist of vascular sarcoma, melanosis, tubercles, and cysts.

Chap. III. *Adipose Tissue.*—We think it rather difficult to prove that the adipose tissue, as Dr. Craigie calls it, is is distinct from the filamentous. Winslow, Portal, Bichât, and a great number of other eminent anatomists, consider them identical. When there is no fat deposited, the adipose tissue cannot be distinguished from the general cellular membrane. It appears to us very probable that they are one and the same tissue, from the following circumstances, namely, that in lean subjects the fibres of the muscles appear to be connected by filamentous tissue only, whereas, when the same subject is in a corpulent condition, the fibres are found intermixed by a certain quantity of fat; moreover, in situations where the filamentous tissue is very abundant, and where, in ordinary circumstances, no fat is found deposited, such as in the axillæ, &c., a quantity of fatty substance may be observed in corpulent subjects. We must either infer that the adipose and filamentous tissues are the same, or that the situation of the former is not the same in all subjects. The fat, in corpulent bodies, is not only more abundant in those seats where a certain quantity of it is

found in the generality of subjects, but it is also deposited in situations where none is found in the generality of bodies. It would appear as if the cellular tissue were more disposed to secrete fat in some situations than in others, but that, in bodies where the nutritive function is very actively performed, every portion of it takes upon itself that function in a more or less degree. So far as our anatomical researches have extended, and, adding to these, the phenomena of some diseases of the cellular tissue, we have been always disposed to consider this tissue capable of performing two offices, one allied to each of its surfaces. The external surface of each filament is a serous membrane, from which a constant exhalation of serous vapour is going on, and by which the vapour is again absorbed. In anasarca, this vapour accumulates, and condenses into a liquid form, either from a deficiency in the function of the absorbents, or from relaxation, or some other morbid condition of the exhalants. Each filament is a hollow tube, and, by the numberless intersections of all the filaments situated in a given space, numberless *cells* are necessarily produced, in which the fat is secreted or deposited. Thus, the serous fluid being exhaled, external to the tubes or cells, is inclosed within no shut spaces, and when exhaled in preternatural quantities, as in anasarca, there is no obstruction to its descent, according to its own gravity, into the most dependent situations. It moves through the innumerable cribriform spaces, formed by the intersections of the filaments, whereas the same intersections necessarily divide all the filamentous tubes into cellular spaces, bounded on all sides, the fat deposited within which, however fluid, is necessarily confined to, and retained in, one situation, until again absorbed. The filaments are much coarser, consequently the cells formed by their intersections are much larger, in those situations where the fat is generally most abundant, than in others.

Did our limits permit us, we might adduce several more reasons, deduced from observing the effects of disease, in support of this view. It must, however, be allowed, that several very eminent anatomists have considered the adipose tissue as distinct from the filamentous, or cellular, as it is generally called. Among these may be mentioned Morgagni, William Hunter, and Beclard, with whose opinions our author seems to agree

The diseases to which the adipose tissue is said to be subject, are, 1, inflammation; 2, hemorrhage; 3, excessive deposition of fat, of which affection some curious instances are on record; 4, extreme diminution of fat; 5, adipose sarcoma; 6, steatoma; 7, melanosis.

Chap. IV. *Artery or Arterial Tissue.*—Strictly speaking, the arteries consist of three tissues, very different in their anatomical characters. The inner is a thin, semi-transparent, polished membrane, "which is said to extend, not only in the one direction over the inner surface of the left ventricle, auricle, and pulmonary veins, but, in the other, to form the minute vascular terminations which are distributed through the substance of the different organs." Exterior to this is the proper tunic of the artery. It is a dense tissue, of considerable thickness, of a dun, yellowish colour, consisting of fibres disposed in concentric circles, placed contiguous to each other round the artery. This tissue was long, and is still, by many, supposed to be muscular. It has, however, very few properties in common with muscle. "The arterial tissue is close, elastic, fragile, and easily divided by ligature; muscular fibre is more loose in structure, by no means elastic," (this we consider an error,) "and instead of being divided or cut by ligature, as artery is, undergoes a sort of strangulation. The action of alcohol, diluted acids, and caloric, by means of hot fluids, which are not corrosive, affords a proof of the chemical difference of these animal substances. All of them produce, in the arterial tunic, a species of shrivelling or crispation, which seems to depend on more complete coagulation of one of the chemical principles; but no similar effects take place in muscular fibres." Physiological experiments, also, on the two tissues, furnish very different results. Without entering, at present, into minute inquiry respecting these, we may be allowed to observe, that neither the natural phenomena of the arteries, nor the effects produced upon them by the application of mechanical or of chemical stimuli, furnish any thing analogous to the natural phenomena of, or the effects of stimuli on, the muscles. Hence, as the two are so dissimilar, both in their anatomical characters and in their functions—in other words, as they possess such dissimilar properties—it would be absurd to try to identify them.

The external coat of the arteries consists of a dense layer of fibrous tissue, supposed to be formed of condensed cellular membrane, and which envelopes the proper arterial tunic. This coat forms a bed, as it were, for the vessels and nerves going to supply the artery. The external tunic does not give way, like the others, under a ligature. It is supposed to constitute the principal strength of the arteries, and to enable them to withstand the impulse of the heart on the blood; but it has been proved, by John Hunter, that a healthy artery, even if skinned to transparency, is still strong enough to withstand the force of the heart. Belier-

ing, as we do, that the calibre of the arteries, with the exception of the main trunk, is always below the point at which the medium of their elasticity would place it, we consider it by no means a necessary consequence that a bursting should take place on the removal of the external tunic from a portion of any arterial branch. Indeed, we may adduce the cerebral arteries, which are devoid of this tunic, in support of this opinion. But by depriving an artery of its external coat, we deprive it also in a great measure of its nourishment; for the small vessels and nerves are inclosed in this, and transmitted from it to the middle and internal tunics. Nevertheless, the experiment of John Hunter, already alluded to, disproves that "if detached even through a trifling extent, the arterial portion thus divided is sure to become dead."

The termination of the arteries has been a matter of great interest and of much speculation. Dr. Craigie observes, that the first undoubted termination of the arteries is immediately in veins; the second termination is that into the colourless artery *(arteria non rubra)*; and the third, which is supposed to exist, but of which no sensible proof can be given, is that into colourless vessels, supposed to open by minute orifices on various membraneous surfaces, and therefore termed exhalants.

We can only take a glance at the morbid states to which the arteries are liable. Dr. Craigie treats of them in the following order:—1. *Adhesive Inflammation.* The inner membrane is subject to this affection, as is proved by the effect of a ligature, by the pressure of the tourniquet, &c. A red or crimson staining of this membrane is not unfrequently observed in the examination of bodies after death. We have often witnessed it in subjects that had died of chronic diseases, and in whom there had been no reason to suspect inflammation of the arteries. Dr. Craigie says, that "it seems to be the effect of a dyeing or tinging property of the blood, either during the last moments of life, or after the heart has ceased to beat." We very much doubt the correctness of this opinion. We have frequently examined the arteries in this state, and have almost always noticed that the redness pervades the whole thickness of the inner coat. It cannot be scraped off with the scalpel. Still we agree with the author, that "it must not be confounded with inflammation or its effects."—2. *Chronic Inflammation.* This may give rise to thickening, effusion of lymph, or to ulceration of the inner membrane.—3. *Ossification, or Calcareous Deposition.* This is, perhaps, the most common disease of the arteries, especially in old subjects. It commences at the

outer surface of the inner membrane, in the form of minute gritty points, or small isolated patches. From these the calcareous deposite sometimes extends to a great distance, destroying the natural elasticity of the vessel, and rendering it brittle.—4. *Atheromatous Deposition.* This consists of a cheesy, opaque substance, sometimes found between the inner and middle tunics.—5. *Steatomatous Deposition.* Between the inner and middle coats of the vessels.—6. *Aneurism.* Having recently given a review of an excellent work on this subject, it becomes unnecessary to offer any further remarks here.—7. *Wounds and their Consequences.*—8. *Aneurismal Varix.* This consists of a communication established between the cavity of a vein and that of a subjacent artery. It is caused by the puncture of a lancet in bleeding. The instrument transfixes the vein, and penetrates the subjacent artery, which establishes a communication between the two. The blood, consequently, rushes from the latter into the former with a hissing noise. Such a communication has sometimes existed for years without serious inconvenience.—9. *Varicose Aneurism.* This affection is caused by the same accident as the former, but in cases where the artery is not in immediate contact with the vein, a part of the blood is effused into the sheath of the vessels, instead of passing directly from the one into the other. Besides the above maladies and accidents, "arteries may be involved in the diseases of muscles, bones, and other parts, and in the progressive invasion of foreign or new productions."

In addition to the above affections, there is one which Dr. Craigie appears to have overlooked, namely, *spontaneous rupture of the inner coat;* which, according to Professor Turner, is the invariable cause of the sudden cessation of the pulse, found sometimes to occur in certain parts of the arterial system *.

Chap. V. *Vein or Venous Tissue.*—The author devotes rather a long section to the anatomy of the veins, but we do not consider it necessary to follow him through his observations on this subject.

The veins, pathologically considered, are subject to—1. *Circumscribed or Adhesive Inflammation;* an example of which is found in the ordinary union after incised wounds, as in venesection; 2. *Spreading Inflammation,* which is a most serious and fatal disease, and which is not unfrequently a consequence of venesection; 3. *Varix,* or permanent dilatation of the veins, generally occurring in those of the

* See Med. and Surg. Journ. Vol. I. p. 123.

lower extremities; 4. *Ossification*, a few instances of which are on record.

Chap. VI. *System of Capillary Vessels—Terminations of Arteries—Origin of Veins.*—This system of vessels has been a subject of much speculation among anatomists, physiologists, and pathologists. It is one upon which some of the most important functions in the body depend, and one which affords a most interesting subject of inquiry; still, no part of the system seems to be less understood, whether we consider its anatomy, its physiology, or its pathology. It would occupy a volume to speculate at large upon this subject, and neither our space nor inclination would permit us to indulge at present in such a speculation. We shall merely remark here, that Dr. Craigie has added no facts to those which are already well known to our readers.

It is by no means an easy matter to determine what are really the diseases immediately dependent upon the capillary system of vessels. As these vessels pervade all the other tissues entering into the composition of the different organs, and as they are the source from which all the tissues derive their nourishment, they might be inferred to form some share in every morbid process going on in the body. It would, however, be taking rather a confined view of the animal economy, to attribute the origin of every disease to the capillaries. It would be assuming that these vessels constitute the only living tissue in the system; whereas, it may be inferred that life is a principle pervading universally the whole body, but differing in modification in each tissue.

The pathology of the capillaries is arranged in the following order by Dr. Craigie:—1. *Inflammation.* Without entering into speculation respecting the *essence* of inflammation, it may be stated, as satisfactorily proved, that its phenomena depend upon the capillary vessels. The visible characters of the disease are dependent upon an increase in the calibre of these vessels, which increased calibre or dilatation enables them to contain a preternatural quantity of blood. In consequence of this change in the condition of the capillaries, the blood moves through them much more slowly than natural. If we inquire into the cause of the dilatation of these vessels, we shall not find it connected with the heart, or to depend upon any "increased action" of the vessels themselves. In one sense of the word, it may be said to depend upon weakness of the capillaries, or, in stricter language, upon a diminution of their vital or contractile property. To consider the heat and pain attendant on inflammation would be entering upon an inquiry involving the question relative to the essence of the disease. These are placed a step higher

in the grade of causation than the redness and swelling. 2. *Temporary dilatation of the Capillaries, not inflammatory.* This can scarcely be considered as a disease. 3. *Extravasation.* 4. *Mode of repair; union by adhesion and granulation.* This is more a physiological than a pathological process. 5. *Different effects of Inflammation.* These are various, comprehending suppuration, induration, and gangrene. 6. *Fever.* From all the phenomena of fever, it is evident that it is connected with the capillary system; but we have much doubt whether this system constitutes the only part with which the disease is allied. 7. *Hemorrhage.* Capillary hemorrhage is supposed to take place frequently without any rupture of the vessels. It is said to depend upon relaxation of the exhalants. 8. *Excess of nutrition, or hypertrophy.* This may take place in any of the tissues.

(*To be Continued*).

II.—*Traité Elémentaire de l' Art des Accouchemens, ou Principes de Tokologie, et d' Embryologie.* Par ALF. A. L. VELPEAU, D.M.P. Agrégé a la Faculté de Medecine, Professeur d'Accouchemens, d'Anatomy, de Pathologie Chirurgicale, &c. &c. &c. Jan. 1829. T. 2. 8vo. pp. 938.

THE phenomena of human parturition have excited attention from the most remote ages of antiquity to the present period, and even long anterior to the existence of the regular professors of the healing art. In confirmation of the truth of this assertion, we fearlessly appeal to the most ancient, and most authentic history of mankind—the SACRED volume—a work which alone exceeds the libraries of all the philosophers, in the weight of its authority, in the extent of its utility, and in its unequalled comprehensiveness of universal information. The annals of mankind and of medicine, also, substantiate our position. In every age and country we learn, that the parturient process has always excited attention, sympathy, and, generally, assistance from every class in society. We farther find, that the oldest and most authentic writer had directed his attention to the management of diseases incident to female health, and left ample precepts in the Book of Leviticus, which were implicitly adopted by all the eastern nations for many succeeding centuries. The same venerable historian informs us, that the practice of attending at the nativity of our species was invariably allotted to females, for several centuries, especially among the Hebrews and Egyptians, the Asiatic nations, and, we may

add, among the Greeks and Romans. This practice existed soon after the creation, and has continued to our own times.

Although the healing art must be considered as coveal with man, still it did not become a distinct profession until the time of Hippocrates, which was about 460 years before the christian era. The immortal Hippocrates first separated the study of medicine from philosophy and religion, and is, therefore, justly entitled the father of physic; but he is equally entitled to be styled the father of surgery and of obstetrics. Among his voluminous works on every form of disease, which extends to seventy-two volumes, we find treatises on the diseases of women before and after conception, on the nature of women, on parturition, on the diseases incidental to parturition, and on the use of instruments in difficult labours. He must have had some practical experience in obstetrics, as his precepts most clearly prove. Thus, in tedious labours, he recommended sternutatories to excite sneezing, and, consequently, to expedite the expulsion of the fœtus. The modern physiologist must admit the utility of this proposal; because he knows, if the abdominal muscles be thrown into action, they will powerfully compress the subjacent viscera, and even the contents of the pelvis. The most ordinary practitioner is aware how coughing, sneezing, laughing, or the voluntary contraction of the abdominal muscles, will often evacuate the bladder, rectum, and uterus. He knows, too, that severe cough will produce abortion and premature labour. Every obstetric practitioner must have noticed the recommendation of medicines in cases of retained placenta—namely, that the patient should cough, sneeze, laugh, and bear down, in order throw off the secundines.

If the sternutatories failed, the father of physic advised the parturient female to be gently shaken at intervals, until uterine contraction should expel the infant. Again, if the infant were dead, its body putrid and swollen, and if the delivery could not be effected, the body should be brought away picemeal. Here was the operation of embryotomy. He held all presentations of the feet to be fatal, which, we need scarcely observe, is erroneous, as such presentations are the most favourable after the natural. In all transverse cases, where the side or any other part beside the head presented, he desired such part to be returned, and the head to be brought down; but he should have advised the operation of turning. He fell into another error when he recommended the extraction of the placenta in every case. He had no opportunity of making dissections, and hence his physiology is generally unfounded. Thus, he maintained that the fœtus was not animated some weeks after concep-

tion, and that the male was sooner possessed of vitality than the female—an opinion still maintained by canonists and legislators, and even by those in our own country at present. Thus, in the improved statutes of the last session of Parliament, the punishment is widely different for the induction of abortion before and after quickening, as if the fœtus was not alive from the moment of conception. Such is the doctrine in Lord Lansdowne's act, 9 Geo. IV. c. 31. June 1828. Though errors crept into the works of the great and unequalled founder of physic, which of his successors, even to this day, is less fallible? But, to return to his obstetric opinions, we find that he advised a pincers or forceps to extract the infant, a perforator, gladiolus, to open the head, and a blunt hook to fix under the clavicle, to facilitate extraction in difficult labours.

Such are the obstetric tenets of one who flourished more than two thousand years ago. Since his time, nearly all his eminent successors included the consideration of obstetrics in their writings, among whom were, Aristotle, Asclepiades, Celsus, Aræteus, Galen, Pliny, Rufus, Ephesius, Saranus, Œtius, Oribasius, Moschion, Rhazes, Avicenna, Avenzoar, Albucasis, Averroes, &c. &c.

Medical men were not generally employed, however, in the practice of obstetrics until the commencement of the 17th century, when our countryman, the immortal Harvey, after his grand discovery of the circulation of the blood, had devoted his great talents to the investigation of the mysterious functions of generation, and to the phenomena of parturition. His very interesting work, *De Generatione et De Partú*, appeared in 1651, and it contains unanswerable proofs of his practical knowledge as an obstetrician. We cannot comprehend the omission of his name, as a practical accoucheur, by some of our writers on this branch of the healing art, as his work on parturition contains very ample proofs of the fact. It contains an account of many puerperal cases, in which he had been consulted immediately after delivery, and of other cases, in which he performed both manual and instrumental operations. Thus, he says, "Novi juvenculam quæ ob summum pariendi laborem in animi deliquium incidit. Adeam vocatus," &c. Op. Cit. p. 366. In the next page he speaks of pedal presentations, and observes, "Pigro enim et laborioso partu tales nascuntur. Nihilominus in abortu, et ubi fœtus mortuus fuerit, aut aliter difficilis partus contigerit, adeo ut manuum opera opus sit, aptior exeundi modus est in pedes, ita enim tanquam adacto cuneo uteri angustiæ facilius aperiuntur." He decribes a case of laceration of the genitals in consequence of difficult labour,

p. 368, and one of procidentia uteri, in which a putrid infant was contained, p. 370. He also described the gravid uterus and the contraction of the organ immediately after delivery. "Reperi eum," he says, "statim a partu magnitudine capiti æqualem," p. 376. Again, "observavi autem in nonnullis orificium uteri statim a partu constrictum adeo, ut detentus intra uterum sanguis, subitoque inde grumescens et putrefactus sæva induxerit symptomata, cûmque nulla artê exitus ei parari posset, presentaneam mortem intulerit," p. 378. Several other cases are detailed in this page, which prove the practical knowledge of the author. In one puerperal female the lochial discharge was suspended, the os uteri was hard and closed, and was opened by our author with an iron instrument; an injection was thrown into the uterus with a syringe, when several pounds of grumous, fœtid blood escaped.

These extracts confirm our assertion that the illustrious Harvey was a practical obstetric practitioner. It is also evident that he must have been in practice for some time previous to the appearance of his work on parturition.

The example of Harvey, who had personally engaged in the practice of midwifery, was followed by the requisition of medical practitioners in all difficult cases. Some of our modern writers on this branch of medicine have stated, they say on the authority of Astruc, that medical men were first employed as obstetric practitioners in 1663, when Julian Clement was called to deliver Madame de la Valière, the mistress of Louis XIV.; but we can find no mention of this account in the work of Astruc, at least in his erudite history of obstetric writers. But even admitting the assertion, we have proved the purity of Harvey's claim as to the introduction of male attendants during parturition. It must be acknowledged, however, that the obstetric wards in the Hotel Dieu, in Paris, were opened about the year 1634, which is presumptive evidence that preternatural labours may have been attended to by the medical officers of that institution.

From the time of Harvey, many eminent men have both written on, and practised, midwifery; as Hildanus, Riverius, Chamberlin, Willis, Hoffman, Mauriceau, Sydenham, Ronheusin, Portal, Friend, Boerhaave, Dionis, Maubray, Oulde, Puzos, Astruc, Smellie, Roederer, Levret, Roulin, Maning, White, Hulme, W. Hunter, Boudelocque, Kirkland, Leake, Lefebure, Osborne, A. and J. Hamilton, Chambon, Denman, Rigby, Spence, Douglas, Aikins, Underwood, Clarke, Bland, Haighton, Joseph Clarke, Forster, Perfect, Burton, and Johnston. Most of these eminent individuals

published their works during the last century; since which time the following have added their productions: namely, Hull, Demangeon, Cheyne, Heberden, Willan, Plocquet, A. P. Buchan, Mahon, Burns, Merriman, Mondat, Douglas, Capuron, Hey, Gordon, Armstrong, Brenan, C. Clarke, Gardieu, Degland, Granville, Hopkins, sen., Power, Conquest, Ramsbottom, Mackintosh, Campbell, Davis, Hornet, Meygrier, Dewees, Bourdat, Chevereul, Guilbert, Duges, Blundell, Neale, Mitchel, Clocquet, Nægele, Ashwell, Ryan, and Velpeau. We do not offer this catalogue as a perfect account of the writers on midwifery, for it would be incompatible with the principles of this Journal to extend this article to the necessary length; but, we apprehend, those are the principal writers since 1800. For the history of this branch of medicine to the year 1762, we refer our readers to the works of Astruc and Demoran; and, for the continuation to the present time, to *Ryan's Introductory Lecture on the Rise and Progress of Midwifery*, 1828.

We have considered these observations on obstetric medicine absolutely necessary, as none of the constituted chartered medical bodies have, as yet, virtually included the subject as a part of the medical education in this country. To this hour, neither the Colleges of Physicians, Surgeons, nor Society of Apothecaries in the British dominions examine candidates on this most important department of the healing art. We have shewn that the most eminent men who have adorned the medical profession, cultivated every branch of medicine, and wisely considered that every form of human infirmity should be attended to. We fully agree with those distinguished characters, and have long advocated their principles. No matter how absurd and unnatural the artificial subdivisions of the medical profession in this country may be, we most cordially agree with Mr. Abernethy, and others, "that the medical profession, in all its branches, is one and indivisible." The motto of the practitioner of this science should be that of the Roman:

"Homo sum, nihil humani a me alienum puto;"

and this is adopted in every school of medicine and every college in Europe and America, except in those of our own country. The time has arrived when our public medical corporations must go along with the universal progression of intelligence and improvement. A spirit of reform has, at length, dawned on our profession, and ere long will, we hope, shine forth with such effulgent splendour as to illumine that profound obscuration which has hitherto so completely impeded the progress of the healing art in this country. The day has long gone by when the cultivators of

medicine might exclude the consideration of diseases of a certain organ from this course of education; and hence it is that a nominal knowledge, at least, of obstetrics is now required in the course of professional study in this country. But as yet there is no examination of candidates in this branch; but that deficiency will soon cease, as the Legislature has now taken up the subject, as we are well informed, and can venture to state this fact to our readers.

From the preceding sketch of the rise and progress of obstetricy, and from the immense number of recent writers on this branch of medicine, we scarcely expected the publication of a new systematic work on the subject, more especially as so many recent ones have appeared both in this country and on the continent. The work of M. Velpeau embraces only a part of the information comprehended in the modern acceptation of the term, obstetric medicine. He has merely discussed the subjects of embryology and tokology, and these he has treated most ably. He has condensed the most ancient as well as recent information, and has accumulated all the facts worthy of notice. He has omitted the diseases of the pregnant and puerperal states, perhaps in imitation of his countrymen, Capuron, Meygrier, and others; and therefore his work is far inferior to those of Drs. Burns, Dewees, and Denman. He tells us, in his preface, that the art of midwifery, like all other branches of medicine, made very little progress for many ages. Among the Egyptians, Hebrews, Greeks and Romans, it was reduced to the concern of the section and management of the umbilical chord, which was practised by the husband, a state in which it yet exists among many civilized nations. This state has led some persons to maintain, that the first man must have acted as accoucheur to his wife. At present our author contends, that the obstetric art has progressed with the same rapidity as the other branches of medicine. He proposes to define it, "The assemblage of the whole of the knowledge relative to the reproduction of the human species. This comprehensive and philosophic definition places obstetric medicine on a dignified base, and destroys the absurd, vulgar prejudice, which supposes a man may be a skilful accoucheur, but an ignorant physician."

According to this long received definition, the author was quite correct in the title of his work, which cannot be considered a treatise on obstetric medicine. But, like many modern medical writers, he has made extremely free with the personal pronoun I. He says, "I have forced myself not to be unjust towards any person; I have spoken of all without hatred or prepossession, but also without enthu-

siasm, and with perfect independence. The sciences form a republic, where each person has a right to search and examine; to have his opinions, and to say what he thinks. Truth is the avowed base of all who cultivate them, and one may arrive at it in a hundred different ways; and I never could comprehend why any reasonable man could he offended, that his ideas should not form laws for others. In adopting a course a little different from all other classical writers, I am not deceived with its value. That, which I have chosen appears to me more natural than any other, and it remains for the public to decide whether it be good or bad. I have proposed to give a name to the science of the accoucheur; because it replaces a circumlocution, and, finally, because it is very extraordinary that in France it should remain, nearly to the present time, without special qualification. In the first year of my appointment I employed the term *obstetricie*, derived from the Latin word obstetrix, or midwife; I found it much more regular than the word *obstetricque*, employed in Germany, and which M. Duges has endeavoured to naturalize with us."

The author next proposes the term tokology for parturition, "which has nothing too hard or too difficult in pronunciation; and which appears to me more conformable to the habitudes of our language, and to the rules of grammar." (Preface, p. 8.) We cannot well understand how our author, who has availed himself of the writings of most of our obstetric practitioners, could be really serious in proposing these terms as original, when they have been so long employed in all our universities, and by many of our obstetric writers. The obstetric art has long been styled the *ars obstetriciæ*, in this country, and the term tokology has been employed by Drs. Merriman, Blake, Ryan, and many others. Our Gallican contemporaries are exceedingly slow in acknowledging any merit in the profession in this country, but they always happen to be extremely ready to expose and censure every opinion of ours that is the least vulnerable. Our readers must be highly amused at the extreme modesty of M. Velpeau, and cannot but smile at his pseudo-original nomenclature. But to proceed to the body of the work.

The first chapter is on the parts subservient to generation, pregnancy, and delivery. This head is rather ambiguous, as one might suppose the author was about to describe the generative organs of both sexes; for, surely, these are subservient to generation; but, perhaps, a deviation from the more accurate title of his predecessors was necessary. There is nothing new in his description of the osteology of the pelvis, although no less than fifty-four pages have been de-

voted to the subject. This minute description equals that of any general anatomist, and is of little obstetric value to those who have to assist at the process of parturition.

The article on the difference of the pelvis, relative to age, sexes, and species, including all the deformities of this osseous cavity, is well worthy of attentive perusal. "To understand the causes of deformities we should study them in infancy, puberty, and at the adult age. We are told that rachitis is the cause of them during infancy. When the osseous system is imperfect, if the infant be prematurely placed in the erect posture, the weight of the body will be on the thigh bones, the base of the sacrum will be forced towards the pubis, and the acetabula will be forced towards the promontory of the sacrum. Thus we can account for the diminution of the sacro-pubic, and oblique diameters. Again, if the child press on one limb more than on the other, then one oblique diameter will be affected. If the child be placed in a sitting posture, the concavity of the sacrum will be more profound, and the anterio-posterior diameters of the brim and outlet will be diminished. If the position be on the back, the curve of the sacrum will disappear, and the coccy-pubic diameter will be contracted. If the position of the child be lateral, then the transverse diameter will be affected. Osteomalaxie, or mollities ossium, fractures, dislocations, caries, and syphilis, are the most common causes of deformities in adult age." p. 41—43.

The description of the several organs presents nothing novel, except a long paragraph on the elongations of the nymphæ in the different nations; and, also, that the hymen is muscular, and not membranous. The comparative anatomist will find much curious matter on the difference between the sexual organs of the human female and of the inferior animals. The structure of the uterus is discussed at length, and all the opinions of anatomists are faithfully recorded. The comparison of the internal organs of the human female with those of the inferior animals is highly interesting.

The second chapter is devoted to the functions of the sexual organs, and all the opinions as to the nature of the menstrual fluid, from the time of Pythagoras to the present period, are enumerated.

The third chapter is on the history of gestation, and evinces the greatest research and the latest information. The detail of true and false conceptions, including extra-uterine, tubal, and ovarian pregnancies, contains much valuable information. Appended to this subject are three very curious inquiries, on which our author has thrown some light. 1st. Is it possible to discover the sex of the fœtus

during pregnancy? 2d. Is it possible to create the sexes at will? 3d. As to the influence of season, climate, and public prosperity in the production of the sexes, and the proportions of the sexes. In treating these topics our author very judiciously avoids any allusion to the influence of the parent's imagination on the fœtus—a vulgar opinion, long exploded by the profession, and lately attempted to be revived in this country by Sir E. Home, and still more recently opposed by Dr. Ryan, in his *Manual of Midwifery*. M. Velpeau discusses his subject on purely scientific principles, and produces many facts which tend to prove the correctness of the affirmative of his propositions.

With respect to the first inquiry, whether it be possible to discover the sex of the fœtus during pregnancy? he tells us "that in the early ages, the people consulted, in turn, the stars, the gods, soothsayers and sorcerers. The Egyptians and Indians reckoned on the state of the heavens and constellations at the moment of fecundation; while the Greeks, and many others, invoked the phases of the moon. Hippocrates and Aristotle contended that pregnancy was more protracted when the woman carried a male than a female infant—that the mother possessed more vigour, activity, gaiety, contentment, her eyes were more vivid, the countenance more coloured, the pulse stronger and more frequent, the digestion better, and all the functions more freely performed; the breasts were more prominent and tender, the pulsations of the carotids were stronger, the veins fuller on the right side than on the left, the urine deposited a thick, red sediment, and the female, on standing up or walking, used the right foot." Our author deems it unnecessary to refute these assertions, but admits that some females experience peculiar sensations during the utero-gestation of the different sexes, but such cases are so rare as to be of no utility to the inquiry. p. 221.

The second inquiry is, whether it be possible to create the sexes at will? This our author decides in the negative. He ridicules the opinion that the right testis and right ovary form the male, and the left the female. He first quotes the opinion of Millot, and then refutes it. The latter has given the following sage advice—"that during coition the parties should lie on the right side to produce a boy, and on the left to produce a girl." Our author details the experiments of Legallois, who removed one of the ovaries of a rabbit, and yet the animal produced both sexes. But M. Velpeau relates a case that sets the question at rest. A female had ten or twelve children of both sexes, and she afterwards expired in

the Maternité. On dissection, but one ovary and one tube were found. p. 225.

Our author next quotes the experience of the French agriculturists, and their observations on the generation of the lower animals. They all agree in stating, that, if the wind be northerly, and the season dry and cold, mares, ewes, and heifers will produce less females than in an opposite state of the season; and will always produce most males, if impregnated by the more vigorous of their respective species. These observers are so certain of this fact, that they always select the youngest, most vigorous and robust males of such animals. Our author further observes, that all birds who unite in pairs during the season, as pigeons, turtles, &c., produce an equal number of both sexes; but the polygamous cock begets more females than males. Again, bitches, wolves, and cats, which copulate with numerous males, always beget more males than females. These facts, we are told, hold good in the human species. Thus, in Turkey, Persia, and all other countries where polygamy is allowed, there are more females than males produced; but in Europe, where such a state is not tolerated, we observe that the sexes produced are generally nearly equal. It is therefore probable that the sex is determined by the relative or absolute prolific power of the husband or wife at the moment of conception. Numerous researches are still necessary to transform this proposition into a mathematical truth; but if it be ever confirmed by authentic and faithful observation, it is evident that the art of procreating the sexes at will, shall not be a chimera, but it is very doubtful whether we shall ever arrive at a satisfactory conclusion respecting this interesting point of physiology. p. 227. The writer of this review has observed for some years, several instances which led him to similar conclusions on this subject. He has known three families, all relations, the husbands of whom married late in life, and were united to young healthy females, and in each family the female offspring was by far the more numerous.

The third inquiry, as to the influence of season and public prosperity on the production of the sexes of the conceptions, is ably discussed, and contains much interesting information. Our author quotes the observation and experience of MM. Bailley and Villermé, on this point, who assert "that the poorer and more sterile the country the more females will be produced. But as public prosperity or adversity affect both sexes, such states cannot influence procreation. Every person has observed the fact of more children being produced at one season of the year than at another. Thus, Villermé has observed 12,000 births, 1093 of these occurred in

January; 1136 in February; 1117 in March; 1057 in April; 1000 in November; 981 in December; 981 in September; 964 in October; 965 in May; 927 in August; 896 in June, and 884 in July; and, therefore, conception is far from being the same in all months of the year. He contends that mankind is more increased by prosperity, civilization, liberty, temperateness of climate, where the arts, industry, commerce, and the sciences flourish, than in the opposite conditions. Our author cannot but refer to the *Callipedie* of Quillet, and to the *Megalanthropogenie* of Robert, as to the faculty of begetting beautiful infants of high spirits and without passion. p. 249.

The three remaining chapters are on the human ovum, parturition, tokologic operations, and on the natural phenomena of parturition. These topics are treated in the most masterly manner, and occupy 730 pages of the work. We cannot devote further space to the subject, but conclude our remarks by stating, that the author has evinced great industry, vast research, felicitous condensation of the numerous opinions of ancient and modern writers; a just valuation of a great variety of single facts; acute and faithful observation, and great talent. We fearlessly pronounce this work one of the best that has appeared in France on embryology and tokology, and strongly recommend it to our readers.

III.—*A Treatise on the Diseases of the Chest and on Mediate Auscultation.* By R. T. H. Laennec, M.D., Regius Professor of Medicine in the College of France, Clinical Professor to the Faculty of Medicine of Paris, Physician to H.R.H. the Duchess of Berri, &c. &c. &c. Translated from the latest French edition, with Notes, and a Sketch of the Author's Life. By John Forbes, M.D. Member of the Royal College of Physicians, and Senior Physician to the Chichester Infirmary. Third edition revised, with additional Notes. London, T. and G. Underwood, 1829, pp. 736.

There can be no stronger proof of the high estimation in which M. Laennec's work is held by the profession, than the almost unprecedented rapidity with which the second edition has been sold. It is not many months since we had the honour of laying before our readers an elaborate analysis of that edition. That renders our present task an easy one. The merits of the work are now so generally acknowledged as to do away with the necessity of our urging any thing more than we have already done in its praise. It is, indeed,

deserving of every commendation which can be bestowed on it. The whole has been revised in the present edition, and several alterations and improvements have been made in various parts of it. Many of the notes have been modified, and several new ones added. From among the latter, we select the following, which relates to the method of employing percussion :—

"An important improvement on the method of percussion was recommended some time since by M. Piorry, and has been recently fully explained in his treatise "*De la Percussion Mediate.*" Paris, 1828. This improvement consists in interposing between the point of the fingers and the chest, a small plate of ivory on which the percussion is made ; and from which circumstance the inventor has, in imitation of Laennec, given the name of *Mediate* Percussion to his method. The ivory plate (which has received the name of *Pleximeter* or *Plessimeter*, from the words πλησσω, *I strike*, or πλῆξις, *percussion*, and μέτρον, *measure*), is of a circular or ovoid shape, from an inch and a half to two inches in diameter, and about one-sixth of an inch in thickness. It has either a raised edge or rim, or projecting handles, on its upper side, to permit its being held between the finger and thumb of the left hand, while it is struck with the right. In making use of this instrument, all that seems essential is to apply it accurately, closely, and, consequently, parallel to the surface. As in simple percussion, the blow may be made with one or more fingers, and must be rapidly executed, with the points but not the *nails* of the fingers: on this account the nails must be kept short. The pleximeter may be applied immediately on the skin or over some portion of the clothes ; and, as in the case of the stethoscope, it is necessary on some parts to interpose a small pledget of lint or soft linen, to ensure its accurate apposition.

"The following are the principal advantages which mediate percussion has over direct or simple percussion :—1. Owing to the diffusion of the impulse of the blow over a much larger space, and the impulse necessary to elicit sound being itself less, percussion by means of the pleximeter can be applied on parts that are inflamed or painful, as in the case of a blister or issue, in eruptions, &c. &c. ; for the same reasons, there is no fear of painfully affecting or injuring, by the concussion communicated to the walls of the chest, the diseased parts within, a circumstance not unfrequently observed in cases of pleurisy, both acute and chronic. 2. It permits a more extensive application of the process ; as, by means of the pleximeter, we can percuss every part of the chest, on an intercostal space or superficial muscle for instance, as well as a rib. 3. In using the pleximeter we need not be solicitous, as in the case of direct percussion, of selecting precisely similar points on the two sides of the chest, for comparison. 4. Mediate percussion is easier than the old method ; as having in the pleximeter always a perfectly level surface, we can with much more facility impinge our fingers with the requisite perpendicu-

larity, than we can do on the uneven surface of the chest. 5. It is also more simple than immediate percussion; as we uniformly employ the same process on every point of the chest; whereas, in the method of Avenbrugger, we must sometimes strike across the ribs and sometimes parallel with them. 6. Mediate percussion is more precise and minute in pointing out the limits of the diseased part, as the sound elicited from the pleximeter is derived exclusively from the point struck. We may have a familiar illustration of this in placing the instrument (or any thin flat solid) upon the side of the face, so as partly to rest on the inflated cheek, and partly on the cheek-bone: in tapping the plate in this position, we shall find that the difference of the subjacent parts is accurately pointed out by the difference of sound. In like manner, in the case of pleuritic effusion or hydrothorax, we can trace, with the utmost precision, the upper level of the fluid within the chest. For these and other reasons it cannot be doubted that *Mediate Percussion* enables us to obviate several of the difficulties and imperfections of the old method, and that it is therefore well entitled to the attention of practitioners. It has, moreover, the great and peculiar merit of being applicable to the diseases of the abdomen. For ample details on every point relating to this method, I refer the reader to M. Piorry's very valuable work. Different things have been used as *pleximeters*, and, among others, the horn cap which is now commonly affixed to the auricular extremity of the stethoscope. M. Piorry objects to this on account of the liability of horn to warp, and also on account of the perforation in its centre. Dr. Williams, however, seems to consider this last as no objection, but recommends the inner surface of the cap to be lined with soft leather, to prevent the clacking noise produced by the impulsion of the fingers. (*Rational Exposition*, p. 22.) My own experience is against the use of the perforated pleximeter; exclusively of an objection I have to the cap of the stethoscope being so made as to be easily removed. With the view of making the instrument conveniently portable, one variety of M. Piorry's pleximeter might be made to fit to the pectoral extremity of the common stethoscope."

As every thing now in practice has a tendency to run to an extreme, it is very necessary that the student, in the use of the stethoscope, should keep in mind the following caution, given by Dr. Forbes:—

"I think it highly necessary, in this place, to caution the student against yielding too implicit confidence to auscultation and percussion, as means of diagnosis, to the neglect or exclusion of the more usual methods. It is no doubt true, that these measures are of the very first importance in the diagnosis of this (phthisis) as of almost every other disease of the chest; that in many cases they alone suffice to fix the diagnosis; and that in others this cannot be established without them; at the same time, it is equally certain, that if we attempt, as our general practice, to draw our conclusions from these *signs* alone, without reference to

the local and general *symptoms*, we shall frequently not merely fail to attain our object at all, but we shall run great risk of falling into errors of the most serious nature. It is only by combining the practice of auscultation with the faithful observation of symptoms, and by studying the results obtained from both sources, with a reference to the pathology of the disease, that we can hope to attain such a certainty of diagnosis as can satisfy a philosophical mind. I dwell the more upon this point, on the present occasion, as pectoriloquism is one of the results of auscultation most likely to impress strongly the mind of the student, and because I am of opinion that our author lays more stress on it than it deserves. Though very valuable, I confess that it is far from being, in my estimation, the most valuable of the stethoscopic signs."

There is one more subject upon which we wish to offer a few remarks. This relates to the rythm of the heart. M. Laennec observes, that " the alternate contractions of the ventricles, as examined by the cylinder, and the pulse, as examined by the finger, afford the following results :—At the moment of the arterial pulse, the ear is slightly elevated by an isochronous motion of the heart, which is accompanied by a somewhat dull, though distinct, sound. This is the contraction of the ventricles. Immediately after, and without any interval, a noise resembling that of a valve, or a whip, or the lapping of a dog, announces the contraction of the auricles. This noise is accompanied " by no motion perceptible to the ear, and is separated by no interval of repose from the duller sound and motion indicative of the contraction of the ventricles, which it seems, as it were, to interrupt abruptly. The duration of this sound, and consequently the period of contraction of the auricles, is less than that of the ventricles—an incontestible fact of which Haller entertained doubts." M. Laennec further observes, " the relative duration of the contractions of the auricles and ventricles appears to me to be as follows :—A third (at most) or a fourth is occupied by the systole of the auricles; a fourth, or a little less, by the state of quiescence; and a half, or nearly so, by the systole of the ventricles." Upon this subject, Dr. Forbes makes the following remarks in a note to the present edition :—

' In a memoir just published in vol. iii. of the Transactions of the Med. Chir. Soc. of Edinburgh, p. 205, Mr. Turner has called in question the accuracy of this account of the motions of the heart, and, consequently, the accuracy of the relation of the sounds heard by the stethoscope, to these motions, as described by Laennec. Mr. Turner has shewn the general opinion of physiologists to be, that the contraction of the auricles *immediately precedes* that of the ventricles, and that the interval of repose is after the contraction of the *ventricles*, and not after that of the auricles,

as was the opinion of our author. Mr. Turner states that this opinion is further supported by his own personal observation of the phenomena of the circulation in men and animals; and he comes to the conclusion that the last of the two sounds, accompanying the motion of the heart, is produced by some other cause than the contraction of the auricles. The systole of the auricles he considers either as productive of no sound, or of a sound which is blended with that of the ventricles. He conjectures that the second sound may "be accounted for by the impulse occasioned by the falling back on the pericardium of the relaxed heart in its diastole, after it has been elevated or moved from its place in the systole." I regret that the publication of Mr. Turner's paper, only just as the present edition is going to press, prevents my investigating this point, which must be considered as of the very first importance in a practical point of view. For, as Mr. Turner justly observes, if his views be correct, "it is obvious that an error pervades the otherwise valuable descriptions given by Laennec of the actions and diseases of the heart." I may here add, that it has on several occasions occurred to me in practice, to find it very difficult to reconcile the explanation of the action of the heart, as given by Laennec, with the phenomena before me; although, at present, I cannot think the explanation of Mr. Turner the true one."

In support of the opinion that the contraction of auricles "*immediately precedes*" that of the ventricles, we find, upon referring to Mr. Turner's essay, that he refers to the description of the heart's action given by Haller, Lancisi, Senac, and Magendie. Lancisi says, that *no* time intervenes the contraction of the ventricles and that of the auricles—that, in a word, the contraction of the two appears synchronous. That this is not the case might be legitimately inferred from the presence of valves between the auricles and ventricles. But there is no necessity, in this instance, to rely upon inferred proof, as every one may satisfy himself upon the point by examining the action of the organ in a living animal. This we have done in a great number of instances, and we can bear testimony to the correctness of Mr. Turner's, as well as other physiologists' opinions upon this subject.

Now, if the heart be exposed in a living animal, it appears in *constant* motion at first, when its pulsations are strong; but it can be easily distinguished that the contraction of ventricles follows that of the auricles in much less time than the contraction of the auricles follows that of the ventricles. The contraction of the auricles is no sooner at an end, than that of the ventricles begins: no perceptible time intervenes. But, after the contraction of the ventricles is at an end, the auricles do not *immediately* begin to contract: a

sensible duration here intervenes. During this time the ventricles are gradually relaxing. The auricles do not contract again until the ventricles have relaxed to their utmost extent. The contraction of the auricles is instantaneous; it is over in the twinkling of an eye; and the sphere of motion of the auricular parietes is very small. On the contrary, the ventricles occupy, *comparatively*, a considerable space of time in contracting, and the sphere of their motion is much greater. The auricles are *almost* quiescent while the ventricles are *relaxing*. The fact appears to be, that, as soon as one contraction of the ventricle is at an end, a considerable portion of the blood destined to charge it for the *next* contraction, is forced into it, during its gradual dilatation, from the veins, by the *vis a tergo*, before the auricle *begins* to contract. The contraction of the auricle contributes merely to produce a degree of tension in the ventricle before the reaction takes place in it: in other words, it tends to fill that *completely* which was almost full before. There can be no doubt, in our opinion, of this being the case; for, first, the quantity of blood projected by the small extent to which the auricles contract would, by no means, suffice to *fill* the ventricles if they contained none before; second, as soon as the contraction of the ventricles is at an end, there is nothing to impede the current of blood into them, for the auriculo-ventricular valves open as soon as the ventricle *begins* to relax.

The above order of succession may be pretty easily distinguished in the motion of the heart while its power is still undiminished; but it may be much more easily recognized as the force of the organ is giving way, or as its motion is drawing towards a close. It will be then perceived that the heart remains quiescent for a considerable time between the contractions, that is to say, between the contraction of the ventricles and the next contraction of the auricles. But the contraction of the ventricles *immediately* succeeds that of the auricles every time. Moreover, it appears as if it were impossible for the ventricles to contract without being *preceded* by the auricles; and, also, as if the auricles could not contract without being *followed* by the ventricles. For, we have observed, even when the heart has been removed from the body, and placed on the hand, that, having remained quiescent for a moment, the auricles undergo a small, *quick* contraction, *immediately* followed by a springing motion in the ventricles, which, having gradually extended or relaxed themselves, the organ becomes again quiescent. The same order of motion goes on, at longer intervals, until the vital principle of the viscus has quite ceased. If, while the heart

is in this state, we prick one of the ventricles with any sharp-pointed instrument, it is not the part pricked which *begins* to move, but the *auricles*. These (or rather the appendices auriculorum) immediately undergo a slight, quick motion, which is immediately followed by a shortening of the whole organ, caused by the contraction of the ventricles.

From the above facts, to which we can bear testimony, from having witnessed them in a great many instances, it is quite evident that the noise, mentioned by Laennec, as "resembling that of a valve, or a whip, or the lapping of a dog," *cannot* be caused by the contraction of the auricles, as he supposed. We are, therefore, disposed to conclude, with Mr. Turner, "that, in applying the ear or the hand to the thorax, the contraction of the *auricles* of the heart is not evident to the senses, or is perceived continuous with the contraction of the ventricles, and that the two contractions communicate only one sensation."

As Mr. Turner further observes, "it remains to be determined, on what depends the second of the sounds and succussions which takes place immediately after the contraction of the ventricles." He asks, if it "can be accounted for by the impulse occasioned by the falling back on the pericardium of the relaxed heart in its diastole, after it has been elevated or moved from its place in the systole?" This appears to us very improbable; because the expansion of the ventricles does not take place *suddenly;* it is a gradual process, and by no means likely to bring the organ into contact with the pericardium with such rapidity as to cause the emission of a sound like that in question. It appears more probable that this sound is caused by the sudden closing of the semilunar valves at the origin of the aorta and pulmonary artery. It takes place almost the very instant the contraction of the ventricles is over, and just at the period of time when these valves might be supposed to shut. We merely suggest this as probable; it requires further investigation before the phenomenon can be satisfactorily explained.

IV.—*Letters on the Study and Practice of Medicine and Surgery; and on Topics connected with the Medical Profession, &c.* By James Wallace, Assistant Surgeon, R.N., &c.

Judging from the title of this book, we augured rather unfavourably of it. We are there told that it consists of "Letters, addressed to students and young practitioners of me-

dicine, to parents and guardians, and the public in general;" or, in other words, that it is addressed to *every body*—that it is a book suited for all tastes—and that all may read, and be edified by it. Now, although we are no enemies to medico-popular works, yet we have always been impressed with the idea, that those books which profess to supply a general feast for the public appetite—which profess to afford lessons of instruction to various classes of individuals—are, in general, but flimsy productions; and we confess that, in proceeding to the perusal of a book of this kind, we do it with some degree of prejudice on our side. In the present instance, however, we are glad to acknowledge that our opinion has not been verified. This is a book of very considerable merit, containing much excellent reasoning, and giving much wholesome advice to the several persons for whom it is intended. It is written, moreover, in a forcible, and, frequently, rather a pungent style of language, which renders the matter of it impressive, and gives an interest to the subjects greatly above what we ordinarily find in books of this description. The volume is made up of twelve letters, three of which are devoted to the parent and guardian, four to the student, two to the young physician or surgeon, and the remaining three to the public in general. It is not our intention to enter into any regular analysis of these, neither can we afford space for much in the way of extract; but we will endeavour to present our readers with enough to enable them to judge of the author's style, and his method of handling the different subjects which come before him.

We pass over the first letter, which treats of "the necessity of attending to the disposition before fixing the profession," and proceed to the second, where we find the author instituting a comparison between the three learned professions, divinty, law, and physic, as to the talent required, and the difficulties to be encountered in the study and practice of each. As might be supposed beforehand, he gives the verdict in favour of medicine, and, we think, with some degree of reason. This is his method of arguing.

"He who has just that ability which enables him sufficiently to understand, and properly to expound, the doctrines of the Gospel, is qualified to become a preacher. If he add piety and fervour to this, he may do all the good which the best of clergymen have done; it is not required of him, unless he feels himself fitted for the task, to engage in any very deep or difficult exercise. But with the profession of law it is very different. He has not only a long course of study to go through, and a great many lessons to learn, and a great many difficulties to overcome; but it is when he has finished what is called his course of study, that he may have

to encounter his greatest difficulties, and that his judgment, and the exercise of his mind, may come most severely to be tried. Although he may learn, during the course of his study, all that it is possible for him to learn, yet, when he comes to enter on his profession, he finds he has not learned enough. He has difficulty in applying his law; cases occur which he is not altogether clear about, and, with all his learning, he is sometimes at a stand. So law deserves, on this account, a precedence to divinity. And still, it is different with the professor of physic. For not only has he to learn, as the others, by study, all the first lessons of his art, and, like the lawyer, put them in practice after he has finished his studies, but he has to put his judgment to work at once, and upon the most trying occasions. He has no time to lose; death or life hangs on a moment, and what is to be done must be done quickly. The lawyer, if there be any difficulty in his case, can delay; he can wait either till he makes up his own mind, or till he has the opinion of others. And though the physician can, in some cases, do this also, in others he cannot. He may have to decide at once, and by himself too, upon a case which requires the utmost discrimination; and what he does once can never be undone again. This makes a wonderful difference between his duty and that of both the others. And, therefore, medicine surely deserves the first place, and those who embrace it ought certainly to be the most talented."

In the next paragraph we have a detail of the peculiarities of mind the physician or surgeon ought to be endowed with.

"He must have a natural quickness of parts, a ready perception, a sound judgment, a good memory. He must have about him that degree of solidity which is characteristic of a mind given to thought, and also that degree of acuteness which is characteristic of the mind that can turn its thoughts to account. He must have in his character a degree of boldness and determination rather above what is ordinarily given to men; for he will be called upon often to exercise this boldness, and if he has it not, he will make a bad physician. He should be mild in disposition, but at the same time he should be ready to combat the opinions of men, and make a stand against their prejudices whenever he thinks it necessary. He must be able to evince his boldness and his coolness, too, at all times. He must not be one that will lose his presence of mind on any emergency, or be agitated when he gets into difficulty; but, on the contrary, he must be cool and firm upon all occasions, and be ready, even at the most appalling and unexpected case, to put in practice what it may be necessary to do. His body must be strong as his mind, for in his practice he may have much fatigue, and if he has not a body well fitted to stand this fatigue, it will suffer, and his mind of course will suffer with his body. He must have a good eye and a steady hand. He must be patient in labour, and diligent in research; one who is ready to resign all for his profession, and who is constantly on the look out for what may add to his knowledge of it. And, above all, he must have

shewn that early attachment—that innate liking to his profession, which is so generally shewn by those who rise to eminence in it. It will not be enough that he is talented—that he is firm, and diligent, and patient, in what he sets his mind to—but he must evince a particular attachment to medicine, a fondness for it above all other things. This is, indeed, the great criterion by which to judge. For if the student does not shew something of this disposition—if he does not shew something of this particular fondness, he is not likely ever to rise to the summit of his profession. In a word, if he is not in possession of all, or nearly all, of the requisites which I have now mentioned, he is not well fitted for his occupation, and he never will be on a level with the distinguished of his brethren. He may practise, but he will be an inferior practitioner; and he will practise neither with profit to himself, nor with safety to his patient."

The above description, in its general tenor, meets our approbation, but we think there are two or three objections which may be urged against it. In the first place, it is seldom, perhaps never, that we meet with all these peculiarities in the same individual. Secondly, we think that even a portion of the lineaments here alluded to will, in general, suffice. And, lastly, we are satisfied that even within the circle of our own medical acquaintanceship we could point out not a few who have risen to great eminence in their profession without having evinced in any particular degree that "early attachment," that "innate liking," which Mr. Wallace holds to be the "great criterion." It is our own opinion, that when an individual is talented it matters but little what he sets his mind to; he will make, perhaps, nearly the same proficiency whatever may be his occupation. But Mr. Wallace is zealous in the cause, and we can assure him that, though we start these objections, we have no inclination to throw a damp over his zeal.

In his third letter he points out the impropriety of sending the unripened boy to study medicine, and fixes on seventeen or eighteen as the proper age at which to begin medical education. After some general remarks, he thus proceeds—

"But the youth who is to be brought up to the profession of physic must be even more than fifteen or sixteen years. This is an age which I have allowed will do to begin most professions, but there are *some* for which it will not suit; and medicine is certainly one of them. He that enters upon the study of medicine at fifteen years, enters upon it too young, and this he will find out when he has finished his education, and is ready to enter upon the field of practice. For medicine is a science which cannot, and which should not, be studied till the powers of the mind have been very fully developed, till the weaker feelings of the boy have given place to the stronger feelings of the man, and when the

mind can comprehend, and turn well to account, all the varied subjects which are to be brought before it. It is a science which is not to be studied by the weak, for though it abounds with beauty and interest, it also abounds with depths and difficulties; so that even the ripened mind has a difficulty in doing justice to it. Society is, indeed, not aware of the evil which has ensued from sending *children* to medical schools. They are sent there while they are yet in possession of their school-boy disposition, when they really do not know the value of what they are sent to learn, and their progress and diligence are just what we would expect them to be. They listen to the lecturer, but they cannot be properly impressed by what he says. If his theme be quite clear and interesting, then they probably hearken with attention, and probably with some profit. But if, on the contrary, it be abstruse, although it still may be deserving of all their attention, they give no attention to it; they are wishing him done long before the hour expires; like the school-boy, they are anxious to get to play again. Well, the years pass over them; at an early age they finish their education, and are ready to go forth into the world as medical men. But what are their feelings now? They feel that they are but ill qualified to act the part for which they are said to be prepared. They know that in undertaking the treatment of dangerous and difficult disease, they undertake what is, in a measure, to them darkness and uncertainty. They are conscious of the blunders (serious ones too) which they may commit when they begin to exercise their calling, and they are ever in fear of having their ignorance exposed. They keep back from the society of the better-informed, and avoid all trials of skill, being satisfied of their own inferiority. In a word, they feel that when they were finishing they ought only to have been beginning their education, and they will regret to the end of their professional lives the early age at which they were put to the study of medicine."

There is certainly a great deal of truth in the above statement, and we trust it may prove effectual in the proper quarter. To the following remarks we also give our most hearty concurrence:—

"It is well known that, now-a-days, whatever may be the profession which an individual embraces, it is expected that he will have a certain portion of learning *distinct* from his profession. It is, indeed, necessary that he should have this, for it is by this distinct learning that he is prepared (in nine professions out of ten) readily to understand the principles, and, in the end, acquire a perfect knowledge of his occupation. And, besides being so useful in this respect, it is so ornamental, and so generally found now among men, that he who is without it, though he may not acknowledge it, must feel the want of it very severely," &c. And again, "Independent of the advantage which a general acquaintance with learning is to a medical man, in enabling him to acquire a correct and perfect knowledge of his profession, it is of infinite

advantage to him in his dealings with society. We invariably think the more of a man the more general his attainments are. We think but little of the man who can talk about nothing save that which he is daily plodding at—who cannot enter into discourse except it be on the particular thing which is his occupation. And if we were choosing a physician, allowing there were two of the same ability *in medicine*, but the one far surpassed the other in other attainments, would we not pitch upon the one that was most generally informed? I venture to say, that the best informed man would get two patients for every one that the other would get, even allowing them to be equally capable of treating disease," &c.

In the fourth and fifth letters the author details the course of study which he deems requisite to make the perfect physician or surgeon. He thinks five years ought to be devoted to the study of the various branches of medical knowledge; and he, in a concise and explicit manner, points out the order in which they ought to be taken up, and the importance which is attached to each. The sixth letter furnishes the student with a judicious selection of text-books. The seventh professes to give him directions as to the method of carrying on his studies, from which we have much pleasure in extracting the following observations; indeed, the whole of this letter is deserving of the student's most attentive perusal:—

"In attending lectures upon medicine, it has been too much the case with students to pick out for themselves what they conceive to be the *important* parts of the profession, and study them; while the other parts, which they have set down as *unimportant*, they will leave almost unattended to. For example, in studying anatomy, some think it quite enough if they make themselves well acquainted with all the parts where operations are performed. They are satisfied if they know well the situation and relations of the trunks and great branches of vessels and nerves, and the other important parts which are apt to come in the way of operation. They will dissect carefully at the neck and the groin, the axilla, perineum, &c., because these are parts indispensable to the surgeon; but with the back, because the parts there are not just so important, they take almost nothing to do. With the minute ramifications of vessels and nerves, because we do not require to be anxious about these in our operations, they take as little to do. The minute anatomy of the brain they think it needless to study, because it is an organ encased in the skull, out of our reach. The one half of the technicalities of the viscera of the thorax and abdomen they are sure they may safely leave unlearned. And so on with many other parts, they think they may either skip them altogether, or, at any rate, that a very slight attention will suffice for them.

"But this is a most erroneous and unstudent-like way of going

to work. Why, if it were for no other use than to satisfy curiosity, I should like to see into every part of a subject. If I had no other end in view than merely to be enabled to say that I was master of it, I would endeavour to get to the bottom of whatever I might enter upon; and I would only be satisfied when I had pryed into every part of it. But with the student of anatomy there is, indeed, a necessity of prying into every part. Although it is true that some parts of the body are deserving of *particular* attention, it is also true that no part is *undeserving* of attention. For although, in a *surgical* point of view, some parts may seem insignificant, yet, in a *medical* point of view, they are highly important. We can never be good physiologists, or good physicians, if we are not also good anatomists; we can never know the functions, or treat the diseases of a part well, unless we know perfectly the structure, relations, and situation of the part; and those very parts which the ignorant man may deem unimportant, if he knew them better, he would find to be exceedingly important. A knowledge of the parts of the brain, and of the minute ramifications of vessels and nerves, and of the parts of the back, and of the parts of the viscera, and of parts seemingly still less important than these, will not only help the physician, but also the surgeon, in a multitude of ailments. Disease puts on so many forms, and the causes of disease are so often distant from the seat of it, and the sympathies which exist between different parts of the body are so numerous, and, altogether, there is so much to detect and account for in almost all the complaints which are presented to us, that unless we are perfectly acquainted with all the parts, with every sympathy, and action, and connexion, in the body, we will very often go astray in our opinion. It is generally this which makes the difference between a good and a bad physician. The one is an anatomist, and gets at once to the cause of the disease, and cures it; whilst the other, being an indifferent anatomist, remains in the dark, and fails in a cure. Besides, how is a medical man to read and profit by the works of others, if he does not know all the parts of that profession which he professes to practise? How is he to commune and consult with his brethren, and hold a respectable rank amongst them, if there be parts of his profession which he, from his ignorance, dares not venture to touch upon? And, how is that student to offer himself for examination, who feels that he is not qualified to answer *whatever* may be asked of him? It may be that he will be taken upon the very points which he has deemed unimportant, and, being found ignorant of them, he will very properly be rejected. I am sure it is unnecessary to say more upon this head. Every one who knows any thing of the subject, must be satisfied that an acquaintance with every part is indispensable, and that, though some may wish to get rid of them, neither minutiæ nor technicalities can with propriety be dispensed with."

We do not know whether his brethren will thank the author for the following piece of advice, which we find in the

ninth letter. We are afraid that all of them will not follow it, but that all *ought* to follow it is certain; and we must, at any rate, applaud his good intention in bringing it forward, and give him credit for candour and integrity of feeling.

"And, in giving to the world the remarkable circumstances which occur to us in practice, we are bound not only to publish those things which redound to our credit, and wherein we have shewn ingenuity or skill, but also those things wherein we have failed or fallen into error, in order that we may prevent others from falling into the same mistake. It has been too much the case with medical men to blazon forth to society all the creditable parts of their practice, while the unsuccessful parts—their failures and mistakes—they have carefully kept in the back-ground. But if it be the duty of a mariner, when he strikes upon a rock, to put up a beacon there, as a warning to those who may follow him in the track, so it is the duty of a surgeon, when he commits a blunder, to publish it, that it may prove a beacon to those who may be liable to fall into the same error. No doubt there is a natural dislike in man to become the recorder of his own failings and defects: but we know that the best will fail, and that the most careful will occasionally fall into error, and therefore we ought to be ready to praise rather than to blame the man who publishes his misfortunes, knowing that it is his regard for truth which urges him to the disclosure—knowing that it is his candour which is bringing to light what the hypocrisy of others is keeping in the shade. He, therefore, who has the advancement of science at heart, and who is anxious to benefit mankind as much as lies in his power, will promulgate whatever may happen to him, whether it be to bring him praise, or draw upon him censure. If the aged practitioner, towards the close of his professional life, would draw out a list of his unfortunate cases, to be left as a legacy to the generations following him, he would, perhaps, benefit them as much by that proceeding as by the successes which he makes known to them in his life-time. If each experienced man were to lay open to us what I shall term his Book of Blunders, we would have our knowledge immeasureably increased, and both the profession and society would owe him a double proportion of gratitude."

We can only afford space for one other extract. After observing, at the commencement of the eleventh letter, that the physician is too often thwarted in his measures by the interference of relations and friends, he thus proceeds—

"Now, people are not aware of the evil which they are causing by such conduct. They do not know that, in thus foolishly trying to prevent evil, they are actually producing it. But, it is true, that many of the calamities which occur in sickness are attributable to this cause, and to this cause alone. When a surgeon finds himself questioned and thwarted in whatever he proposes, he

really becomes afraid to speak of new measures; and, unless the disease be positively of a dangerous character, he tries whether he cannot get on without them. When he knows that he will only gain his end after many objections, if indeed he gains it at all, he puts off every severe measure at least to the last, and tries all other remedies before he will have recourse to the one which is to be disrelished, even though this is the one upon which he has most reliance. In the mean time the disease is making progress: the remedies put in use do not, perhaps, even keep it at bay; and when, at last, it becomes evident to all that something bolder must be done, it is found to be too late—even the severe measure now will not save the patient. This will not happen to a bold and determined surgeon, for he does his work in spite of all obstacles. He never allows himself to be drawn from the direct path of duty by any opinions which friends or attendants may choose to give. Whim and caprice never sway him; he acts boldly, and he speaks boldly, although, at the same time, kindly, wherever he thinks it necessary; and it is well for meddling friends when they fall in with such a surgeon. But others are not so able to combat prejudices, and they will rather give way before the tide of opposition, than muster up strength enough to stand against it. This is especially the case with the young surgeon just entering into practice, who, in his eagerness to conciliate all, opposes nobody, and, letting both patient and friends do just as they please, becomes a mere attendant—a mere looker-on at the disease. And so, between the foolishness of friends, and the over-pliancy of the physician, the patient falls a sacrifice. The arm which might have saved him is held back, and the disease, which, in the beginning, was but a trifle, becomes, in the end, a mortal ailment. No doubt it is affection which is doing this—it is the kindness and over-anxiety of friends which is the cause of the mischief. But if such are to be the fruits of affection, it would be better if it were banished altogether from amongst us. If such are to be the consequences to the sick, when friends become over-kind and over-anxious, then, instead of having friends around them, it would be better if the sick were left altogether deserted, and there was no one to care whether they lived or died."

We can ourselves bear testimony to the truths contained in the foregoing paragraph, and we sincerely hope that it may make a due impression on those concerned—indeed, the letter is fraught with the most excellent advice, both to patients and their friends. The tenth letter, "on amateur physicians and quacks," also contains some interesting observations. And the last on the list, "on the exhumation and dissection of the dead," is written in such a conciliatory spirit that, we should think, it must act very beneficially on the public mind at the present period.

We have thus hastily glanced at the contents of the volume before us, and, in conclusion, we have to observe, that

we think both the medical profession and public, generally, are considerably indebted to Mr. Wallace for the present publication. We do not agree with him in all his positions, and we could point out several omissions as well as inaccuracies in the work; but, on the whole, we think highly of it, and we trust that it will meet with the attention which it deserves.

ORIGINAL COMMUNICATIONS.

I.—*An accurate Report of an Examination for a Certificate at Apothecaries' Hall, London, December* 1828; *written shortly after it was concluded.*

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

GENTLEMEN—In offering to your notice the questions that were submitted to me at an examination which I underwent at Apothecaries' Hall, London, my object is to present your readers with an opportunity of forming a correct opinion on a subject of much anxiety to the student, and of high interest both to the profession and to the public.

The following questions have been seen by several gentlemen who have lately passed the same ordeal, and they consider them as forming a fair specimen of the usual manner in which these investigations are made.

Great ignorance has been imputed to the court of examiners, and their examinations have been ridiculed. This accusation I consider not only illiberal, but unjust; and allowing the examinations to be very elementary, yet the required period of professional engagements (nearly six years), the different studies all duly certified, and the degree of application requisite to enable the candidate to answer the questions in a satisfactory manner, cannot fail to furnish him with a knowledge of the general principles of his profession. Thus, this tribunal evidently affords great benefit to the community, by its excluding those ignorant pretenders and imposters, who, previously to the establishment of these salutary regulations, inundated and disgraced the country.

I am, Gentlemen, yours respectfully,

HENRY STORER.

3, Grenville-street, Brunswick-square.

1. IN LATIN.—A book of prescriptions was opened, and three were required to be translated grammatically; one very easy, the others difficult.

2. IN CHEMISTRY.—The pharmacopœia was opened, and muriatic acid was referred to.

Question. Let me hear you read and translate the method ordered for preparing muriatic acid.

Q. Give me the chemical process which takes place according to the old and new theory.

Q. What is the general principle of acidity?

Q. What exceptions are there to oxygen being the principle of acidity?

Q. What is the composition of ammonia?

Q. What is the composition of water?

Q. What are the component parts of atmospheric air?

Q. What chemical changes take place during respiration?

Q. What is the heat of the blood?

Q. What is the composition of nitric acid?

Q. What are the boiling and freezing points of water?

3. Materia Medica.—A large collection of drugs was shewn, without being marked, from which I was desired to select the purgatives, and give their botanical names, which were the convolvulus jalapa, c. scammonea, rheum palmatum—momordica elaterium, aloe spicata—stalagmitis combogioides, and cucumis colocynthis.

Q. What kind of purgative is jalap? what are its properties, doses, and preparations in the pharmacopœia? and the relative strength and proportion of each?

Q. What kind of purgative is scammony? Is it a gum, and how obtained? Give its preparations in the pharmacopœia, with doses. Is it given in any particular complaint to children, and with what generally combined as a purgative?

Q. How is elaterium obtained? relate the method, and give its dose, and name the diseases when most required, with the effects and treatment of an over-dose.

Q. Aloes, how many species are there? what kind of purgative is it? give its does, properties and preparations.

Q. Where is the colocynth obtained, and when gathered? give a description of the pulp, with the properties and doses of its preparations.

Q. What is camboge? when and how obtained? give all its history as before. Is it given to children in any particular affection?

Select the expectorants from these specimens (the drugs shewn us before)—viz. callicocca ipecacuanha—scilla maritima—and colchicum autumnale.

Q. What are the uses, doses, and preparations of ipecacuanha? where does it grow? when would you prefer prescribing this in preference to squills?

Q. Where is the squill root brought from? give its characters, uses, and doses, and when it should be discontinued.

Q. For what diseases would you prescribe the colchicum? which is its best preparation? and what symptoms arising should mark its effects?

Select the principal tonics.

Cinchonæ lancifoliæ, oblongifoliæ, and lancifoliæ; gentiana lutea; quassia excelsa; and cocculus palmatu calomba.

Q. How many kinds of bark are used in medicine? give their different characters, with their relative doses and properties; which is most preferred? what effect does the red bark sometimes produce? and what are the complaints in which it is generally prescribed?

Q. Give me the general division of fevers; what do you mean by an intermittent fever? describe the stages of each and the treatment to be adopted in each stage.

Q. What preparation of bark has been lately introduced? how prepared and given as a substitute?

Q. If bark failed in curing fevers, what remedies would you make use of?

Would you prescribe emetics, and when? would you bleed, and when?

Q. Where is the serpentaria brought from? what are its properties and doses?

Q. What kind of tonic is cascarilla, when most useful, and how usually prescribed?

IV. In Botany.—A book of plates was shewn; and about twelve were fixed upon; among them were the digitalis, hyoscyamus, belladonna, conium, papaver alb., solanum dulcamara.

Q. Where and when is foxglove usually gathered? give all its preparations and doses; which form is most useful in dropsy? give the symptoms and treatment of an overdose.

Q. What are the virtues and doses of the solanum dulcamara?

Q. Where is belladonna found? what are its preparations? and what effect has it particularly on the eye? name the diseases where most useful.

Q. How is opium obtained? give the process; enumerate the doses, properties, and preparations ordered in the pharmacopœia; give the symptoms and treatment of poisoning, with the tests for detection.

Q. Give me the relative strength of opium in the Tr. Opii, Pulv. Cret. C. cum Opio, and Conf. Opii.

Q. If emetics had no effect, what remedy would you apply in cases of poisoning?

Q. What is arsenic? Describe it particularly, give its doses and diseases when required; give the symptoms of poisoning from arsenic, and treatment you would adopt.

Q. What is the chemical character of corrosive sublimate? name, as in arsenic, all its effects, and symptoms when swallowed in an over-dose, with tests and treatment. How much mercury is in the liq. hyd. oxym.?

V. In Anatomy, and Practice of Physic.—Q. Let me hear you describe the general coverings of the brain; how many sinuses, hemispheres, ventricles, and nerves arising from it, with a general description of what is seen on cutting it transversely.

Q. Where does the par vagum go to?

Q. Give a general anatomical description of the lungs, and describe what parts are seen in the anterior, median, and posterior mediastinum.

Q. What particular affection attacks the superior part of the lungs? give the symptoms and treatment of pertussis, and of croup.

Q. How would you distinguish gout from rheumatism? name your principles of treatment.

Q. Give the classes and orders in Cullen's nosology.

Q. In what class and order is apoplexy? describe its symptoms and treatment—and how distinguished from epilepsy—would you give emetics in these affections?

Q. What are the exciting and predisposing causes of apoplexy?

Q. What would be your prognosis in this complaint, and the particular practice you would adopt?

II.—*Cases of Critical or Periodic Epilepsy, cured by Sulphate of Quinine.* By John Epps, M.D.

The first case occurred at the Royal Western Hospital. The individual, Alfred Bucksey, applied as an out-patient. His mother, who came with him, stated his age to be seventeen. About two months previous to his application at the hospital, his clothes had been wet through by the rain. The next day he was seized with epileptic fits, which continued with slight cessations during the greater part of the day. Since the first attack he had not passed a day without a fit, though the duration of the same was less. He stated that the fit came on every morning about nine o'clock. This circumstance indicated an analogy between this species of epilepsy and intermittent fever; and this analogy led to the following plan of treatment, which was attended with

the most beneficial results. With the view of bringing his bowels to a perfectly healthy condition, he was ordered the following powders:

℞. Ammon. Carb. gr.vi. Pulv. Ipecacuanhæ, gr.j. Pulv. Jalapæ, Comp. ℈ij. Pulv. Rhei, ʒj.

M. bene ut ft. Pulv. vj.

Another powder was ordered to be taken at seven o'clock on the morning after.

℞. Sulphatis Quininæ, gr.vj. Pulv. Cinnamomi, gr.j.

M. bene ut ft. Pulv. 1.

This powder was taken, a cup of coffee being ordered to be taken at eight o'clock; and what is striking, he had no fit on the morning on which he took the powder; though, on the following morning, when he took no quinine, he had. The next day, that is, the third, he was ordered the same powder, one being given him for every morning. A few days after the powders being taken, he appeared at the hospital, stating that he had no fits. I thought it advisable that he should continue the powders; and consequently he received eight more. At the same time, with the view of relieving any morbid condition of the spinal cord and membranes, a stimulating embrocation was prescribed, with which the spine was freely rubbed.

April 9th. This day the patient called at the hospital to return thanks for his perfect recovery.

It should be added, that the patient generally felt pain in the back of the head before the fit. Also a pain in the back generally before the fit, sometimes continuing after the fit was gone *.

This interesting case, the narration of which will, it is hoped, be beneficial to many unfortunate epileptics, may be followed up by another, which occurred in the practice of Joshua Mantell, Esq., Surgeon, Newick, Sussex. The particulars of the case are the following: the reader will judge how far the symptoms indicate epilepsy.

November, 29th, 1828. Mary C——, a fine girl, thirteen years of age, apparently in good health, applied to me under the following circumstances. She complains of being suddenly seized with giddiness, succeeded by severe pain in the forehead, which continuing for a few seconds, she involuntarily ejaculates, "Oh dear me," and instantly falls to the ground. Her mother states, "that she then becomes convulsed during the space of half an hour, and then lies in a comatose state, from two to three hours, at which period

* For some facts which may serve to explain some of the features of this case, we refer our readers to the next equally useful communication.

the convulsive attacks are again renewed, and she then wakes perfectly unconscious of what has transpired." These attacks occur on *alternate days, and uniformly at the same hour;* the tongue is clean, pulse natural, the bowels constipated. Being of a plethoric habit, I bled her from the arm, and prescribed a brisk cathartic, and the emplast. cantharid. nuchæ capitis. December 1st. The paroxysm returned with increased violence; the bowels have not been freely acted upon. R. Hyd. submur. gr.iij. Pulveris Jalapæ, gr.xiv. statim sumendus. Applicentur hirudines iv singulis temporibus. December 3d. The attack came on at the usual hour, five o'clock in the afternoon, and feeling desirous of witnessing it, for that purpose I visited my patient on the 5th, between the hours of four and five. I waited for an hour and a half, but no symptom of approaching attack presented itself during my stay, evidently indicating the power of the nervous system. December 6th. The mother informs me, however, that it came on last night with increased severity, immediately after my departure. The paroxysm recurring at *regular periods of time*, and the usual means failing of affording relief, I prescribed the sulphate of quinine, in doses of two grains each, three times a day, commencing on the 7th of December. The attack came on this day, as usual, at the accustomed hour, but *very slightly;* the quinine was continued twice a day, and since that period she has had no attack of her complaint, and is at the present time in perfect health.

III.—*On certain Anomalous Affections connected with Intermittent Fever.* By Joshua Mantell, Esq., Surgeon, Newick.—Extract from a letter to Dr. Epps.

"I may remark that intermittent fevers have prevailed in this district during the months of October, November, and December, in a degree altogether unprecedented, and assuming forms so anomalous as to render the formation of a correct diagnosis, at times, very difficult. For instance, I have known intermittent to exhibit itself under the form of rheumatic pains, coming on at a *certain hour of the night;* the patient complaining of severe pain in the chest, with palpitation of the heart, dyspnœa, and pain on attempting to make a rather full inspiration. In such cases no tenderness has existed in the pectoral muscles, and the pulse has remained undisturbed and quiet during the paroxysm, the subsidence of the same being usually followed by a hot, dry skin. In the morning

the patient has appeared as well as if nothing had occurred to cause indisposition. These cases at first occasioned some perplexity, but the conclusion was soon arrived at, that they were clearly intermittent, only assuming certain anomalous forms. In every case of such affections, under my own care, the quinine has effected a speedy and permanent cure. Cases have occurred in which the quinine had been administered without benefit; but in these very cases, by preceding the use of this valuable remedy by an emetic, and a brisk cathartic, complete relief has been invariably afforded *.

IV.—*On the Efficacy of Chenopodium Olidem as an Emmenagogue.*—By J. Houlton, Esq.

Of the indigenous medicines which have fallen into neglect, no one appears to me to merit the attention of the profession in a higher degree than that which I have now the honour to bring before them. It is the atriplex olida of the older writers—it has been discarded by the Royal College of Physicians forty years. Cullen says of it, "it is not employed so often as I could wish," but he considered it merely as an anti-spasmodic. Dale, an apothecary at Braintree, in Essex, had a correct view of its properties, as may be inferred from the following passage of his :—"Atriplex olida uterina est menses procreat," &c. Within six miles of where Dale resided, my attention was first directed to it, twenty-five years ago, by finding it was employed as a popular remedy in uterine cases. I have had sufficient proof in my practice of its being a most safe and effectual emmenagogue. I employ an extract of the whole herb, prepared by spontaneous evaporation. No other method, hitherto devised, will secure the properties of the plant; it loses its virtue by drying, and by the common mode of preparing the extract, it would be rendered inert, as would, I conceive, be the case if prepared in vacuo, a mode requiring much expense, and to little therapeutic advantage; for all the more volatile parts of the extract, submitted to the vacuum process, will be taken from it.

Case.—M. K., a single woman, aged twenty-four, had

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* We consider the facts herein noticed as highly important; and as such would recommend them earnestly to the attention of our medical brethren, especially to those residing in fenny districts. We sincerely thank our worthy correspondent for this communication; and hope that this will be the first of many communications, of a similar nature, from our friends in different parts of the kingdom.—Editors.

not menstruated perfectly for three years. The periods were regular in their recurrence, but the flux was in very small quantity, " not worth mentioning," were her sister's words. At these times, and for a week previously, she had great depression of spirits, dull pain about the loins, lassitude and hysterics. Fourteen days before an expected return of the catamenia, I gave her ten grains of the extract of chenopodium olidem, and no other medicine, every night and morning. At the expiration of the fortnight she menstruated in a perfect manner, and was free from all her usual distressing symptoms.

I could relate many cases, but this is so strong a one, that it will be sufficient to shew that the plant deserves a place in our materia medica.

Grove Place, 16th April, 1829.

V.—*Case of Emphysema of the Eye.* By M. Truman, Esq.

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

Gentlemen,—Should you consider the following case of emphysema sufficiently interesting, you will oblige me by inserting it in your valuable Journal.

I am your obedient servant,

Matthew Truman,

Surgeon to the Royal Western Hospital.

18, Harley Street,
April 15, 1829.

James Hutchins, aged thirty-eight, presented himself on April 7th, at the Royal Western Hospital, with the integuments surrounding and covering the right eye swollen to the size of an orange. He stated that, on blowing his nose that morning, he felt his eye suddenly compressed, and immediately the swelling appeared; the more he continued to blow his nose, the more the compression and swelling increased.

On being directed to blow his nose, the distention of the integuments and sense of compression became so painful, that he begged us, to use his own words, " to open his eye." On examining the parts there did not appear to be any disease of the lachrymal sac or ducts, but the mucous membrane of the nose was loaded with a dry unhealthy secretion; and he stated, that for the last two months he had been troubled with pain in the upper part of the nose, attended with a discharge of blood and matter; he had never had venereal disease, nor ever perceived any piece of bone come away from the nose.

The patient was admitted into the hospital, and a cold lo-

tion ordered to the eye; the following morning the swelling had subsided, and finding it did not recur on blowing his nose, he left the hospital, and has not presented himself since.

In this case the air from the nose must have entered the orbit behind the tunica conjunctiva, compressing the ball of the eye, thrusting forward the palpebræ and tunica conjunctiva, and distending the common integuments. From the symptoms detailed, it seems that there was disease of the osseous vault of the nares, by which a communication between the orbit and nares, probably through the orbitar process of the ethmoid bone, had been produced. The subsiding of the swelling, and its not recurring on the following day, may be explained by supposing the opening became stopped by some hardened mucus.

VI.—*An Essay on the Structure of the Nervous System.* Read before the London Phrenological Society, March 2, 1829. By R. S. Cooper, Esq.

From the interest which the phenomena of the nervous system excite in reflective minds, we can easily conceive that a consideration of the structure of the nervous apparatus must have arrested the attention of anatomists and physiologists in all ages. The principle of all sensibility, of all animal contractility, the medium through which the subtilty of thought itself is conveyed, must ever afford a pleasing consideration. The talents of Erasistratus, Piccoluomini, Ruysh, Albinus, Vieussens, Haller, Akermann, of Heidelburgh, Walter, of Berlin, Lewenhoeck, Sœmmering, Praxagoras, Vesalius, Steno, &c., you well know have been employed in investigating the structure and functions of the nervous system; and, perhaps, the works of Reil contain all that is useful to know of the researches of these anatomists. This able investigator submitted nerves to the action of diluted nitric acid, thereby destroying their neurilema, or external coat; and his process demonstrates each nerve to be an assemblage of medullary filaments, frequently anastomosing. He also allowed other nerves to remain in an alkaline solution, which took up their medullary matter, thus rendering what remained nothing more than fibrous canals.

After Reil had given this important knowledge to the world, we find a variety of excellent anatomists engaged in the same pursuit, with different success. Among them we may mention the names of Scarpa, of Camper, of Cuvier, of

Bichât, of Gall and Spurzheim, of Serres, of Bell, of Magendie, of Blainville, and of the late M. Bognos, who read to the Academy at Paris a paper on this subject, on the 21st of May, 1828, which paper will form the most prominent feature in this evening's consideration. I should observe, that the substance of this paper may be found in the January number of the *Annales des Sciences Naturelles.*

The results of the researches of M. Bognos seem to prove that each filament which enters into the composition of a nervous chord (whatever may be its function) is penetrated in its centre by a canal which is permeable to mercury. This liquid passes with the same facility from the trunk to the branches, as from the branches to the trunk, of the nerves. These canals, according to the experiments of the above anatomist, exist during life, and, after that state has terminated, till the commencement of putrefaction; these may be demonstrated by injection. The ganglia possess equally the cannulated structure, but the roots of all the nerves which commence in the spinal chord, as well as those which originate in the brain, are not permeable to injection; at least, the most anxious efforts of M. Bognos have not succeeded in demonstrating this.

I should do Dr. Spurzheim the justice to state, that, in the introduction to his work, "On the Anatomy of the Brain," he says, "Nerves are always made up of many filaments, each of which, however minute, is a tube, which is formed of a substance that seems to constitute one of the elements of organization."

Many anatomists, of late, have conceived a circulation to exist in the interior of nerves, which seems to be a revival of the old theory of the animal spirits. Be this as it may, certainly the phenomena are many which lead to substantiate such an hypothesis. To return. The nervous canals do not appear to belong exclusively to the nerves of man. Their existence has been shewn in nerves taken from species of the four great classes of the vertebralia; and, indeed, the injection appears to run with greater facility in the nervous canals of fishes, reptiles, and birds, than in those of the mammifera. This circumstance, I think, may be owing to the different density of the nerves in those different classes of animals.

I shall endeavour to give a concise view of what is known of the minute structure of the roots of the nerves. The medullary substance of each radicule, or nervous root, at the place where it leaves the brain or spinal chord, borrows from the pia mater and arachnoid membrane a covering, which forms an envelope, sometimes for each distinct radicule,

sometimes it appears common to all. More or less distant from the place where the roots of these nerves penetrate the holes left for their exit, they borrow their second envelope, formed by the internal layer of the dura mater. This new covering, it must be understood, is lined by the arachnoid membrane, with which, however, it contracts no union, nor with the pia mater, which lies beneath, or is placed internal with regard to the arachnoid. It results, then, that there is a free space between these membranes, which communicate with the cranial and vertebral cavities. Mr. Turley has witnessed this communication lately. The water (says Mr. Turley) from the ventricles made its escape by the theca vertebralis, on slitting up the prolongation of the dura mater; and, on subsequently examining the ventricles of the brain, no water was found. The sheaths of the posterior roots of the spinal nerves, and those of the fifth or trifacial nerve, near their ganglia, envelope themselves, or are transformed into a spongy and erectile tissue, which constitutes the little protuberance, and contracts an adhesion with the substance of the ganglion. The different sheaths of the anterior roots of the spinal chord contract an adhesion with the membrane of the nervous chords which part from the adjoining ganglion.

The sheaths of the optic nerve are distinct at its exit from the cranium, as far as its entrance into the globe of the eye, and there we can see plainly the fibrous coat, furnished by the dura mater, uniting itself with the external layer of the sclerotica.

The posterior roots of the spinal nerves are distinct from each other, from their origin in the spine to the ganglia, where they terminate. The anterior roots may be equally separated from their origin to their union with the nervous filaments, which part from their ganglia. Most of the roots of the cerebral nerves unite to form a trunk, at a greater or less distance from their origin on the brain. After subjecting the roots of nerves, for some time, to an alkaline solution, we can, by washing them, separate all the medullary substance they contain, and this is the first step to prove their tubular structure, particularly if such nerves are selected, the neurilema of which is sufficiently strong to bear the weight of an injection.

The optic nerve answers the purpose of a first essay exceedingly well, and may be considered as the type of all the other cerebral nerves, as to the mode of its origin. Dissections of nerves, hardened in an acid solution, prove that they are continuous with the medullary matter of the brain or spinal chord, and that their roots gain a fibrous chord from

the membrane which envelopes these structures. The researches of modern anatomists, on the structure of the inter-vertebral ganglions, afford us new information, and explain to us some pathological phenomena, hitherto unexpounded.

The inter-vertebral ganglia are surrounded by a venous plexus, which occupies a part of the vertebral sinus, and which may be compared with the great cranial sinuses. The ganglia themselves are composed of apparently an homogeneous reddish matter, and it is in this substance that the posterior roots of the spinal nerves seem to terminate ; this is intersected by a multitude of contorted canals throughout its whole structure. These canals communicate with others in the nerves, with the spongy tissue which surrounds them, with the venous plexus, and, ultimately, with the cavity of the dura mater, by means of a great number of openings, placed between the two sheaths which compose their meninges. This triple anastomosis may be demonstrated in three different manners. 1st. If we introduce a tube charged with mercury into the nervous canals which leave the ganglion, the metal penetrates the ganglion, swells it, passes into the spongy tissue of the meninges, into the nervous plexus of the vertebral sinus, and arrives at last at the cavity of the dura mater, by openings situated near the place in which the nervous roots penetrate the ganglia. 2d. We may obtain results much more evident, and more general, by injecting the cavity of the dura mater, for which purpose we must open the vertebral canal near its cephalic extremity. After having detached the dura mater to a sufficient extent, we fix it by means of a strong ligature upon a glass tube, of from 24 to 30 inches long. In proportion as the tube receives the mercury which we put into it, the metal passes into the cavity of the dura mater, into each prolongation that it furnishes to the roots of the nerves, penetrates the ganglia, and, having distended the different canals of these organs, introduces itself not only into the nervous tubes which leave it, into the canals which establish the connexions with the ganglion, or grand sympathetic, and into each of their communications, but it fills the venous plexus which encircles each ganglion, and, by the same path, insinuates itself into the vertebral sinus, the intercostal veins, the vena azygos, and arrives at last at the right ventricle of the heart. 3d. When a tube charged with mercury is plunged into the proper substance of the ganglions, they are injected by the means before mentioned, and the mercury escapes by the same channels. Under this relation, it would appear that the ganglions of the nerves have an identity of structure with

sympathetic ganglia. These last may be easily injected by a similar procedure.

The anterior roots of the spinal nerves are the same as the roots of the nerves which spring from the central prolongations of the spinal chord (if we except the trifacial nerve), and have no ganglion.

The anterior roots of the spinal nerves connect themselves to the ganglion of the posterior roots by their neurilema, and afterwards intimately unite with the nerves that part from them.

The roots of the cranial nerves, in leaving the holes at the base of the skull, contract numerous adhesions with the envelopes which form their meninges. The nerves which emanate from the second order of roots, have canals which open into the cavity of the dura mater.

Structure of Nerves.—All the nervous filaments, with the exception of the optic, acoustic, and olfactory nerves, have, from their commencement, a canal permeable to injection, and the walls of this cavity are formed of two tunics of different textures; the one external, fibrous, dense, continuous with the dura mater, and identified with the fibrous tissue in which the nerves terminate: the other internal, soft, pulpy, compressible, emanating from the medullary substance at the root of the nerves.

The neurilema is a compound of several fibrous lamina, the most external forming a common envelope for all the filaments of the same nervous chord; the other deeper, interlacing the filaments in such a manner as to unite one to the other: the lamina most internal, closest, and straightest, furnishes to each nervous filament a distinct tunic, intimately applied upon the internal tunic. The last, or pulpy tunic, belongs in particular to each nervous filament, and although it may have much resemblance to the central substance, it is, however, somewhat different, having a greater tenuity. In cutting a nerve asunder we are obliged to use some effort to express the pulp contained in the neurilematic canals; in fact, little more than a serous fluid escapes. The medullary pulp is compressed by its neurilematic covering, so that on examining the filaments of a nerve cut asunder, we may see upon the extremity of each filament a spherical eminence, formed by the medullary pulp. Injection shows that it is in this medullary substance that the canals exist. The nerves, after having been immersed for some time in an alkaline solution, are rendered more fit for injection.

Injection of the Nerves.—To inject the nerves it is only necessary to take a glass tube drawn to an exceedingly fine point, and filled with mercury. The point of the tube must

be made to penetrate the neurilema of the nerve, and when it has passed this and the pulpy matter internal to it, the mercury will run almost as readily as into an absorbent vessel. In case the extremity of the tube does not penetrate the proper neurilema, nor enters into the medullary pulp, the resistance offered to the progress of the fluid serves to divert its course, and it is probably owing to this circumstance that two celebrated French anatomists have not been able to repeat the experiments of M. Bognos.

Aid may be given to the fluid, when introduced into the proper channel, by making a little pressure upon the outside of the nerve in the course of the injection. The injection thus introduced does not pass into all the nervous canals of the same bundle, although the anastomoses of nerves are much more frequent than is generally supposed. I cannot pretend to point out the cause of this impediment, says Mr. Turley, which the injection meets with by the anastomoses of nerves; certain it is that the injection passes these junctions with much difficulty at the best.

The liquid which distends the nervous canals forms cylindrical columns when well injected, or rather it assumes the form of elongated cones as it approaches the different plexus and ganglia, and the columns are much more numerous in proportion as a nerve is injected near the extremity.

The nervous canals which terminate in the inter-vertebrated ganglia ramify in their texture in the same manner as the lymphatic vessels ramify in the glands. The thread of injection which we examine at the origin of a nerve is so fine as to be scarcely perceptible to the naked eye. One thing is distinctly ascertained, by a good glass, that these columns of mercury which fill the canals are perfectly cylindrical. M. Bognos found that the nerves, when injected, which ramify in muscles take the same course as the fleshy bundles of the muscles. Mr. Turley has assisted in making an injection in which the mercury was forced into the superficial nerves of the skin and into the mucous follicles of the inside of the mouth of a horse, by injecting a branch of the fifth pair. Injection demonstrates three kinds of anastomoses in nerves; the first between all the filaments which unite with each other in a ganglion; the second is seen when one nervous canal closes in another at a distance from any ganglion or plexus; and the third, when two nerves unite which do not arise from the same source, as the union of the seventh and fifth pairs, so beautifully seen in the face of a horse, in Mr. Langstaff's museum.

Sympathetic Nerve.—To inject the sympathetic nerve and ganglia it is necessary to use tubes of extraordinary fineness;

on account of the minute ramifications of this nerve a good preparation is very seldom seen.

The structure of the ganglions of the great sympathetic differs from that of the inter-vertebral ganglia, inasmuch as the former are not enveloped by a fibrous membrane. Their proper nervous substance, however, like the ganglions of the spinal chord, is of a reddish grey. A loose cellular tissue envelopes the sympathetic nerves, and like the other nerves they can be shown to be penetrated by a multitude of little canals, tortuous, interlaced and communicating with those filaments which are sent from them and with the veins which are connected with them.

The nerves of the great sympathetic have, in general, a grey colour, and although soft and pulpy, they sustain a sufficient column of mercury to demonstrate their canulated structure. Neither by solutions of chemical substances nor by any artificial means can we divide and subdivide them like the spinal nerves. They seem to be composed of two substances, but they evidently contain more of the grey matter, in which they seem to resemble their ganglia. They assume all forms, sometimes rounded, sometimes flattened, and sometimes much attenuated, and sometimes thickened in the same nerve. (I should observe that the nerve which corresponds to this nerve in many quadrupeds and fishes appears to contain no grey matter, but yet attentive examination shows that there are two substances, though their colour does not distinguish them.) This has led to much error in the description of nerves of the lower animals in works of comparative anatomy. The injection of nerves, as we have observed, is exceedingly tedious on account of the tenuity of their coats; it is most convenient to inject these by their ganglia, as Mr. Turley has seen the semilunar and cardiac nerves and ganglia injected.

M. Bognos employed many liquids to examine nerves with; such as coloured waters, oils, and gelatine, but none with so much success as mercurial injection. The instrument he employed, as I before stated, was a tube of about thirty inches in length, made to bear a column of mercury, which gave the necessary impetus. This tube of iron was armed by a glass tube, which was drawn out to a fine point by means of a blow-pipe, and might be removed as frequently as it was broken.

The fact of there being canals in the middle of the nerves, has, like every other fact, been doubted, and like every other fact should be doubted and examined before it is admitted into our physiological works.

It has been said that M. Bognos only injected the space

between the nerve and its neurilema, but had this been the case he would have found no obstacle to his injecting the whole of the nerves equally, and all their ramifications. It has been doubted until lately that mercury could be detected in the body after death, which had been inserted by friction, but recent experiments have well shewn the fallacy of the supposition.

Nothing is more gratifying to physiologists than to see the great numbers of men of talent now engaged in the study of the nervous system. These few last years have been very abundant in discoveries of facts relative to the functions of nerves. Mr. Charles Bell claims our warmest thanks for his experiments, whereby he proves the two functions of the spinal chord, as also Mr. Mayo. Gall and Spurzheim have added greatly to our knowledge of the functions of the brain, and have excited more attention to the nervous system than perhaps any other men. M. Flourens has, from his experiments, come to this conclusion, "that each part of the nervous system has its own proper and special action. Thus, in the lobes of the brain resides the faculty by which the animal thinks, wills, perceives, judges, and commands his movements. In the sympathetic nerves, the regulation of the assimilative or vegetative functions, &c.

After what has been stated concerning the canals discovered in nerves, the question which suggests itself is, of what use are they? It does not appear that this question is easily solved. I believe we do not know the use of the ventricles of the brain, of the thymus gland, the spleen, the bile, the pancreas, or the little cavities existing in the olfactory nerves and ganglia of many animals. Nevertheless it must be admitted that it is a grand step to the knowledge of the functions of parts to have an intimate acquaintance with their structure.

From what we have stated, I think it will appear that the canulated structure of nerves is demonstrated, therefore we are now prepared to speculate upon the functions of these tubes. In our analysis of the structure of nerves we have considered them as simple conductors, of a tubular form. We shall now attempt to point out the means by which the principle of motion and sensation are transmitted to the organs by which it is performed. "The nerves," says M. Richerand, "arise from all sentient parts, by extremities that are, in general, soft and pulpy, but not alike, in all, in constitution and form; and it is to these varieties of arrangement and structure that the varieties of sensation in the different organs are to be referred. It would appear that there exists in the structure of nerves a relation between a softness of the extremity and

the nature of the bodies which produce an impression upon it. The fluid state of the expansion of the optic nerve evidently bears a relation to the subtilty of light. The portio mollis of the seventh pair of nerves commences with filaments in a medullary pulp; this circumstance has reference to the subtilty of sound." Thus it is evident that fluidity is essentially necessary to produce delicacy of impression.

The vitreous humour fills up the posterior two-thirds of the globe of the eye. It consists of a gelatinous, transparent fluid, enclosed in a fine membrane (the secreting membrane); it is then invested by the expansion of the nerve. This arrangement also obtains with regard to the ear. As a membrane exists, which is inclosed by the expansion of the nerve, from analogy we might be led to suppose that the nerve has also a secreting tissue.

The hypothesis of the existence of a nervous fluid has been advocated from a very early period. Among those who have entertained this opinion, we find Hippocrates and Galen. Galen regarded the brain as a secreting organ, and went so far as to demonstrate the tubular structure of nerves by direct experiment; he was, I believe, the first who succeeded in injecting the optic nerve. To the testimony of these writers we could add a vast catalogue of most respectable names, but suffice it to mention the doctrines of Boerhaave, Sydenham, Boyer, and Sabatier. It also appears that different opinions have prevailed—these we shall briefly advert to.—Some have supposed that the nerves are tight cords, and operate by vibration, like musical instruments; and among those who have maintained this absurd notion, we find the name of Hartley, and we may add M. Rolando, who, in his late writings, has endeavoured to elucidate this theory. "As to the theory of vibration," observes Dr. Good, "the advocates of that doctrine have been particularly unhappy in their choice of materials to execute their music, as no parts exhibit so small a degree of elasticity as nerves."

Dr. Stuart, in the Philosophical Trans. for 1732, published a paper upon this subject, wherein he arrives, after a series of experiments upon nerves, at the following conclusion: "that the nerves do not act by vibration but by a peculiar fluid circulating in them."

You are, no doubt, well acquainted with the fact that convulsions can be produced in the muscles for some time after death, by irritating their nerves either mechanically or in any other way. If we remove the heart it continues to beat, and sometimes more rapidly when it is suspended, as was shown by Humboldt. Indications of vitality, are, however,

continued for a short time, and subside gradually. Now I would ask, how are we to account for these phenomena? Shall we do so by considering that the exhaustion of the nervous fluid has caused that cessation of vitality? You are aware that pressure will suspend the action of a nerve.

If the authority of great names would be sufficient to substantiate a theory, we may quote Prokaska, who, in his essay, entitled "Commentatio de Structura Nervorum," enters fully into this subject. We may also add the celebrated name of Scarpa. Scarpa is inclined to think "that the nervous influence (meaning the nervous fluid), such as it exists in nerves, is capable of the exercise of different functions, and that it only wants the stimulus which excites it to action, which resides in the brain." From this quotation we might be led to think that the existence of a fluid was established. We shall now proceed to speak of the origin of this fluid.

The brain, you know, has been regarded as a secreting organ, and, in support of this assertion, its vascularity has been spoken of. "The brain has so much the general character of a gland (says Dr. Good), as to be admitted to be an organ of this kind, *almost without a dissenting voice in the present day.*" Whether the Doctor has been so conclusive I am not able to say.

Dr. Gall has regarded "the pulpy nervous substance of the brain as the source or nourishment of the white fibres*." The vascularity of this substance has also been noticed by M. Gall. He has remarked that this substance enters very much into the composition of ganglions. This fact being considered, three questions will offer:—1. Is not this the substance which supplies the nervous fluid? 2. What is the use of ganglion? 3. Is it not a subordinate gland whose office is to supply parts at a distance from the brain with nervous energy? Animals which are furnished with ganglions, as in the class "*Vermes*," after decollation, possess vitality. There are some instances where the animal might be cut into small portions, and yet each portion will assume a life of its own, and become a perfect animal.

Various experiments have been instituted to determine the nature of the nervous fluid. The researches of Le Gallois, and Dr. Wilson Phillip, have tended to establish the identity of this fluid with galvanism. Various other hypotheses have been entertained, which I shall now omit to speak of, as I hope to introduce this important subject again for the consideration of the Society.

For many observations contained in this communication I

* Vide Spurzheim's Anatomy of the Brain.

am indebted to my friend, Mr. Turley, of Birmingham, a corresponding member of this Society, whose active mind, combined with his indefatigable perseverance, will obtain that well-earned fame which industry so justly merits.

R.

*** We beg to return our sincere thanks to Mr. Cooper for this most interesting paper; and we trust that our scientific readers will feel much delight in perusing it, and some, we hope, will be induced to follow up the views herein made known.—EDITORS.

MONTHLY SYNOPSIS OF PRACTICAL MEDICINE.

1. *Cases in Medical Jurisprudence* *.—Dr. Christison gives an account of two trials which have lately taken place in the High Court of Justiciary, one of which was that of a monster whose infamous name will not be soon forgotten in this country, as the narrative of atrocity which it involves is unparalleled in the history of crime in any civilized country.

CASE 1st—*Disfiguring of the Countenance with Sulphuric Acid.*—In Lord Ellenborough's Act, against cutting and maiming, there appears to be a clause introduced, as applied to Scotland, which awards the punishment of death to the offence in question. Under this statute, Hugh Macmillan and his wife, Euphemia Lawson, were indicted on the 17th of December, 1827, for maiming, disfiguring, and disabling Archibald Campbell, by throwing sulphuric acid over him on the 17th of the previous October. The indictment likewise contained a separate charge of murder against them; but for reasons, to be mentioned presently, this charge was afterwards departed from by the public prosecutor. The facts of the general evidence by which the crime was brought home to the female prisoner were the following:—The Macmillans, who lived in the same stair with Campbell, had long been on bad terms with him; and a few days before he met with the accident the woman was bound over to keep the peace towards him; on account of which both she and her husband had been repeatedly heard to vow vengeance in the most malignant language. The female prisoner was proved to have obtained, shortly before the commission of the crime, information concerning the corrosive properties of sulphuric acid; and in consequence hinted that she would some night try its effects on Campbell's cloak, after her husband was asleep. Early on the evening of the 17th October she was seen to carry out and return with a particular jug, which she placed under the bed, cautioning her children not to meddle with it. Towards midnight Campbell, on his way up stairs to his

* Dr. Christison—Edin. Med. and Surg. Journ.

lodgings, had approached Macmillan's door, when, the door opening a little, he observed a female arm thrust out, holding something white; and, under the impression that some mischief was intended him, he was in the act of turning round to retreat down stairs, when a liquid was thrown over him, which, by the intense burning pain it caused, he at once suspected to be oil of vitriol. The alarm being instantly given, the police in a few minutes entered Macmillan's room, where the woman was found dressed, and her husband only dressing himself, as if just raised out of bed. No trace of sulphuric acid could be discovered in the room. But between the alarm in the stair and the arrival of the police, a person, who lived in the floor under the Macmillans, heard their window open, and something immediately break on the pavement below. Accordingly, in the *close*, under the window, were found the fragments of a jug like that which the woman had been seen carrying early in the evening; and these fragments had a sour taste, and smarted the tongue. A large quantity of sour tasted liquid was also found on the stair and wall, between Macmillan's door and the spot where Campbell stood at the moment of receiving the injury. By a complete chain of circumstances, therefore, though not by any direct proof, the act of throwing the deleterious liquid was traced to Macmillan's wife. Campbell was without delay transported to the Infirmary, where he arrived about two in the morning. His state at this time, and the progress of the symptoms till his death, twelve days afterwards, were described by Dr. Hunter, the surgeon, and Dr. Nesbitt, the surgeon's clerk of the hospital, in a report which was libelled on in the indictment, and from which chiefly the following particulars have been derived. The skin on the left side of the face was partially removed, and the whole presented at first a white disorganized appearance. The eyelids of both eyes were much inflamed and swollen, and the left eyeball was also severely involved in the mischief, but the right eye-ball was uninjured. The skin of the inside of the lips was also white and swollen, and on the back of the left hand, as well as between the fingers, there were white excoriated streaks. In the course of sixteen hours the white marks turned brown. The pain of the face and eyes, which was at first excruciating, became easier under the use of suitable applications. But as at the time of the visit, about twelve hours after the accident, the pain of the left eye, extending to the head, evidently threatened a severe ophthalmia, he was bled from the arm; and next day the operation was repeated. From these measures he derived great relief. The inflammation and disorganization of the eye, however, went on increasing, and soon ended in the bursting of the cornea and discharge of the aqueous humour and crystalline lens. Towards the close of the fifth day, namely, on the evening of the 22d, while apparently doing well, he had a shivering fit, and next morning complained of acute pain at the bend of the right arm, where he had been bled. Inflammation immediately sprung up around the orifice, general swelling of the arm came on, and progressively increased for the three following days. Severe fe

brile symptoms ensued, and afterwards also difficult breathing, with other signs of pulmonary inflammation. Under these complicated disorders he gradually sunk, and died on the morning of the 30th October. The report concluded with ascribing his death to the inflammation of the arm, and concomitant fever. The body was examined on the following day, by Dr. Hunter and the late Dr. Cullen, whose report of the appearances is here given in detail.

"On Saturday, the 31st October, we inspected the body of Archibald Campbell, who died in the Royal Infirmary on the morning of the 30th. The right arm was carefully examined and anatomized. We found the vein from which he had been bled very highly inflamed at the wounded part at the bend of the arm. From this point the inflammation had extended upwards, to the great vein of the arm and shoulder, and downwards, to the small veins of the fore-arm. These vessels were almost filled with purulent matter, and partly obliterated. The great veins at the upper part of the chest were natural. There was a small quantity of serum in the cavity of the membrane which invests the heart, but that organ was itself sound. The membrane which covers the lungs and ribs, called the pleura, was inflamed, and covered at the back part with the u-ual product of inflammation. Sero-purulent fluid was found in both cavities of the pleura. Both lungs when cut into were found very highly inflamed, and particularly in the upper and lower lobes." [Dr. Christison here adds in explanation, that both lungs were most extensively consolidated by serous effusion, red hepatization, and diffuse tubercles, intimately intermingled; and that the last morbid deposition was distributed in irregular masses, some of them of the size of a pigeon's egg, so as to occupy not less than a third part of the entire volume of the lungs.] "The left eye had its anterior part entirely destroyed. Some of the humours (the aqueous humour and crystalline lens) had escaped, and the whole organ was disorganized, and absolutely incapable of recovery. Water was found in considerable quantity on the surface, in the cavities, and at the base of the brain. That organ itself was natural. No other morbid appearance was any where observed. Upon the whole, we are of opinion that Archibald Campbell died of inflammation of the veins of the right arm, and of inflammation of the lungs, the former caused, according to the best of our judgment, by the wound of the vein in bleeding."

In addition to the foregoing evidence, the public prosecutor considered it right that the articles of Campbell's dress should be analysed. This was, consequently, done by Dr. Christison and Dr. Turner; and the following were the results:—The articles to be analysed were put into Doctors Christison and Turner's hands a fortnight after the acid was thrown upon them. They consisted of a portion of the rim of a hat, affected here and there through and through—an uninjured part of the same hat for comparative analysis—part of a black stock, with its lining and stuffing, all much destroyed—part of the sleeve of a brown coat and its lining,

likewise corroded and reddened—and an uninjured part of the same coat for a comparative experiment. The hat and stock, where affected, were moist and sour to the taste. The injured part of the hat was boiled in small fragments with distilled water, and a reddish-brown fluid procured by filtration. This fluid had an acid taste, reddened litmus strongly, and yielded, with acetate of baryta, a copious brownish precipitate, which was rendered white by nitric acid, and, being then collected and dried at a red heat, weighed 4.3 grains. A small portion of this powder being mixed with a little charcoal, it was heated for two minutes in a platinum spoon before the blow-pipe. The product, when dilute muriatic acid was poured on it in a tube, effervesced and emitted an odour of sulphuretted-hydrogen, the evolution of which was farther proved by a piece of filtering paper, moistened with solution of acetate of lead, becoming black when suspended within the tube. They then proceeded to make a comparative set of experiments with the uninjured portion of the hat. A reddish-brown fluid was procured, which faintly reddened litmus, and gave, with acetate of baryta, a scanty cloud, insoluble in nitric acid, but not forming any deposite when left some hours at repose. The injured portion of the stock was torn into shreds, and treated in the same manner as the injured part of the hat, with precisely the same results. The sulphate of baryta procured from it weighed nine grains. The injured portion of the coat sleeve and lining was also subjected to the same process, except that the barytic precipitate was collected by the process of subsidence and affusion, without a filter, as it was scanty. The results of the experiments with it were precisely the same as those mentioned above, and they were all procured characteristically, although the sulphate of baryta formed did not exceed nine-tenths of a grain. A comparative analysis was made of an uninjured part of the sleeve. But the aqueous fluid only tinged litmus faintly red, and yielded with acetate of baryta a faint cloudiness, without a deposite. These experiments made it certain that the fluid used was sulphuric acid; and a short report was drawn up to that effect.

Euphemia Lawson was found guilty, and was, consequently, condemned to be executed; but, as it was the first condemnation under a new statute, her sentence was afterwards commuted for perpetual banishment. Her husband was acquitted.

It has already been remarked, that the indictment contained a separate charge of murder, from which, however, the Lord Advocate departed at the commencement of the trial; because, while it was certain that the evidence would establish another capital offence, his entering on the charge of murder would involve a nice legal question as to the responsibility of the prisoner for such an event, which depended only indirectly on the injury inflicted by her, and, directly, on an insignificant surgical operation, namely, the bleeding. Mr. Christison offers some remarks upon this question, but as it does not rest with medical witnesses to decide the point, we do not think it necessary to follow him.

Case 2. *Murder by Suffocation.*—This is the notorious case of

Burke. Dr. Christison remarks, that the investigations into which, as one of the medical inspectors, he found it necessary to enter, did not turn out eventually of that importance in the case which was for some time anticipated, because two accomplices were admitted as King's evidence, so that direct information was supplied on the circumstances which the medical researches would have but indirectly elucidated. The case, however, is not the less important as one of medical jurisprudence, especially when viewed in connexion with the experiments which Dr. Christison has instituted, and which we shall presently detail.

William Burke and Helen Macdougal (a woman with whom he cohabited) were tried, on the 24th of December last, before the Justiciary Court of Edinburgh, for the murder of Margery Campbell. This was the last of three charges of murder laid in the indictment, as having been committed within six months, in the same way, and for the same purpose, of supplying subjects for the dissecting-room. The evidence was partly circumstantial, and partly direct, but the latter was entirely derived from the testimony of accomplices. The circumstantial evidence was the following:—On Friday forenoon, at the end of October, the deceased, a poor stranger in search of her son, was met by Burke begging in a shop, and, under pretence that he found her to be a relation, was decoyed by him into his house hard by. Here she was treated with much kindness for the rest of the day by Burke and the female prisoner; but meanwhile steps were taken to keep the house free of strangers next night; for towards evening a man named Gray, and his wife, lodgers of Burke's, were, under some trifling pretence, sent to sleep for that night at the house of Hare, the accomplice. About ten Burke went in quest of the porter of an anatomical theatre, which he had supplied with subjects before, and left a message at his house, to the effect that he wished to see him. Between ten and eleven the two prisoners, with Hare, his wife, and the deceased, were drinking and dancing together in the apartment of a neighbour adjoining that of Burke; and at eleven they all retired to Burke's room, the deceased being at the time in perfect health, and somewhat intoxicated. Much rioting was afterwards heard by the neighbours in the room, and one witness, who was induced by the uproar to listen in the passage, heard, at half-past eleven, cries of murder, and could distinguish stifled groans as of a strangled person. About midnight Burke found the anatomist's servant he had previously been in quest of, took him to his house, and, pointing to a bundle of straw, told him "there was something he had got for the Doctor." Next morning the Grays, on returning to Burke's house to breakfast, and inquiring for the woman Campbell, were told that she had been kicked out of the house for misconduct. But, in the evening, their curiosity having been roused by certain suspicious movements on the part of Burke, they examined the straw in his absence, found the body, and, rejecting the offer of a bribe from Macdougal to conceal the circumstance, they lodged information with the police. At eight, when the room was searched, the

body was gone; but it was traced to the dissecting-rooms for which it was originally intended, and was recovered on Sunday morning. It had been conveyed from Burke's house in a tea-box, in which it was doubled up with the knees on the breast, and the face on the knees, the head being uppermost. The direct evidence of the manner of death, as derived from the testimony of the accomplices was, that Burke and Hare, between eleven and twelve, were fighting together, when the deceased, in attempting to part them, was struck down by Hare to a sitting-posture on the floor; that Burke, as soon as he had overpowered his companion, and thrust him on the bed, threw himself on the deceased, kept her down by the weight of his body, and covering her mouth and nose with one hand, while he applied the other under the chin, held her thus for ten or fifteen minutes till she was dead. The two women, who were in bed during the previous scuffle, sprung up, and fled into an adjoining passage whenever Burke threw himself on the woman; but Hare sat on a chair all the time, viewing his companion's operations. The body was immediately afterwards doubled up, and hid under the straw, where the Grays found it next day. It was examined on Sunday at three, and next morning at eleven, by Mr. Newbigging and Dr. Christison, and having been transported to the police office early on Sunday morning, doubled up in the box in the way in which it was found; but it had been removed and examined externally by the police officer at the dissecting rooms, and had been subsequently taken out some hours before Mr. Newbigging's and Dr. Christison's arrival at the police office, and stretched on a table with a view to its being identified. The following is a detailed account of the appearances it presented:—Joints flaccid; features composed, red, and rather more turgid than natural; lips affected with dark livor; conjunctivæ of the eyes even in the horizontal position of the body much injected with blood; a little fluid blood on the left cheek, proceeding apparently from the nostrils; tongue not protruded or torn by the teeth; the scarf-skin under the chin much ruffled, and the surface of the true skin dry and brown where denuded, but without blood or surrounding ecchymosis. Integuments every where very free of lividity, except on the face. On the inside of the left leg, a little above the ankle, and on the outside of the right leg, a little below the calf, several considerable bluish-black discolorations, one as big as a crown, without swelling, but arising from black, thick, though not coagulated, blood, incorporated with the whole thickness of the true skin, and effused deeply into the cellular tissue beneath. A similar large spot on the outside of the left elbow, and a superficial laceration on the outside of the left forearm, with blood effused into the cellular tissue and substance of the skin around. A slight laceration on the inside of the upper lip, opposite the left eye-tooth, with surrounding effusion of blood into the cellular tissue. A small soft tumour near the occipital angle of the left parietal bone,—found during the subsequent reflecting of the scalp to arise from thick, semifluid blood, effused between the scalp and periosteum, and also between the perios-

teum and bone. A similar extravasation of blood above the middle of the temporal ridge of the right parietal bone, and another small effusion above the left eye-brow were also found during the reflecting of the scalp; but these were not indicated by any external swelling or discoloration.

The bones of the skull, together with the brain, cerebellum, and all the other organs within the head quite healthy. A little more turgescence of vessels than usual. Organs in the abdomen perfectly healthy, with the exception of the liver, its investing membrane being here and there covered by short, opaque, white lines, and the grey matter of its structure rather more abundant than usual—the incipient stage, apparently, of the liver disease of drunkards. The stomach distended, and containing about a pint of thin greyish pulp, like half-digested porridge, entirely free of any spirituous or narcotic odour. No effusion of blood or laceration of the parts around the windpipe; no injury of the cartilages; the os hyoides and thyroid cartilage farther apart than usual, in consequence of stretching of their interposed ligament. On the inside of the windpipe some tough mucus, not frothy, with a few points of blood between it and the membrane, which last was healthy. Organs within the chest perfectly natural; the lungs remarkably so, and unusually free of infiltration; blood in the heart and great vessels, and, indeed, throughout the whole body, very fluid and black, and accumulated in the right cavities of the heart and great veins. An extensive effusion of semifluid blood under the trapezius muscle near the inferior angle of the right scapula; a small effusion of the same nature in the left loin; neither of them indicated by any outward mark. Some black fluid blood extravasated into the cellular tissue, and among the muscular fibres in various parts on each side of the cervical and dorsal spine, but especially of the upper cervical spine. No displacement or fracture of the vertebræ. A little blood under the anterior ligament of the spine, covering the fore-part of the bodies of the third and fourth cervical vertebræ; and this blood evidently extended into the intervertebral space. On careful examination nearly the whole posterior ligamentous connexions between the two vertebræ were found ruptured,—namely, the posterior ligament of the spine, the posterior half of the intervertebral substance, the posterior halves of the capsules of the articulations of the oblique processes, and the whole of the yellow ligament of the spine, except what connects the tips of the spinous processes. In the region of the rupture, blood was minutely injected among the fibres of the spinal muscles, into the cellular tissue between them, and into the lacerated part of the intervertebral space. On the sheath of the spinal chord, opposite the rupture, there was a mass of thick, semifluid, black blood, about the diameter of a halfpenny and twice its thickness; from which also a thin layer of the same kind of blood extended along the posterior surface of the sheath, as far down as the lowest dorsal vertebræ. The spinal chord was not injured, and no blood could be found under the sheath.

The circumstances with which Dr. Christison and Mr. Newbig-

ging were made acquainted before the delivery of their opinion, from the inspection, as now related, were, that the deceased was seen in perfect health, and somewhat intoxicated, at eleven on the Friday evening; that she was dead, in all probability, at two, and certainly, about eight next morning; and that, towards seven of the subsequent evening, the body was removed to the dissecting-rooms in a tea-box. They were also informed that above a handful of clotted blood had been found among the straw near where the head of the body had lain in Burke's room. Combining these circumstances with the facts derived from examination of the body, as well as with the experiments to be hereafter detailed, they gave it as their opinion at the precognition,—that the marks of contusions were almost certainly inflicted during life;—that the injury of the spine might have been caused seventeen hours after death, as well as during life;—that the question, whether death arose from natural disease or violence, did not admit of a positive answer;—that the fluidity of the blood, the ruffling of the cuticle over the throat, the lividity of the face without lividity elsewhere, and the great redness of the eyes, with the blood found where the body had lain, were signs, which, although they did not amount to proof, might of themselves lead to a suspicion of death by strangling;—and that, when this circumstance was taken in conjunction with the signs of other violent treatment by contusions during life, the perfect state of health of the deceased a few hours before her death, and the want of any appearance in the dead body to indicate natural death, it appeared *probable* that she had died by violence. Throttling was the form of strangulation suspected. On his examination, Dr. Christison gave it as his opinion that death by violence was, from the medical circumstances alone, *very probable*; and that the appearances in the dead body corresponded precisely with the evidence of the accomplices as to the manner of death. The prisoner, Burke, as our readers are already aware, was found guilty and executed.

Dr. Christison remarks, that the medical evidence must be considered as important in the case chiefly, because it supplied a strong and completely independent corroboration of the testimony of the king's evidences. It appeared to him that a more positive opinion could not be safely given in favour of death by strangling or suffocation, because some natural diseases may cause death within an hour, and leave no trace of morbid appearances in the dead body. Such cases are rare, indeed; but they ought not on that account to be excluded from the consideration of the medical witness. Two diseases of the kind may be specified,—the *simple apoplexy* of Dr. Abercrombie, and the *idiopathic asphyxia* of the late Mr. Chevalier. The former causes death with symptoms of apoplexy, and leaves in the dead body not even congestion of vessels within the head. It is true that this form of apoplexy does not prove fatal for some hours; but the possibility of a more rapid death cannot easily be denied. The latter, or idiopathic asphyxia, causes death almost instantaneously, or in a few minutes, or sometimes not for an hour and a half; the symptoms are those of fainting merely; and the

only appearance in the dead body is flaccidity of the heart, with an unusual or total want of blood in its cavities. This appearance was certainly not found in the body of the woman Campbell. But it is not invariably present in death from idiopathic asphyxia. In an instance described by M. Rochoux, of a middle-aged woman, who, while in perfect health, suddenly grew pale, slipped from her chair, and died in a moment, the auricles of the heart contained a great deal of blood, and there was no morbid appearance any where. Part of the cross-examination of the medical witnesses by the prisoners' counsel was directed to establish the possibility of accidental suffocation from excessive drinking. This supposition, however, was, from medical circumstances alone, untenable. At eleven the woman, though intoxicated, was sensible enough to be able to dance and sing; at twelve she was dead. Now death from simple intoxication in so short a space of time, was impossible, because then we should certainly have discovered spirits in the stomach. And death by suffocation, from the individual falling while in a state of drunken stupor into an awkward position, by which the access of air to the lungs was mechanically obstructed, would have been indicated by collateral appearances, which it is unnecessary to enumerate here; and, besides, so deep a stupor as is here supposed, namely, a state in which an awkward posture is not corrected by involuntary movements of the body, and this state brought on too in so short a space of time, would imply the taking of a quantity of spirits which could not have failed to leave a manifest impregnation in the contents of the stomach after death. Poisoning with opium, which some persons suspected, was out of the question, as it never causes death in so short a space of time.

2. *Experiments in illustration of certain Points in Medical Jurisprudence.*—The following experiments, instituted by Dr. Christison, are highly important, not only as illustrations of the causes of some of the appearances observed in the body of the woman Campbell, but also as being the means of directing the attention of medical men to a subject scarcely thought of before:—A conviction, says Dr. Christison, has gained ground among the public, and has been encouraged by the sentiments currently expressed in society by some medical men, that the signs of suffocation generally, and as they existed in the body of the woman Campbell, in particular, are so obvious and characteristic, that they would of themselves, and, independently of a knowledge of collateral circumstances, at once attract the attention of a professional person conversant with anatomy, and excite a very strong and well-grounded suspicion of the cause of death. This idea, if erroneous, must have a pernicious tendency in various ways. A sufficient reason for my taking notice of it is, that it may throw medical inspectors off their guard, by leading them to expect strongly-marked appearances in every case of death by suffocation. That such appearances are very far from being always present ought to be distinctly understood by every medical man. In the body

of the woman Campbell no person of skill, whose attention was pointedly excited by being told that, from general circumstances, murder was probable, but the manner of death unknown, could have failed to remark signs that would raise a suspicion of suffocation. But if his attention had not been roused, if, for example, he had examined it in the anatomical theatre of an hospital, without knowing that suspicions, from general circumstances, were entertained regarding it, he might have inspected it even minutely, and yet neglected the appearances in question. Nay, a person of skill and experience would have been more likely to do so than another; because every one who is conversant with pathological anatomy must be familiar with such or similar appearances as arising from various natural diseases. How closely, for instance, were the appearances in the body of Campbell imitated by those of the body in the third experiment, related in the present paper. The vascularity of the conjunctivæ, and the contusions on the legs, made the only difference. Now, the visible contusions did not differ from lividity in their external characters; and I doubt much whether redness of the conjunctivæ may not be often seen after natural death. In what follows, relative to the effects of violence on the body after death, I shall first relate the experiments I have had an opportunity of making, and then the general considerations which the results of the experiments may suggest. It may be premised, that my inquiries have been confined to the effects of laceration of the spine, and of blows on various parts of the body, inflicted between an hour and a half and eighteen hours after death. The effects of blows inflicted at a still earlier period is also a subject well worthy of experimental investigation; but I have not hitherto been fortunate enough to find the proper opportunities. As the imitative appearances, however, which are caused by violence in the dead body, are connected chiefly with the blood retaining its fluidity and coagulability, and as these properties are retained longer than two hours after death, it is highly probable that injuries inflicted at an earlier period would not be materially different in character.

Experiment 1st.—I attempted to investigate the subject by experiments on the dog. For this purpose, a large dog being strangled, and the hair on various parts of the head, trunk, and legs being shaved, heavy blows were inflicted on these spots with both the round and sharp ends of a hammer. Some of the blows were struck five minutes after death, others not till two hours afterwards, by which time the stiffening of the joints had commenced. In twenty-four hours the body was examined; and I was unable to detect the slightest trace of injury in the seat of any of the blows. These results correspond with others which have been obtained by *Professor Orfila*. In a dog, which was struck violently with a stick twenty minutes after death, there was no effusion of blood, even though the thigh-bone had been fractured by the blows in several places. The two next experiments, however, will show that the facts now mentioned establish little more

than the impossibility of studying the present object of inquiry on the lower animals.

Experiment 2d.—The subject of this experiment was the body of a female, thirty-three years of age, rather full in habit. She died of three weeks illness, which appeared to have been fever, with cough, and dyspnœa, throughout its whole course, and *purpura simplex* for two or three days before the close. An hour and three quarters after death—the trunk and neck being warm, but the face and limbs rather cold, the joints of the legs slightly stiff, and lividity not formed—several heavy blows were inflicted with a stick across both shins, on the fore part of the thighs, on the breast, and on the side of the neck. In less than ten minutes deep bluish-black discolorations followed the blows on the breast and neck. Two hours and a quarter after death the head was bent forcibly down upon the chest. Twenty-three hours after death a severe blow was struck with a stick over the crest of the *os ilium*, and caused ruffling and comminution of the cuticle. The body was examined twenty-five hours after death, having lain during the interval upon the back. The face, back, and sides were very livid. When the skin was cut into, even where the tint of the lividity was deepest, the colouration was so superficial as not to be referrible to a portion of the skin of appreciable thickness. The marks of the purpura consisted of an incorporation of black blood with the whole thickness of the true skin, in spots about a tenth of an inch in diameter. At the seat of the blows on the shins I could find only one small, faint, bluish-black discoloration on the outside of the right leg. The true skin was not altered there in colour. In one or two small detached spots there was a faint discoloration of the cellular tissue under the blows, depending on slight redness of the interstices between the adipose cells. On the thighs the blows were shown by faint stripes, consisting of bluish-black points. The mere outer surface of the true skin was reddish; and the interstices between the adipose cells of the cellular tissue beneath were, here and there, slightly injected with dark blood. On the breast and neck there were dark, bluish-black stripes, as deep in tint as any contusions inflicted during life, but without swelling. The colour corresponded with the prominent part of the stick. A thin layer of the outer part of the true skin had a similar but paler tint; the deeper part of its substance was white. The thin cellular interstices between the adipose cells of the subjacent tissue were here and there much injected with fluid, black blood; but there was no extravasation into the cells themselves, such as was seen in the body of the woman Campbell. On each side of the cervical and dorsal spine, between the middle of the neck and middle of the back a little black fluid blood was extravasated here and there among the fibres of the spinal muscles. The yellow ligament connecting the first dorsal and lowest cervical vertebræ was entirely lacerated, so that the finger could be introduced into the spinal canal. Between the upper cervical and fifth dorsal vertebræ, black fluid blood was effused into the loose cellular tissue covering the dura mater of the chord, and likewise

under the periosteum covering the inside of the posterior part of the rings of the vertebræ. The posterior ligament of the spine was not injured. There was not any effusion into the cavity of the sheath. The lungs crepitated every where, and contained little blood. The right cavities of the heart were gorged with blood, which both there and in the great vessels was uniformly but very loosely coagulated. In the subclavian veins it was fluid. Next day in the seat of the blow struck, twenty-three hours after death, the exposed surface of the true skin was dry and brown; but no blood had been effused into the substance of the skin or under it.

Experiment 3d.—In this instance the subject of experiment was the body of a man, thirty-eight years old, who died in the third week of fever and dysentery, not much emaciated. Three hours and a quarter after death, the body being warm, the limbs very slightly stiff, and no lividity perceptible any where, some severe blows were struck with a stick on the left side of the back. Discoloration did not immediately ensue as in Experiment 2d. Seventeen hours and a half after death, when the body was quite cold, and all the joints stiff, more blows were struck on the right side of the back. The marks of the blows made fourteen hours before were quite distinct. The head was then bent forcibly down on the chest. The body lay on the back till it was inspected forty-seven hours after death. The face was livid, the lips black, but there was no lividity on any other part of the body. The blows inflicted three hours and a quarter after death, were marked each by two long narrow lines of dark lividity, with an intervening colourless stripe corresponding with the prominent part of the stick. On cutting through the skin, I found redness of the mere surface of the true skin, but the rest of its substance, as well as the cellular tissue beneath, quite natural. The marks of the blows inflicted seventeen hours and a half after death, consisted of dryness and brownness of the surface of the skin, without darkness or effusion. Among the spinal muscles in the neck and upper part of the back, black fluid blood was here and there effused between their fibres. Between the third and fourth, as well as between the sixth and seventh, cervical vertebræ, the whole yellow ligament of the spine was lacerated, except at the mere tips of the spines. A considerable quantity of fluid blood was effused into the loose cellular tissue between the dura mater and ligamentous covering of the spinal canal posteriorly, and likewise between that covering and the bone itself. There was not any effusion within the sheath. The posterior ligament of the spine was uninjured. The contents of the *vena cava abdominalis* consisted of a yellow fibrinous clot, with much dark thickish fluid. The blood in every part of the spine was very fluid and dark. The great vessels were every where well filled. The intestines were a good deal injected with dark blood; the mucous coat of the colon and rectum was much inflamed, and here and there ulcerated.

Experiment 4th.—The body of a young woman, considerably reduced by cholera, which proved fatal in its chronic stage, was

struck, four hours after death, while warm, with a stick. On subsequent examination, it was found that wherever the cuticle had been comminuted, the mark was dry and brown; but no where could I detect any other discoloration of the skin, or any effusion in the cellular tissue beneath.

Experiment 5th.—The subject of the following experiments was a stout young man, who died three weeks after an injury of the head, followed by *meningitis* and suppuration of the arachnoid. In two hours, the limbs being rather stiff and the back slightly livid, several heavy blows were struck with a mallet on the back. The body was inspected five hours afterwards. The lividity, which was deep and completely formed, had a deeper tint where the blows had been struck than in the immediate neighbourhood. At one place, where the cuticle had been abraded by the blow, thin florid blood was effused on the surface of the true skin. Nowhere was the substance of the skin infiltered or discoloured, or different, in short, from the places where lividity existed without a blow having been struck. At one spot, under the seat of a blow, there was an exceedingly scanty injection of blood into the membranous interstices between the adipose cells. The back at this time was warm, the hip-joints flaccid, the other joints stiff. Blood drawn from the jugular and femoral veins eight hours after death, flowed out quite fluid, and in a few minutes formed a firm coagulum, with separation of serum. The clot was firm enough to bear tossing from hand to hand without breaking. Blood drawn from the femoral vein an hour and a half later, and which was losing its fluidity, formed, on standing, a thick, diffluent mass with separation of serum, but without a proper clot.

Remarks.—The general conclusions to be drawn from the preceding facts may be considered as they regard external contusions and internal hemorrhage. In respect to *External Contusions*, the experiments show that for some hours after death blows will cause appearances, which, in point of colour, do not differ from the effects of blows inflicted recently before death; that the discoloration generally arises, like lividity, from an effusion of the thinnest possible layer of the fluid part of the blood on the outer surface of the true skin, but sometimes, also, from an effusion of thin blood into a perceptible stratum of the true skin itself; and that dark fluid blood may be even effused into the subcutaneous cellular tissue in the seat of the discolorations, so as to blacken or redden the membranous partitions of the adipose cells, but that this last effusion is never extensive. It can hardly be doubted, that the appearances now described will exactly imitate slight contusions inflicted during life. But I conceive that the blows in the latter case must be trivial. When a blow inflicted during life is more severe, it may have the following effects, few or none of which, so far as we know, can originate in violence after death:—1. There may be swelling from the extent of the extravasation. This is certainly never caused in the dead body. 2. When the violence has been applied a few days before death, there will be a yellow margin round the black mark, which is

another appearance that cannot be formed except during life. 3. There may be clots of blood in the subjacent cellular tissue, either with or without swelling. This appearance I have never seen accompanying contusions caused in the dead body; but it may be doubted whether clots might not be formed, if the injury was inflicted very soon after death, and had the effect of lacerating a considerable vessel in the neighbourhood of loose cellular tissue. 4. In the instances in which the blood does not coagulate at all after death, contusions caused during life may be recognized by the extent of the effusion into the cellular tissue. In a part not liable to be infiltered by its depending position, and not in the vicinity of a large vein, a deep effusion of fluid blood which fills and distends the cells of the cellular tissue, can hardly be produced on the dead body. 5. Perhaps one of the most characteristic signs of a contusion inflicted during life is incorporation of blood with the whole thickness of the true skin rendering it black instead of white, and increasing its firmness and resistance. This sign may not be always present, for, as every one knows, a blow may cause extensive extravasation below the skin, without affecting the skin itself. But when present, I am disposed to consider it characteristic, because I have never been able to produce it in the dead body, and it is not easy to conceive how such a change can be wrought in so dense a texture as the skin, without the force and agency of living vessels. It is impossible to fix absolutely the limit of the interval, beyond which contusions cannot be imitated by violence applied to the dead body. It appears to vary with the state of the blood and the time which elapses before the body cools and the joints stiffen. Sometimes the appearance of contusions can hardly be produced two hours after death (Experiment 5th); sometimes they may be slightly caused three hours and a quarter after it (Experiment 3d); but I should be inclined to think this period very near the extreme limit. Wherever the warmth of the body and laxity of the muscles were not considerable at the time the injury was inflicted, we may be sure that the appearance of contusions cannot be considerable (Experiment 2d). It is probably, therefore, only on the trunk, that, even in the most favourable state of the body, namely, when the blood remains altogether fluid, any material mark of contusion can be produced so late as two hours after death (Ibid.).

As to *internal hemorrhage*, it is plain that if in the dead body a considerable blood-vessel, and more especially a vein, be lacerated so as to open into an extensive cavity or shut sac, there will be more or less effusion of the fluid part of the blood into the cavity. And even if the aperture in the vessel communicate only with the cellular tissue, percolation will take place to a notable extent, particularly when the level of the part is low in relation to the rest of the body. The hemorrhage and percolation will be peculiarly distinct in the cases in which the blood does not coagulate at all after death; for it seems then to acquire even a greater degree of fluidity than it possesses during life. We must not suppose that extravasations of blood within the body are not vital, merely because

the effused blood is found fluid. Although vital effusions are usually coagulated, they are not so always; and, in particular, they are often fluid in the spinal canal. Professor Bernt has mentioned such a case, the effusion having been caused by fracture of the cervical vertebræ; M. Ollivier met with another, in which the effusion was caused by a wound of the middle meningeal vein with a small sword; and Mr. Chevalier relates another, in which the hemorrhage was spontaneous. In all of them the blood effused into the spine was fluid; and, in Bernt's case, it was fluid every where. A circumstance worthy of mention here is, that the blood may continue permanently fluid in some parts or organs, while it coagulates as usual throughout the body generally, or perhaps in the heart alone. In the subject of Experiment 2, it was coagulated in the heart, but fluid in the subclavian and spinal veins: in Experiment 1, it was firmly coagulated in the great veins of the abdomen, but quite fluid in the vessels of the spinal canal. The late Dr. Mertzdorff, of Berlin, in a paper on the effects of blows after death, has taken notice of this diversity in the appearance of the blood, and says it commonly appeared to him that the blood of the vessels within the head and spine, in the subclavian veins, and in the *vena portæ*, was fluid, even when it was coagulated in the other vessels. I have often had occasion to make the same remark. The inference to be drawn from the fact is, that the inspector must not hastily assume extravasations of fluid blood in these parts as having taken place after death, because he finds the blood coagulated in the heart and subordinate vessels, but must examine the state of the blood in the vessels adjoining the extravasation. It may not always be easy to distinguish internal hemorrhage according as it occurs before or after death. Neither can I pretend at present to examine the subject in all its bearings. If any of the organs in the cavity bear marks of compression by the effused blood, the effusion must have been vital. So likewise, if the cavity into which the hemorrhage has taken place be filled with blood, or if any of the softer viscera be comminuted or broken down, or injected by the blood bursting through their texture, or if the hemorrhage be considerable in relation to the size of the vessel, or have evidently proceeded from an artery, and be extensive in proportion to its size. If the effused blood be coagulated, and the coagulum not broken down, it must have taken place either before death, or very soon after it. A state of the blood, the reverse of that mentioned under each of the foregoing propositions, will render the date of the hemorrhage at all events equivocal. A small or even moderate effusion from the rupture of an artery of considerable size could hardly have occurred during life. An effusion of fluid blood from vessels in the neighbourhood of which it is coagulated must have occurred in the dead body. The most doubtful appearance of all is, when the effusion is fluid, moderate in quantity, unaccompanied by the rupture of any considerable vessel, but connected with fluidity of the blood throughout the body, or in the vessels near the cavity into which the hemorrhage has taken place. The interval after death, within which

vital hemorrhage into the internal cavities may be imitated by violence to the dead body, will vary with the qualities of the blood. When the blood has not lost its power of coagulating in the body, the violence must be applied before it coagulates; which appears to happen soon after the stiffening of the muscles begins. When it continues altogether fluid, there seems no limit to the time at which imitative hemorrhage may be produced, except great decay of the body. In experiment 3., as well as in the body of the woman Campbell, it was produced about eighteen hours after death. At this period all the changes must have occurred which the body undergoes prior to putrefaction; and when putrefaction has begun, imitative hemorrhage may be caused still more readily, nay, without the co-operation of external violence.

3. *Cases of Excision of the Elbow Joint* *.—The excision of the joints has been generally regarded as a very dangerous operation, from the circumstance that the slightest wounds of healthy joints are usually followed by most serious consequences. But, Mr. Syme observes, that it ought to be recollected, in the first place, that all the structure which excites so much disturbance by its inflammation, viz., the synovial apparatus, is removed when the joint is excised; and, secondly, that in cases requiring excision, this structure does not exist, being destroyed by the previous disease. The following cases will tend to shew that carious joints may be removed without much apprehension of danger:—

Case 1.—This is the case of a young man, twenty-four years of age, who perceived at first flying pains in the right elbow joint. He could not account for the origin of the complaint, and paid little attention to it, until, after the lapse of several months, it became gradually much aggravated. Abscesses formed in the joint, which were laid open, and which continued to discharge without affording much relief to the severe deep-seated pain which the patient suffered. Mr. Syme saw him in the middle of October last, and found his strength, appetite, &c. less impaired than might have been expected. His countenance, however, betrayed intense and long-continued suffering, and exhibited very remarkably that peculiarly anxious look which so often accompanies disease of the bones. The limb was perfectly powerless, but could be made to undergo a distinct degree of motion without any perceptible crepitus; it was œdematous from the lower third of the humerus to the hand. Though fully satisfied that the joint must be diseased, Mr. Syme could not pass a probe through any of the sinuses which opened on both sides of the elbow, and in different parts of the fore-arm, so as to reach the bone. At last, after many trials, he discovered a very circuitous passage leading to the olecranon and posterior part of the humerus, which seemed to be excavated and carious. As the disease appeared to be confined to the bones, as the patient was young, and as the irritation of the disease was much greater than what could result from any operation which had the effect of removing the source of disturbance, Mr. Syme

* Mr. Syme—Ibid.

resolved to excise the joint, and proceeded to do so on Monday, the 3d of November. Having placed the patient on a sofa, so as to present the elbow in a favourable position, he made a transverse incision at once into the joint, immediately above the olecranon, and extending quite to the radial tuberosity of the humerus, but at such distance from that on the ulnar side as to avoid the ulnar nerve. Introducing his finger by the free opening thus obtained, he found that all the bones entering into the formation of the articulation were affected. He, therefore, cut upwards and downwards for about an inch and a half at each extremity of the first incision, so as to form two large square flaps, which being dissected from the subjacent bones, exposed them completely. Having ascertained that the ulna was carious as far as the coronoid process, Mr. Syme sawed it across at this part, and then insulating the extremity of the humerus, divided it in the same way immediately above the tuberosities. He lastly removed the head of the radius, which was very much diseased. No vessel required ligature; but there was considerable general oozing from the cut surface. After exposing the wound for a few minutes, and sponging it with cold water, the flaps were brought together, and retained in contact by means of a stitch in each of the perpendicular incisions, and three in the transverse one. Some pieces of lint and a roller were then applied, after which the patient was put to bed. The alteration in the appearance of the limb was very slight after the stitches were introduced. The patient passed rather an indifferent night, but it seems that no very unpleasant symptoms followed the operation. Great part of the wound healed by the first intention, leaving very little deformity; but the completion of the cure was retarded by an œdematous state of the limb. This was counteracted by fomentations with salt water and a roller. The patient has been gradually gaining strength in the arm; he was able to write when the case was reported, and Mr. Syme has no doubt that he will soon recover nearly the entire use of it.

Case 2.—The subject of this case was a boy, aged eight years, who, in February, 1828, while playing with other boys, fell upon his left elbow. The joint became diseased; matter formed in it, and the child's health suffered materially. In October, Mr. Syme ascertained that the olecranon was carious. He consequently exposed the olecranon, and, by means of cutting pliers, removed a great part of the shell into which it had been expanded. This enabled him to extract some loose pieces which lay within the cavity; and, hoping that these might have occasioned the obstinacy of the complaint, he prosecuted the excision no farther, and dressed the wound with dry caddis. The patient made no complaint whatever after the operation. He could not be confined to bed after the first day, and was with difficulty persuaded even to remain at home. The wound assumed a very healthy appearance, and soon contracted to its former size, but there it remained, and the probe discovered that there was still some diseased bone. Perceiving that another operation was required, Mr. Syme determined to make it an effectual one; and proceeded to do so on the

27th of November. He made a crucial incision, like a St. Andrew's cross, so as to obtain four flaps, which, being reflected, he divided the ulna below its coronoid process with the cutting pliers, and then removed the detached portion, though not without some difficulty, owing to its connexion with the brachiaeus internus. Mr. Syme next examined the radius, and finding the centre of the round articular surface carious, cut off its head. He then directed his attention to the humerus, and finding an unsound part in the trochlear hollow, cut off the whole articulating surface. Having thus finished the operation, he brought the edges of the wound together, by means of four or five stitches. There was little bleeding, and no occasion for any ligatures. There was little constitutional disturbance, but the wound did not unite in any part by the first intention. There was some sloughing of the unhealthy soft parts, and very profuse suppuration, which, in the course of a few days, diminished to the proportion of a healthy sore. The patient was running about as usual by the end of the first week, and on the day three weeks from the operation, Mr. Syme showed him to his class with the wound all but healed. He did so to impress them with the fact, that recovery after excision is not nearly so tedious as it has been represented. The mobility of the limb as to rotation, flexion, and extension, remains; the patient is already able to lift weights with it, and will ultimately, Mr. Syme expects, find little difference between it and the right one.

Case 3.—The third case is that of a ship-carpenter, aged forty-one, who had disease, of more than a year's standing, of the left elbow. On introducing a probe through more than one opening leading into the joint, Mr. Syme perceived it grating against carious bones. He proposed excision, and having met with the patient's consent, he performed it on the 3d of January last. Having placed the patient on a table, with his face downwards, so as to present the elbow conveniently, Mr. Syme made two square flaps as in the first case. Finding that the ulna was diseased quite down to the coronoid process, he sawed off the olecranon merely, and then cut away with the pliers whatever other parts required removal; by which mode of procedure, the obstacle afforded by the attachment of the brachiaeus internus, which proved so troublesome in the second case, was avoided. He then detached the head of the radius, which was completely carious over its whole articular surface, and removed the extremity of the humerus with the saw; but finding that the disease did not seem to be eradicated at the ulnar tuberosity, he cut away both it and the radial one, so as to leave no room for anxiety or doubt. No ligatures being required, Mr. Syme inserted five or six stitches, so as to keep the cut edges in contact; then applied some folds of caddis, and, lastly, supported the limb by means of a roller. This operation was much more difficult than either of the former, owing to the very firm connexions of the bones. It occupied, with the dressing, &c. a quarter of an hour. The wound healed entirely by the first intention, excepting a space not larger than one of the original sinuses, and the patient suffered no constitutional disturb-

ance. In two or three days he was walking about, and by the end of a fortnight the cure might be considered complete. The motion of the joint, in flexion, extension, and rotation, is not at all impaired, and there is not the least deformity.

The ulnar nerve was not injured either in this or the other cases, though, instead of exposing and holding it aside, as has been advised, in order to avoid the error of Moreau, who cut it across, Mr. Syme trusted merely to his knowledge of its situation.

4. *Observations on the Blood* *.—Dr. Davy's observations relate to the question, "is the appearance of the blood, abstracted as a remedial means, a just criterion in considering the propriety of repeating the operation of blood-letting?" He first considers the appearance and qualities of the blood, which are commonly supposed to be indicative of inflammation, and to warrant rather than forbid further blood-letting. They are chiefly the following:—An unusual degree of fluidity of the blood the instant it is drawn; unusual slowness in coagulating; and, when coagulated, being covered with a buffy coat, and cupped. Relative to these appearances and qualities of blood, experience seems to show that they are met with in the majority of cases of local inflammation, but with shades, differences, and exceptions, involving much difficulty and perplexity. 1. When the inflammation is violent, rapidly running on to suppuration, and very extensive, as attacking at the same time more than one texture, or only the same texture, but in different organs, the blood drawn is often neither cupped or buffed. This Dr. Davy has witnessed most strikingly in cases of peritoneal inflammation, either pure or complicated, with inflammation of the mucous coat of the intestines, or with diffuse cellular inflammation. 2. In diffuse cellular inflammation he has often noticed that the blood coagulated rapidly, as rapidly as when in health, and yet, being unusually liquid, exhibited a slight buffy coat, provided the vessel used for holding it was filled in a few seconds, and instantly put aside and allowed to remain undisturbed. 3. In ordinary cases of inflammation, as of the pleura and lungs, the blood drawn at the commencement of the disease is occasionally not buffed or cupped; but on repeating the operation the following day, the blood exhibits both these qualities. 4. In cases of inflammation of the mucous coat, whether of the air passages or of the alimentary canal, the blood drawn sometimes shows the appearances and qualities enumerated, and sometimes not. 5. Experience does not seem to have established, even generally, any relation in point of degree between these appearances and qualities, and the intensity of the inflammation. Sometimes the buffy coat in the blood is very thick, and the crassamentum is much contracted, and the symptoms of inflammation are not violent, and the recovery is not long protracted; and sometimes the reverse of this occurs. 6. In a large proportion of fatal cases, fibrinous concretions, or polypi, as they were formerly called, corresponding to the buffy coat on blood drawn, are found in the heart and great

* Dr. Davy—Ibid.

vessels; and, as well as Dr. Davy can judge from his experience, as often when the lancet has been freely used, or only moderately, or not at all. The consideration of such facts deprives him of confidence in these appearances as indications for practice and the repetition of blood letting, and induces him to conclude, that, as a criterion in this way, they cannot be pronounced just or safe. Dr. Davy next considers the appearances and qualities of the blood, commonly supposed to be connected with a state of the system, as it were the opposite of inflammation, and not to warrant farther blood-letting. They are chiefly, as it is supposed, a very soft crassamentum, very little, if at all, contracted, or the blood remaining liquid, or the proportion of crassamentum to the serum being unusually small. So far as he is able to judge, these appearances and qualities of the blood are not proved by experience to be be connected with the state of the system supposed. 1. In the remittent fever of hot climates, and in cholera morbus, both the common kind and the epidemic, the crassamentum of the blood drawn is generally softer than natural, and little, if at all, contracted, and yet blood-letting in these diseases is not generally injurious; it is often beneficial, and even when repeated. 2. Blood without fibrin in any disease is very uncommon. Dr. Davy witnessed it only in cases of pulmonary apoplexy, and that after death, in the cavities of the heart and vessels, but so soon after death, that it may be taken for granted, that it was not a *post-mortem* change; that it existed previously, and was probably connected with, and partly the cause of, the fatal effusion. In such cases no one would have hesitated if called in time, in abstracting blood, especially taking into consideration the plethoric habits of the individuals to whose cases he alludes, and their previous apparent robust health. 3. The proportion of the crassamentum to the serum being small, may often be witnessed in acute diseases in their advanced stage, or in acute diseases supervening on chronic, of long duration, or occurring to persons of great delicacy of constitution, of feeble health, and of valetudinary habits. In such cases, no judicious practitioner would think of using the lancet, unless he considered it urgently necessary; and then surely he would not be prevented using it, even if certain of the blood being below par in respect to the proportion of crassamentum it might yield. Lastly, there is another and extensive and most important class of diseases (were a classification formed according to the appearances and qualities of the blood) in which the blood, as far as we have learnt from experience, is not apparently altered, as in the continued fever of summer, differing but little from the ephemera, as in the early stages of synochus; and as in apoplexy and tetanus, and many of the diseases strictly belonging to the neuroses, in the treatment of which, blood-letting is often useful, and sometimes indispensable. These considerations tend to support the former conclusion.

5. *Case of Loss of Sensation, unattended with corresponding Loss of Motion.*—Mr. Walker, aged fifty-six years, who forms the subject of this case, while residing in Jamaica, about the year 1802,

had a severe fall from his horse, which fractured some of his ribs, and greatly injured his breast-bone. Nearly two years afterwards he sprained the muscles of his back, over the lumbar vertebra. Upon his recovery from this accident, he found that a numbness of the right leg and hip, which succeeded his fall, and which continued ever since, to be now rather increased. Nothing of interest happened to him until the year 1812, when he had an attack of erysipelas of his right leg and foot, and which afterwards affected his left leg also. Both legs, at this period, felt benumbed, and were insensible to the prick of a pin. His left foot became the weaker of the two; his limbs occasionally swelled, and were also covered with a disagreeable eruption. When he was in the warm bath, he could not say whether the water was cold or hot, until immersed above mid-thigh, even although his feet and legs were in this condition; and, to use his own words, "felt as if covered with a stocking or boot, or as if sleeping." He was, nevertheless, able to take proper exercise. In 1815, he was advised by his medical friends to try the effects of a sea-voyage, and a residence in his native country. He arrived in Scotland about the beginning of July, when he felt both body and mind in a vigorous and healthy condition, with the exception of the want of feeling, which was still increasing throughout the body. After taking medical advice, both in London and Edinburgh, without receiving any benefit, he was obliged to go back to Jamaica on pressing business. After his arrival there he thought himself a little better. This amendment, however, was not permanent. He found the heat, when exercising in the sun, almost insupportable,—quite different from what he formerly felt it. Unfortunately, he, at this time, jammed his right foot betwixt the gunnel of a boat and the ship's side, which bruised the foot, injured the metatarsal bone of the little toe, and brought on a troublesome sore. This circumstance was the cause of frequently laying him aside from taking his accustomed exercise in the open air, and which, he conceived, materially injured his general health. He again returned home in 1818, worse than when he left Scotland. In 1822 it was found absolutely necessary to remove the metatarsal bone, which had become carious, and otherwise diseased, from its giving rise to repeated attacks of constitutional irritation. From the performance of this operation, productive of great suffering, Mr. Walker declared he felt not the smallest degree of pain, more than if it had been dead matter which had been operated upon. The sentient power is at present nearly, if not completely, annihilated over the whole surface of the body; while the power of motion, although impaired, is yet so entire as to enable him to use his hands in carving his food, in writing, in holding the reins when on horseback, &c. He is also able to walk a short way even without a staff. In answer to some queries which Mr. Reid put to him, he says, "The want of feeling continued to increase slowly, and from my legs extended to my hands and arms, till I lost the feeling of finger after finger. The skin of my brow and head is also affected. I feel with nothing but my mouth; that is to say,

I am incapable of telling whether any thing I touch is cold or hot, rough or smooth. I am, generally speaking, in possession of my ordinary functions. With regard to the sensation of my feet and hands (and these I am at a loss to describe), when cold, which they generally are, they feel heavy and stiff. When attacked with rheumatism, or when blistered from incautiously going too near the fire, an accident of which I am not conscious at the time, or when matter is gathering, they feel as if tight bound in a boot, and very heavy, accompanied with restlessnes and stretching all over the body. This was exactly the sensation produced by the collection of matter which so often took place from the diseased bone. I felt no pain whatever when you extracted the bone from my foot; nor would I now, I am convinced, were you to dissect the whole foot. When driving or riding, I cannot tell, unless I see, whether or not I hold the reins or whip. My taste, smell, and hearing, are perfectly entire. My sight is weak. Occasionally my eyes are slightly inflamed, and water a good deal. This I attribute to a difficulty which I have in shutting my eye-lids from a want of perfect power in them. My feet and hands are, to a certain extent, paralyzed; that is to say, I have not the same power of motion in them which I had in a state of health, nor even a few years ago, when the want of feeling was nearly as great as it is at present." In this interesting and singular case, Mr. Walker is a living instance of abolition of the sentient power, not only in the skin, but also in the deep-seated muscles, tendons, and ligaments, as was exemplified in the operation for the removal of the metatarsal bone, while the power of the nerves of the other external senses remain entire, and perform their functions in a perfect manner. The internal functions obey the will, and each one acts correctly under the influence of their peculiar stimulus as in a state of health; even the *sensorium commune* is fully adequate to carry on its intellectual operations in a very perfect degree. The motive power, which at first was little affected, appears now to be getting involved in the wreck of the sentient. The motions of the muscles of the eye, particularly the *orbicularis oculi;* of the *levator* muscles of the mouth; of the extensor muscles of the hands and fingers, and the extensors of the foot and toes, are imperfect; nevertheless they are, to a limited extent, still under the command of volition.

6. *Lithotritic.—Discharge of Barley-corns from the Bladder.*— The following singular case occurred under Mr. Liston, at the Edinburgh Infirmary, where the subject of it, a man aged seventy years, was admitted on the 10th of November, 1828. He stated that, for five months past, he had been labouring under all the symptoms of stone in the bladder. On sounding him a stone was distinctly felt. As he had a great aversion to being cut, and, as his urine seemed to indicate a diseased state of the bladder, it was thought advisable to break down the stone in preference to the usual operation. On the 13th of November, a solution of opium having been injected into the bladder, Mr. Liston introduced Civiale's

instrument, but owing to the restlessness of the patient, and the irritable state of the bladder, did not succeed in grasping it completely. Several small portions of stone, however, came away in the fangs of the instrument, and during the night. He suffered no inconvenience from the operation. On the 15th, he passed a barley-corn incrusted with calcareous matter. On the 16th, a piece of straw with the same incrustation. He complained of pain in the testicles. On the 18th, a small abscess having formed in the scrotum was opened. The instrument was again introduced on the 25th. The stone was fairly laid hold of, but was so soft that it was crushed by the instrument; on withdrawing which several fragments of seeds were found adhering. He now confessed, that, while reaping during the last harvest, he had introduced a number of barley-corns into his urethra, but would not say for what purpose. The patient had repeated attacks of retention of urine after the last operation, from the larger portions of stone lodging in the urethra. He passed in all thirteen fragments having entire barley-corns for their nucleus, besides a much greater number having only small pieces of the beards. He had now little pain, and the quantity of mucus in his urine was inconsiderable. He was sounded several times, and, as nothing was felt in his bladder, he was dismissed cured on the 16th of December, 1828.

7. *Remarkable Case of Nervous Affection* *.—Mr. Crichton calls the following a case of the leaping ague of Angus-shire. It is one of those anomalous nervous affections such as are now and then met with, and which, in all probability, are not generally attended with any organic disease of the brain. The most remarkable circumstance connected with these affections, is the regular periodical occurrence of the paroxysms, and the state of perfect sanity, both mental and corporeal, which intervenes. The subject of the present case was a young girl, of about fourteen years of age, of a lively temperament, and of quick sensibility, who, having suffered much in the summer of 1815, from stomach complaint, was frightened one night, in October, 1816, by hearing thieves break into the house. After this she became pensive and bewildered; she was affected with excessive perspirations, and her health rapidly declined. At one period during the summer, the catamenia made a slight appearance, but never returned. Towards the close of the year 1817, she had frequent attacks of shaking, accompanied with foaming at the mouth, and followed by a state of coma, which, after continuing about an hour, gradually went off. At the commencement of the year 1818, when Mr. Crichton's attention was directed to her case, the disease had assumed the following appearances:—Every morning about ten o'clock she became drowsy and torpid; about eleven she began to arouse out of that state; by twelve she got out of bed, and went through the house collecting her trinkets, such as watches, rings, writing apparatus, and other articles she had secreted the

* Mr. Crichton.—Ibid.

preceding day in holes and other bye-places out of sight. These she brought with her into bed, and amused herself with them for some time, occasionally conversing with those in the room, but in such a language that no stranger, and hardly even those of the family, who were constantly beside her, could understand. This arose from her commencing the sentences with the last word, and very frequently pronouncing the words themselves with the last letter foremost. At times, when by no possibility she could make herself be understood by her parents or sisters, she became irritated, and would write down what she wished to convey; but her manner of writing was equally singular, beginning at the right edge of the paper and writing backwards towards the left, the last word of the sentences first, and often the last letter of the word first, and this she performed with great rapidity, and seemingly without consideration. Her sight likewise was peculiarly affected, seeing objects only in particular directions, so that when she wished to view any thing she was necessitated to turn her head in another direction. About one o'clock she again got out of bed, and, after carefully secreting her trinkets in various bye-places of the house, she commenced dancing the *Copenhagen jig*. Her excitations continuing to increase, she jumped upon the tables and chairs, sometimes running with great rapidity round and round the edge of a table, then springing up and squatting herself upon the top of the room door, swinging backwards and forwards without any hold. At this time she required to be very narrowly watched for fear of her springing out of the window, which she often manifested an earnest longing to do. Upon one occasion, the outer door happening to be open, she made a sudden spring out, clearing the staircase at one bound. She was instantly followed and brought back without having sustained any injury. At first they were in the habit of attempting to keep her forcibly down in bed, fearing she might injure herself. But the strength of several people together was insufficient for that purpose, as she got out of their hold like an eel, springing to the other end of the room, so that it was thought most advisable to allow her to take her own way, only guarding the windows and door. About two o'clock, becoming quite exhausted, she got into bed, and, falling into a deep sleep, she awakened about five o'clock in her right mind, and without being in the smallest degree conscious of any thing that had taken place during the paroxysm. She continued so until about ten o'clock next morning, when the same or nearly the same routine took place. Various medicines were used with little or no effect. The shower-bath was then had recourse to, which put a stop to the train of symptoms, but which was followed by a complete locking of the jaws for eight days. The disease, however, never afterwards appeared in its original form, and it gradually subsided. A sea voyage to the Baltic during the summer, after being some time in the country, restored the patient to health and strength.

8. *Case of Premature Menstruation* *.—The child who forms the subject of this case presented nothing different from other children at the period of her birth; but she soon began to grow with such rapidity, that in her ninth month she had attained the ordinary size of children of a year and a half old At this period, a small emission of blood took place from the vagina, and this emission returned more abundantly in the eleventh month; the breasts at the same time began to increase in size, and the pubis became covered with hair. In the thirteenth month a third, and in the fourteenth month, a fourth evacuation of blackish blood took place from the vagina. At this age, the child was, in every respect, well constituted; she had attained the height of three feet; was nine inches from one shoulder to the other; twenty-two inches in circumference at the thorax and pelvis; the breasts and the external parts of generation were much developed. The intellectual faculties did not surpass those of children of her age, and she manifested no signs of sexual desire.

9. *Attempt at Lithotritic—Lithotomy attended with Hemorrhage* †.—A man, aged sixty-four years, had, during the last thirty years, several attacks of gonorrhœa, for which he obtained no rational treatment. During the last six years, the urine had been passed with pain and difficulty; it was mucous and turbid. He was taken into the Hôtel Dieu, where he had the catheter passed. Having remained for some time in the hospital, he left it, and afterwards passed the catheter himself; for, he said, he could not make water without it. He entered La Pitié in January, 1828, where he was ordered, by M. Lisfranc, to have a blister applied to the hypogastrium, and the élèves were charged to introduce the catheter from time to time. The patient said that M. Lisfranc had never sounded him. In fine, he left La Pitié, in the same state as he had entered it, and was taken into La Charité on the 29th of December last. It was there that the presence of a calculus was first ascertained by M. Roux. This surgeon considered the calculus small, and he thought of performing the operation of lithotritic. On the 14th of February all things were ready for the operation, which was confided to M. Leroy d'Etoiles; but the instruments, it was found, could not be introduced, owing, it was supposed, to several strictures in the urethra. The question then was, ought the operation to be postponed until the strictures should be cured? But the patient was a prey to the most violent pains whenever he attempted to make water without the aid of the catheter; he uttered such cries, and strained to such a degree as to produce prolapsus of the rectum. Besides, the urine was charged with a great quantity of whitish mucus, and it was possible that the means to be resorted to, for destroying the supposed strictures, might augment the vesical catarrh. Moreover, as the patient had a degree of paralysis of the bladder, how could the fragments, which almost always escape the researches of the lithotriteur, be

* Meckel Arch. † Hôpital de la Charité.

expelled? Paralysis of the bladder, more or less complete, contra-indicates lithotrity. M. Roux then decided upon the lateral operation of lithotomy. The patient was placed, as in all perineal operations for the stone; the external incision was commenced very little distance before the anus, and was carried backwards and outwards, so as to terminate, not at mid-distance between the anus and ischium, but even close to the tuberosity of this bone. Scarcely was this incision made, when a strong jet of blood took place. Instead of tying the vessel, M. Roux proceeded with the operation, which was promptly finished. However, after dividing the urethra, the operator failed in introducing the lithotome in the first attempt. This instrument was graduated for making a small incision of the prostate, M. Roux having previously judged the calculus to be small. The extraction was more easy than had been expected. The calculus was friable; it had been partly bruised by the forceps, it was about the size of an almond. The hemorrhage continued; the divided vessel was sought for in vain. M. Roux then attempted to apply a ligature on the internal pudic, the hemorrhage being from the transversalis perinæi, but this attempt was fruitless. Having introduced a silver catheter into the wound, for facilitating the discharge of the urine, the wound was plugged. The plug was allowed to remain in until the third day, at which period, when the dressing was removed, no discharge of blood took place. The patient rapidly recovered without manifesting any unpleasant symptoms whatever.

10. *Inflammation of the Uterus, and of the Ovarian, Iliac, and Cava Veins* *.—The subject of this case was a poor woman, aged twenty-seven years, who was delivered of twins, on the 25th of December last, at the Hospice de Perfectionnement. Nothing very particular was observed during labour, further than that there was a discharge of a good deal of blood from the vagina before the os uteri began to dilate. On the 26th, the patient appeared to be doing well; the uterus was rather large; the lochia were abundant. She appeared equally well on the 27th. On the 28th, the milk came on, and the breasts became very voluminous. (Complete abstinence). On the 30th she had a good deal of fever; the breasts were very large and hard; the uterus was sunk in a little upon itself; the abdomen and parietes were extremely relaxed, still very large, but without any pain or tenderness. It was ordered to be slightly compressed by means of a napkin placed in the form of a girdle. 31st. The lochia less copious. (Emollient cataplasms to the abdomen, and to the inner and upper part of the thighs; these to be renewed twice a day; two bouillons; diluent drinks). January 1st and 2d. Patient in the same state. (Same prescriptions; also emollient lavements). 3d. The patient is calm; the lochia ceased to flow before the evening. (M. Guessent ordered fifteen leeches to be applied to the labia). These were followed by a considerable flow of blood. 5th. At the morning visit the patient complained of pain in the iliac fossæ, and said

* Hospice de Perfectionnement—Lancette Francaise.

that she had felt a similar pain at the left side for a long time previous to her accouchement. (Twelve leeches to each of the principal parts). The hemorrhage from the leech-bites was so considerable, that it was necessary to arrest it at the evening visit. 6th. She was a little better. (A warm bath was ordered, in which she remained half an hour; the cataplasms to be continued). The abdomen was now distended, which is not to be wondered at, as the bowels had not been open since her delivery. (Oily draught prescribed in the evening). 7th. The draught had produced some stools. (Emollient lavements). 8th. In the evening pulse very frequent (120 in a minute); cough, which came on in paroxyms. (Bleeding, two *palettes*). 9th. Pulse less frequent; no cough; the face shrivelled, eyes haggard; diarrhœa. 10th. Delirium during the night; the fæces evacuated involuntarily; the patient made frequent attempts to get out of bed; left eye-lid and nose rather swollen, which presaged erysipelas. This symptom was considered to augur well, so that its progress was not counteracted. On the morning of the 11th, the erysipelas was found to develope itself slowly; the patient had scarcely any rest during the night; fever still very intense. Towards evening the erysipelas was found increased, and to cover the whole of the face; but it singularly contrasted with ordinary erysipelas: the swelling which determined it was not accompanied by any redness. (Abstinence; two bouillons; cataplasms to the back and soles of the feet). 12th. The patient was much agitated all night; she had delirium, and was found to pick at imaginary objects (carphologia); a thick veil, which covered her eyes, she said, prevented her seeing the light. The erysipelas had made no farther progress. (Cataplasms to the calves of the legs). The patient had a calmer night, though she was still delirous. An enema, given early in the morning, procured an abundant evacuation of fecal matter. (A blister to the inner part of each leg). 14th. The night had been very tranquil; the blisters had risen well. The leech-bites on the iliac regions had become deeply ulcerated; the skin and cellular tissue of those parts had sloughed, so as to expose the aponeurosis. The parts surrounding these ulcerations were neither inflamed nor painful, which was regarded as unfavourable. On the 15th and 16th, the thighs and legs became œdematous. On the 17th, a blister was applied to the inner part of each thigh; the pulse was miserable. The extremities became cold towards evening, and the patient died at five o'clock, on the morning of the 18th.

Sectio Cadaveris, thirty-six hours after death.—General discoloration; ulceration of the anterior part of the pelvis. The brain was not examined. The thoracic organs were healthy, with the exception of some old adhesions between the pleura costalis and pleura pulmonalis, on both sides. The heart and large vessels were healthy; but the right iliac vein was quite full of white concrete pus, which ascended into the inferior cava, as high as the level of the kidney. The internal surface of these vessels was lined with false membranes. The ovarian veins were also in a

similar state, and filled with pus. The pharynx and œsophagus presented no alterations; the stomach was for the most part pale, but injected in patches; there was no softening of its mucous membrane. The rest of the digestive apparatus was healthy. The urinary bladder was full of red urine; its mucous lining was slightly inflamed. The uterus was greatly contracted; it was lodged in the small pelvis, and its neck was entirely closed. The body of the organ was in rather a softened state; so was also its internal membrane. The vessel, which ramified in its structure, contained no pus. The mucous membrane of the vagina was reddish; the labia and nymphæ were tumefied. The peritoneum appeared healthy.

11. *Puerperal Metritis, treated by mercurial Frictions* *.—Eliza Lebeau, servant, aged twenty years, of a lymphatic constitution, had the small-pox when she was ten years of age, since which period she has enjoyed good health. She was eighteen, when she began to menstruate, and she had continued to do so irregularly ever after, sometimes every six weeks, at other times every two months only; and the discharge ordinarily lasted only two days. Nevertheless the health of this young woman, has never suffered until she became pregnant. During her pregnancy, she often complained of cough and general debility. She entered the hospital on the 24th of January, and was delivered, after a labour of from twenty-four to twenty-eight hours. The placenta was followed by considerable hemorrhage. In the evening, the skin was hot, the pulse frequent, and the lochia abundant. As the abdomen was rather painful, a cataplasm was ordered to be applied to it. January 27th. The patient has had a restless and agitated night; skin hot; pulse frequent; perspirations abundant; frequent cough; auscultation furnishes no rattle. The hypogastrium is tender on pressure; neither nausea nor vomiting; lochia plentiful. (Three *palettes* of blood to be taken from the arm; forty leeches to the hypogastrium; pectoral tisan for drink). There was less pain in the evening, but the fever continued the same. 28th. There is a little amelioration to-day; the hypogastrium, however, is still painful; pulse 120 in a minute. (Forty leeches to the hypogastrium, and to be followed by an emollient cataplasm). 29th. The patient suffers less; the lochia flow little; there are symptoms of abdominal effusion; the uterus is still large, and sensible to pressure; pulse 120 per minute. (Thirty leeches to the vulva; bath; cataplasms). The pain was much the same in the evening; the lochia continued still to flow. 30th. Patient in a similar state; diarrhœa; pulse 110 per minute. (Bath; pectoral tisan; gum draught). 31st. Patient still in the same state; pain in the left iliac fossa; percussion of the abdomen furnished a fluctuation. (Twenty leeches to the hypogastrium.) February 3rd. The patient continued in the same state up to this day. Recourse is now had to a mercurial treatment. (Two frictions with half an ounce of strong mercurial ointment

* Hospice de Perfectionnement.—Ibid.

each, to the abdominal parietes). 4th. There is to day a notable amendment; less sensibility of the abdomen, which is reduced in size; pulse weak and frequent; there is less effusion in the abdominal cavity. (The same remedies to be continued). 6th. The patient now complains of the mouth being sore; the diarrhœa continues; abdomen more tender, especially the hypogastrium; pulse stronger and more frequent. (Three *palettes* of blood abstracted from the arm; cataplasm to the region of the pain; mercurial frictions to be discontinued). 7th. The blood abstracted yesterday is buffy, which is not the case with the previous bleedings; the crassamentum is firm, tough, and swimming a great quantity of serum. This sign has produced a great amelioration; the pain is less; there is little fever. (Pectoral tisan; gum draught; emollient cataplasms). 8th. The amendment continues; pulse less frequent; uterus contracted; lochia, now changed into a whitish colour, still continues in small quantities. (The same prescription). 11th. The amendment has continued up to the present time; the uterus is no longer tender; the abdominal effusion has disappeared; the pulse is still ninety in a minute; the patient has still a cough. 18th. The cough has ceased; the patient complains of pain in the regions of the parotid and submaxillary glands. After several days had elapsed, salivation came on; it is, however, not very copious, and the gums are not swollen; the diarrhœa has ceased; the uterus is scarcely sensible to pressure applied above the pubis. Towards the 20th, the patient lost two of her molar teeth, in consequence of the salivation; otherwise she continued to do well; her nourishment was gradually increased, and from this time she went on progressively improving.

12. *Insanity caused by a Mole in the Uterus* *.—M. Girot relates the following case:—Madame B. was troubled for some months with vague inquietude, which progressively took a more determined character. A very great uneasiness, an indiscreet attachment for her husband, abundant flow of tears, without any cause, and an insupportable jealousy that her husband should not be, at any time, away from her, characterized the first period of her complaint. Consolations, the most sincere effusions of friendship, and the most constant attention, on the part of the husband, were not sufficient to calm this sentimental effervescence. To this exaltation of feeling succeeded, insensibly, marked indifference to the objects of her dearest affections. Soon the intellectual faculties became affected; incoherent discourses; unreasonable complaints; unjust reproaches; a remarkable propensity to superstitious devotion; a desire to die, which gave rise to future uncertainty: Such were the morbid symptoms, which may be called the second stage of this mental state. During this second period, uterine hemorrhages supervened at intervals, more or less distant. In fine, after a few slight attacks of abdominal cholic, Madame B. expelled, without effort or pain, a pyriform body, three inches in circumference, which

* La Clinique.

M. Girot recognized as a fleshy mole. He ordered rest, abstinence, and very cold, vegetable lemonade. Since this period the patient has been in perfect health; and she has not even a recollection of her previous state.

13. *Involuntary Periodical Drunkenness* *.—M. P., who acquired, some years back, a merited reputation among the bookbinders of Paris, left that city, after many domestic troubles, which determined, it would appear, the complaint in question. He went to live at Valence, where he married a-new, and continued his business with equal success, during his lucid intervals. About fifteen years ago he was driven, by a sort of internal movement, to drink wine without attention, and without satiety. Before this period his life had been a model of virtue and sobriety. The unfortunate inclination, just mentioned, ceased, but, since that period, he has been regularly subject to a return of it every two or three months, and it continues about the same length of time as it did the first time. No symptoms denote the approach of the access. He never speaks of his pathological state, of which he appears insensible. The following has been his regular course of living, observed during the space of nearly two years:—When the periodical malady is coming on, M. P., naturally of a lively disposition, rises about five or six o'clock in the morning; he takes some money out of the till, and hastens into a tavern, where he drinks, without ceasing, until ten or eleven. He then returns home, tottering, seldom falling down, descends into the cellar, takes up a great number of bottles of wine, places them on the kitchen table, sits down by them, and drinks night and day. If, by chance, he goes to bed, he gets up, even in the dark, to go in search of wine. During the paroxysm, he never shews the least appetite, and he does not consume two ounces of food during the whole course of the access. The urine is copious, high-coloured, and sometimes depositing a lateritious sediment. During the first and second periods, he very often goes, both in the morning and afternoon, to a tavern; then he is subject to many fantasies, more or less puerile, which can only be satisfied at great expense. When the paroxysm draws towards its end, that is, fifteen or twenty days before the term of its ordinary duration, the patient no longer goes from home. He becomes reserved, passionate, and behaves spitefully to his wife. His state totally changes; he flies from the light, hides himself in the most obscure corner of the kitchen, where he always shuts himself, constantly muttering, but drinking rather less than before; and, as if ashamed of his condition, he desires to be alone. During the access, on the contrary, although tottering, and half asleep, the brain exercises its ordinary functions. He readily follows the course of conversation. During the paroxysm he entirely neglects his occupations. The invasion of the affection is sudden; its termination is also similar. It commences in the morning, and ends the same, after a profound sleep. At this period the patient goes to bed towards midnight, sleeps almost

* Journal des Progrès.

naked, rises at the expiration of some hours, and resumes his occupations as if he had quitted them the evening before, without any reference to his previous state, of which no signs remain, but a great lassitude, of the origin of which he is ignorant, and the ordinary taste of drunkards. His physiognomy soon changes, as does also his breath: the mussitation and continual salivating diminish; his walk becomes steady; he loses that state of approaching paralysis with which he was before affected; his speech becomes more free; his tongue insensibly loses the indications of stupor which affected it during the paroxysms; he is pale, wan, and debilitated; and all his traits are indicative of a remarkable laxity. M. P. is about sixty years of age; his present habits have greatly altered his faculties, both physical and moral; notwithstanding his age, he is of a very lymphatic temperament, and of a constitution eminently nervous and lank, though strong. The most eminent medical men of the capital, and of the neighbourhood of Valence have been consulted respecting his case; but their prescriptions have been of no avail.

14. *Singular Cases of Monomania* *.—It is not uncommon for those who have the care of establishments for the reception of the insane, to witness very remarkable cases of partial delirium, or of hallucination relative to one particular object. When the delirium relates to any corporeal sensation, either of pain or pleasure, there is reason to suppose that, independently of the mental derangement, the physical sensation is allied with some affection of the seat to which it is referred. Thus, in a woman who fancied that the devil had got into her body—that he gnawed her stomach, her liver, her heart, &c., extensive organic disease was found in these seats on *post mortem* examination. The following cases are analogous as regard the false sensations, but no opportunity occurred to determine whether or not these sensations arose from organic disease They occurred at the hospital of St. Louis, under the care of M Maury.

Case 1st.—A young man, a labourer, imagined that he had swallowed a young snake in a glass of water. "It is five years," said he, "since the accident occurred; since which time the animal has not ceased to grow. It has now attained an enormous size, and produces great inconvenience; constantly in motion, it traverses the belly, mounts into the chest, and sometimes rises up to the left eye, when I have a distinct perception of its size and colour. Sometimes its movements are so violent and painful, that I am obliged to constrain them by seizing and squeezing it through the parietes of the abdomen." The patient described a variety of other circumstances connected with his internal enemy, and appealed to the by-standers whether they did not hear it hissing; yet, in all other respects, he was perfectly rational. M. Maury, aware that no reasoning would avail, affected to agree with him. The patient himself expressed his conviction that nothing but an operation could save him. It was put in practice. In

* La Clinique.

order to render the illusion more complete, a large plait was made in the integuments of the abdomen, the base of which was traversed with a bistoury, and a live adder introduced into the wound in the form of a seton. One of the wounds being covered with the hand, the patient was requested to assist the operator by seizing the head of the "serpent," and unite his efforts in extracting it. No idea can be formed of the joy of the patient without having witnessed it. Next day he declared that he was prodigiously shrunk, in consequence of the extraction of the horrid creature; all the torments which he had suffered for five years were removed; the cure was complete in a few days; and what is more remarkable, it has continued permanent. One circumstance alone for a moment rendered it doubtful: the patient was afraid that the serpent might have left some eggs, but his confidence was completely restored on being assured that it was a *male*.

Case 2d.—The subject of this observation was a woman, aged forty, the mother of several children, of a nervous temperament, and her health broken by various causes, principally moral. She was admitted into the hospital St. Louis, last November, after having gone the round of most of the hospitals in Paris, and consulted a great number of practitioners, on account of an animal which moved about in the hypochondriac region and left flank, producing pain extending sometimes to the corresponding side of the head. On some occasions, she described it as a tape-worm, on others as a worm covered with bristles; sometimes as an adder; sometimes leeches, which she had swallowed in eating water-cresses. The countenance was expressive of mental suffering and excitement, but the intellect was not deranged, except as regarded her complaint. She had increased appetite and borborygmi, which she attributed to the movements of the animal; she was constipated, averse to exercise, and fond of solitude. These circumstances, it will be perceived, rendered this case more complicated than the preceding. It was evident that, though there might be some real suffering, there was more which was imaginary. M. Maury, however, easily persuaded her that the animal was a serpent, and that an operation alone could remove it; accordingly an operation similar to that above described was had recourse to. The success, however, was not quite so complete, as she still complained, either owing to her experiencing real pain or that her imagination had not been entirely satisfied. However, she left the hospital much more tranquil, and it has since been ascertained from her family that she has nearly recovered her health.

GENERAL MISCELLANY

OF THE ACCESSORY SCIENCES.

1. *Report of the National Vaccine Establishment—Addressed to the Right Hon. Robert Peel, Secretary of State for the Home Department, dated May* 2, 1829.

Sir,—The number of persons who have died of small-pox in the course of the last year, within the bills of mortality, amounts to 598; and we have no reason to think that this distemper has abated any thing of its virulence, or that it is more controllable by the expedients of our art than it was in the times of its more general prevalence; for it still proves fatal to one out of three of those who take it in the natural way. It may seem strange, therefore, that any part of the population of the capital can still be found insensible to the advantages of the protective process, or careless enough to forego the resource which the charity of Parliament most humanely and generously provides for its safety.

We have the satisfaction, however, of finding that more than 10,000 of the poor have been vaccinated in London, and its neighbourhood, since our last report; and it is particularly gratifying to learn, from the records of the last year's experience of the Small Pox Hospital, that no patient admitted there under small-pox, after vaccination, had been vaccinated by any officer of this establishment; whence it is fair to presume, that when the operation has been performed with due care and intelligence, it is much less liable to be followed by small-pox, and that such care and circumspection are absolutely necessary to a just and confident expectation that complete protection will be afforded by it.

We have supplied lymph to the Army and Navy, to the Colonies, and to various parts of the Continent of Europe, since our last account; and our correspondence, which has become more extensive than ever, bears us out in assuming that there is no increase in the proportion of cases of small-pox after vaccination, which affords an answer to questions put to us repeatedly as to the gradual diminution and wearing out of the efficacy of the vaccine lymph by time; for it does not appear to us to be weakened or deteriorated by transmission through any number of subjects in the course of any number of years.

(Signed) We have, &c.

Henry Halford, President of the Royal College of Physicians.
Anthony Carlisle, President of the Royal College of Surgeons.
Wm. Lambe, M.D. J. A. Paris, M.D. H. Leigh Thomas, C. Hue, M.D.

2. *Employment of Slates for hastening the maturation of Fruits.*—A vine branch had been trained above the window of a house, facing the south, according to custom, in certain parts of France. Beneath this branch was a small slate roof, about three feet wide, serving to shelter a door. It was remarked, that the grapes on this roof were ripe and black, whilst those on the rest of the branch were yet green. This effect, evidently due to the heat accumulated in the slates from the rays of the sun, has been advantageously applied in assisting the ripening of wall-fruit.—*M. Bauchard.—Bull. Univ.*

3. *Exhalation of Chlorine by Maritime Plants.*—M. Sprengel says, that the plants which grow on the sea-shore, or in soils containing common salt, exhale chlorine, principally in the night time; that which is evolved when the sun is above the horizon, is immediately converted into muriatic acid. The same plants, he says, secrete chloride of sodium, which is deposited on their surfaces in crystals. He believes, that all plants yielding soda in their ashes when burnt, naturally exhale chlorine; and that the muriatic acid with which the atmosphere near the sea is charged, is not the result of decomposed muriate of magnesia, but produced by maritime plants, and particularly by different species of fucus.—*Kastner's Archives*, vii. 161.

4. *Land Crabs.*—In the forests of Guam (Australia), more than a mile from the shore, MM. Quoy and Gaimard found a very large species of Pagùra, with violet claws, lodged in the shells of the Búccina, and covered with an earthy crust, which appears to be their constant abode. Some of these Pagùræ had the faculty of emitting a sort of froth when they were irritated. They were attracted by light; for one night, when encamped on shore, the sailors lighted a fire, and a large Pagùra came towards it from a considerable distance, and became the victim of his curiosity, being cooked in his own house, and afterwards devoured.

It appears that there are two divisions of this tribe; one living on land, the other in water; the marine species being distinguished by rounded eyes, set upon the extremities of long cylindric peduncles. The land species, on the approach of danger, always retreat, either into accidental crevices or holes, or preferably under the roots or into the hollow trunks of trees; never, or, at least, rarely, into the sea, though it be near them.

5. *Coral Polypi.*—MM. Quoy and Gaimard, the naturalists of the Astrolabe, in her late voyage of discovery, paid considerable attention to the habits of the numerous polypi inhabiting corals and corallines, and have thrown some light on their history. They always found, on examining with attention, that the polypi protruded only a very little their lamellar and fringed tentacula (les etoiles lamelleuses et decoupées) from their abode, a circumstance which gives them a very peculiar appearance. In some Milleporæ, the animals are very obvious, though in others they cannot be seen; but on passing the hand along the surface, the touch does not indicate the feeling of an immediately stony basis. In some, no organic substance can be perceived, the surface being rough and dry, as the most arid limestone; but in others, such as the elk's horn, though similarly rough and dry, very minute polypi can be detected burrowing in the stony matter. It may be remarked, that touching those polypi produces the same stinging sensation, followed by redness, as that produced by certain Medusæ, which has obtained for them the name of sea-nettles. The sting of the polypi, it would appear, is produced by some acrid fluid, for it is communicable from the hands to any other part of the skin.

MM. Quoy and Gaimard could find no trace of animation in the substances called Nulliporæ, by Lamarck, from their exhibiting no perceptible pores. They profess entire ignorance of their manner of growth.

Corals and corallines of recent formation are much more porous and fragile than when of some age; because the interstices, in the former case, have not been filled up, and even the parts which have been formed require exposure to the air to consolidate and harden them.

No polypi appear to possess, as has by some been supposed, life or animation in common. If they did, they would enjoy, as M. Lamarck shrewdly observes, qualities repugnant to the nature of every known animal, namely the faculty of never dying. The stars and rosettes of the polypi, therefore, however numerous, and however closely contiguous, have no mutual communication, nor continuity of substance; the only evidence, indeed, of which is the instantaneous and simultaneous retreat by the polypi into their cells when accidentally disturbed.

It has been supposed by some naturalists, and is universally believed by the negroes, that fish are rendered poisonous by feeding on the coral polypi; but MM. Quoy and Gaimard argue, that the flat obtuse nose of fishes cannot possibly detach the polypi from their encasements. In the instance of fish which have jaws strong enough to break coral, such as the Diodon cæruleus, whose stomach they found filled with fragments of Madreporæ, no nation is known to eat them. In the Mariannes they are looked upon with disgust.—*Ibid.*

6. *Flora Virgiliana.*—Sprengel, of Halle, and Martin, of London, have endeavoured to ascertain the identity of the plants mentioned by Virgil; and more recently, M. Fée, of Paris, was employed upon the same subject by the editor of the *Latin Classics;* but Sig. Tenore, of Naples, has not only had the advantage of their remarks, but has travelled over Italy with his *Virgil* in his hand, and has just published the result in a *brochure* entitled *Osservazioni sulla Flora Virgiliana.* He only mentions eleven. 1. The Arundo of Virgil is not necessarily the Arundo Donax, nor the A. Phragmites, as M. Fée decides; for Italy

possesses other species of Arundo. 2. The Baccar is not the *Valeriana* celtica, as M. Fée thinks, but rather the Asarum. 3. The Cerinthe must be either the Satureja Thymbra, or S. capitata. 4. The Cucumis of the line

"Cresceret in ventrem," &c.

is not the common cucumber, but the Cucumis Chate of Linnæus, a plant originally brought from Egypt, by the conquerors of the world. As to the Cucumis cæruleus of Virgil, Sig. Tenore thinks it must be the *Melone vernico* of the Italians. 5. The Æsculus is, without doubt, the Quercus Robur var. latifolia, and not the Quercus Æsculus, of which the existence in the Flora of Virgil is doubtful. 6. The Hedera alba is not the Antirrhinum Asarina, a common plant in the South of France, but which is not found in the Neapolitan territory. It must be that variety of Hedera, called by Pliny Chrysocarpum. 7. The Hyacinthus is not the Lilium *Martagon*. It accords better with Gladiolus byzantinus. 8. The Oleaster is not the Eleagnus angustifolia, or Bohemian olive, which never grew spontaneously in Italy, but the wild olive, at present known all over the South of Italy by the name of *Olivastro*. 9. The Cerea prima belong to the variety named by the Italians *Scaldatelle*. 10. The Roseta is the cultivated rose. 11. The Viburnum is not the Lantana, but the Viburnum Tinus. —*Bulletin des Sciences.*

7. *Change of Colour in the Plumage of the Goldfinch.*—It has been stated that when the goldfinch is fed on hemp-seed exclusively, the red and yellow colours of the plumage become black. I possess a living example of this curious change. —*J. Murray.—Magazine of Natural History.*

8. *Curious instance of Instinct.*—An old goose, that had been for a fortnight hatching in a farmer's kitchen, was perceived, on a sudden to be taken violently ill. She soon after left the nest, and repaired to an out-house where there was a young goose of the first year, which she brought with her into the kitchen. The young one immediately scrambled into the old one's nest, sat, hatched, and afterwards brought up the brood. The old goose, as soon as the young one had taken her place, sat down by the side of the nest, and shortly after died. The young goose had never been in the habit of entering the kitchen before.—*Ibid.*

9. *The Stinging of a Gnat.*—On the 25th of October last, and about 2 o'clock in the day, a gnat (Culex pipiens) alighted on my forefinger; I held my hand still, and observed it. It immediately applied its proboscis to the skin, at the same time moving its antennæ and hind legs slowly up and down, which it continued to do for a few seconds, when it became apparently motionless, resting on its four front legs, with its hind ones stretched out in a line with its abdomen. I now felt a slight sensation where the proboscis was inserted, but so faint that had not my attention been directed to it, I probably should not have noticed it; and this I only felt for a second or two. The abdomen now began to swell gradually, the influx of the blood being clearly visible, through its semi-transparent skin; at the same time, a clear watery liquid began to ooze from the anus, forming a round globule; it had a curious appearance, to see blood flowing in at one end, and water out at the other; the drop fell, and another formed, the abdomen all the time getting larger and larger, and redder and redder, till the second drop fell. The abdomen had now attained full three times its natural size, with a deep blood-red hue, when, to my great vexation the door opened, and away flew my little toper, without appearing the least encumbered with its bloody cargo.

I must further observe, that the insect was altogether about one minute on my finger; that no part of the outer sheath of its proboscis was inserted beneath the skin; that I did not receive any warning of its bloody intentions from its pipes. I mention this, because I think I have heard it affirmed, that they always do give warning before an attack; but what appeared to me the most remarkable is, that there was not the slightest pain, inflammation, or mark of any kind left that was perceptible.—*J. A. St. John's Wood.—Ibid.*

10. *Spinning Slugs.*—I have now before me a spinning slug, I mean a slug, which I discovered suspended by the tail from the leaves of a tree for the space of about a foot or more, and letting itself down towards the earth by means of a fine thread, like that of a spider, or that by which the larvæ of many lepidopte-

rous insects descend from the branches of trees. With the single exception of its spinning propensity, the slug appears in all respects exactly like the ordinary small grey slug (*Limax agrestis*), so common every where, and so destructive in our gardens. I have several times met with these spinning slugs suspended by their threads; but, as I can discover no difference in size, colour, or form from the common slug, I should be glad to know whether they are to be considered as a distinct species, or whether the common slug may not uniformly possess the same faculty, though it has seldom occasion to exert it. The author of *Elements of Natural History*, speaking of slugs in general, says that "they spin a thread, by which they sometimes suspend themselves, or let themselves down from heights:" but this observation he makes while describing the general habits of the genus, without appropriating it to any particular species. My slug unfortunately made its escape from under the glass in which it was confined, before I had fully satisfied my curiosity respecting it. I could not perceive that it showed any disposition to spin while in confinement.—*W. T. Bree.*—*Ibid.*

11. *Crystallization of Ice.*—During the winter of 1821-2, Dr. Hessel observed at Lahn, near Marbourg, perfectly-formed crystals of ice, which were regular six-sided prisms, short, but with well-formed planes. This occurrence confirmed his opinion, that the crystals of ice belonged to the hexagonal or rhomboidal system; but as they did not present any planes on the borders or angles of the base, the dimensions of the prism still remain undetermined. Several of these hexagonal tables, placed one upon another, presented a grouping analogous to that assumed by the tabular calcareous spar from the Hartz.

M. Hessel also had the opportunity of remarking the crystallization of ice on his window, in 1826. The layer of ice was a quarter of an inch thick; it covered the lead as well as the glass, and instead of presenting the usual vegetative appearance, it was composed of a multitude of crystals, more or less perfect; many thousands of which exhibited the form of a hexaedral prism without any modifying faces. The axis of these crystals were perpendicular to the glass on which they were fixed. In some parts they were so grouped as to assume the hopper-like form so frequently taken by common salt.—*Kastner's Archives, Bull. Univ.* B. xv. 76.

12. *On the Evaporation of Ice.* By M. Schuebler.—The results obtained in numerous experiments being tabulated, gave the following general conclusions. The first column contains the periods during which the evaporation was observed; the second, the evaporation in twenty-four hours, estimated by the height in lines from a square foot of surface, either of ice or water; the third, the mean temperature for the period during which each experiment continued; the fourth, the mean of the hygrometer (the kind of instrument not mentioned); the fifth, the mean height of the barometer at 10. of Reaumur, or 55. F.

				Inches.	Lines.
From 1 to 10 January	0.062	17.7	64.6	26	11.59
„ 11 „ 20	0.038	17.2	62.8	27	0.37
„ 20 „ 31	0.043	18.55	62.8	27	3.62
„ 1 „ 10 February	0.100	33.5	65.0	27	3.35
„ 11 „ 20	0.122	35.92	64.9	27	2.92
„ 21 „ 28	0.343	41.2	59.3	27	4.28
Greatest evaporation in January (9th)	0.233	11.8	60.0	26	10.57
Least evaporation in January (6th)	0.001	27.1	67.0	26	10.26
Greatest evaporation in February, (26th)	0.491	30.43	57.5	27	0 91
Least evaporation in February, (4th)	0.016	27.5	74.0	27	2.40
Whole evaporation in January	1.480	18.0	63.4	27	1 71
Whole evaporation in February	4.97	36.7	63.3	27	3.46
The greatest evaporation in the summer of 1815, for 24 hours	76.9	76.9	30.5	27	2.35

From these observations it appears that the evaporation of ice is far more considerable than has been supposed; and that in certain natural circumstances, it may surpass even that of water. During the dry cold weather of January 9th, the evaporation from ice in twenty-four hours, was twice as great as from an equal surface of water in the middle of February, during mild cloudy weather. The gradual disappearance of snow and ice is well known; and evi-

dently, from the above experiment, may become very rapid in very dry weather. —*Naturwessenchaftl. Bull. Univ* A. x. 301.

13. *Conduction of Heat by Wood.*—In some experiments on this subject made by MM. Delarive and Gandolle, bars of wood were used, each thirteen centimeters * long, four wide, and 2.7 thick; five holes were made in each bar, two centimeters apart, and the first, three centimeters from the end. Each hole proceeded half way through the thickness of the wood, was 0.7 of a centimeter in diameter, and being filled with mercury, had the bulb of a small thermometer placed in it. One extremity of each bar was fixed in a socket of tinned iron, 2.5 centimeters long, beneath which a spirit lamp with a chimney was placed, the flame being prevented from coming into contact with the wood by screens of glass. The following table shews the temperature by the centigrade scale in each hole, when the degrees of heat had become stationary; and indicate, therefore, the conducting power.

Walnut, longitudinal..	80.13	43.0	19.63.	9.19	5.13
Oak, ditto.....	81.7	41.2	17.5	7.2	3.7
Fir, ditto.....	84.0	39.25	20.6	8.5	3.7
Poplar, ditto.....	79.8	34.2	14.2	6.2	2.8
Walnut, transversal..	99.5	37.43	13.9	6.0	3.25
Oak, ditto.....	79.3	22.75	7.5	3.6	2.4
Fir, ditto.....	70.9	13.8	4.5	2.5	1.9
Cork.....	78.5	13.75	3.44	1.56	1.0

From these results it appears, that the conductibility of wood is less transversely across the fibres than in their direction; an effect which will assist in explaining how it is that trees retain a temperature approaching to that of the soil. But at the same time it should be remarked, that surfaces equal in radiating power were not given to the specimens experimented with.—*Mem. de Geneve*, iv. 70.

14. *Chemical Action of Light.*—The following are some effects quoted by M. Fischer, as proper to be added to those which demonstrate the chemical action of light upon inorganic matter. If a solution of ferro-prussiate of potash be precipitated by alcohol, the precipitate collected and rapidly dissolved in water, and the solution exposed to light, the yellow colour soon passes to green, and ultimately Prussian blue is deposited. The solution at the same time becomes alkaline; and if the experiment be made in a close vessel, the odour of hydrocyanic acid may also be observed when the liquid is examined. The salt, in fact, is in part decomposed by the action. Prussian blue, sometimes with excess of oxide of iron, is formed and deposited, and a hydrocyanate of potash left in solution. The same changes take place with the ordinary solution of the ferro-prussiate, but more slowly. They do not take place without light.

The same salt crystallizes in large quadrangular plates in an obscure situation; but in bright light it gradually loses the power of yielding this form, and becomes dendritical and pulverulent.

The action of light upon solutions of gold and silver is very much increased by the presence of organic matters, as gum, starch, sugar, alcohol, &c. This effect, however, has been long known, and sometimes rendered available in experiments made upon the solar rays.—*Kastner's Archives*, ix. 345.

15. *Ignition of Wire by Voltaic Electricity.*—When the poles of a voltaic battery are connected by a short fine platina wire, the middle of the wire becomes red hot. This effect has generally been explained by supposing that the temperature of the wire would have been the same throughout, but for the cooling effect produced at the extremities by the contact of the masses of metal constituting the poles, in consequence of which the middle part acquired the highest temperature. M. Becquerel endeavoured to ascertain whether this was the true explanation, and therefore used a wire of such length, and placed in such circumstances, that the effect of cooling at the extremities should not interfere. It is said, that the result of this experiment shewed that the temperature continues to increase from each end to the middle of the wire; and that, consequently, the cause which creates an electric current, of which the intensity is constant in each point of the wire, acts as an accelerating force in the development of heat.—*M. Mag.* vii. 94.

* A centimeter is 0.3937 of an inch.

16. *Cyanide of Sulphur.*—This compound has been formed by M. Lassaigne, by putting pulverised cyanide of mercury into a small glass globe, adding half its weight of bi-chloride of sulphur, closing the vessel, and leaving it for twelve or fifteen days in common day-light. Small crystals, amounting in weight to about one twenty-fourth part of the mixture, sublimed to the top of the globe, which, being collected, mixed with a little carbonate of lime, and re-sublimed, were pure cyanide of sulphur. This substance crystallizes in fine rhomboidal plates, resembling those of chlorate of potash. It has a very pungent odour, acts powerfully upon the tongue, and is very volatile. By exposure to light it becomes yellow; its aqueous solution reddens litmus, but its alcoholic solution does not, until the paper has been exposed afterwards to a moist atmosphere. Alkalies combine with it, neutralizing its striking properties. The moistened crystals put into the voltaic circuit between silver poles, are decomposed. Sulphur passes to the *positive* pole, and an odour of almonds is perceived at the *negative* pole. Potassium decomposes it, producing cyanide and sulphuret of potassium.

The substance has several of the properties of an acid. As before said, it combines with, and neutralizes alkalies and its solution, or the solution of its salts produces the same red colour with persalts of iron, as Porret's ferrochyazic acid. In certain states, indeed, it almost appears to be identical with Porret's acid, but in other points it differs; as, for instance, in its solid state, and in the action of oxide of silver upon it, which causes decomposition, abstracting the sulphur.

To ascertain the ratio of the cyanogen and sulphur in this compound, a certain weight was combined with potash, and the compound produced being mixed with six times its weight of nitre, was calcined in a silver crucible. The mass dissolved in water was neutralized by nitric acid, and the sulphuric acid formed precipitated by muriate of baryta. 100 parts of the substance gave, in one experiment, 180 of sulphate of baryta, in another 176. Calculating from this the quantity of sulphur, and, from the deficiency, the quantity of cyanogen, the compound would appear to consist of 75.8 cyanogen and 24.2 sulphur; and, therefore, the substance probably contains, according to M. Lassaigne's numbers, 4 proportionals of cyanogen, and 1 of sulphur, or 2 proportions of cyanogen 52, and 1 of sulphur 16. *Ann. de Chimie*, xxxix. p. 197.

17. *Supposed Discovery of a method of making Diamonds.*—Much expectation has been excited by the announcement of a method of making diamonds, discovered in France, and actually communicated to the Academy of Sciences, at Paris, by M. Gannal, on the 3d of November last; but, as yet, the expectation has not been satisfied, and no philosopher, who can be considered as competent to judge of the process and the products, has as yet sanctioned the announcement by the authority of his opinion. The point to be gained is the crystallization of carbon, and this, it is said, is done by the simplest possible case of chemical affinity. The well-known liquid compound of sulphur and carbon is put into a vessel, covered with a layer of water, and then a stick of phosphorus introduced; the phosphorus dissolves in the sulphuret of carbon, soon takes the sulphur to form a sulphuret of phosphorus, and the carbon is set free as a crystalline diamond powder.

It is distinctly said that crystals are obtained, white or colourless, very brilliant, hard, extremely refractive, and admitted by workers to be real diamonds.

Since M. Gannal's announcements, other diamond makers have come forward. On the 10th of November, M. Arago communicated a note to the Academy of Sciences, from M. Cagniard de la Tour, in which the latter said that he also had succeeded in crystallizing carbon, and obtaining diamonds by methods different from those of M. Gannal, and that a sealed packet, left with the Secretary in 1824, contained an account of his first processes. From M. Cagniard de la Tour's character as a philosopher, we must feel satisfied he would not say so much without some good foundation; and on this ground, therefore, we have hopes that, upon inquiry, the crystallization of carbon may prove to have been effected by art.

M. Arago also announced, that he knew *another person* who had arrived at similar results. As to M. Gannal's experiments, M. Gay Lussac said that, eight years ago, M. Gannal spoke to him about his attempts.

Academy of Sciences of Paris, Nov. 24th.—M. Thenard gave an account of the experiments made by himself, MM. Dumas and Cagniard de la Tour, to verify the trials by which the latter thought he had obtained the power of crystallizing carbon, and forming diamond. An accurate analysis of these crystals, which had no colour, proved, however, that they were only silicates, and not artificial diamond.—*Ann. de Chimie*, xxxix. 327.

18. *Manufacture of Flint Glass.*—The *Annales de l'Industrie Francaise* announce the discovery of a regular process for manufacturing flint glass for optical purposes, and states that the success is certain. The process has been the result of the patient and expensive investigations made by MM. Thibeaudeau and Bontemps. The specimens of glass, both flint and crown, have been laid before the Academy of Sciences, but, as yet, no report upon their quality has been given, nor any account of the process itself published, so that opinions must remain a little longer in suspense.—Vol. ii. p. 251.

19. *Curious Fact respecting Cats.*—A few months ago I published, in the *Medical Repository*, a paper, headed *Feline Obstetrics.* The facts alluded to were observed in a cat, once the property of the celebrated artist, Haydon, and her daughter. The following anecdote, viewed in connexion with the feline obstetrics, is interesting:—An eminent surgeon-accoucheur and lecturer has a female cat; his opposite neighbour has a black male cat. These animals, it seems, are on friendly terms, or, in fact, in close alliance; for, whenever the female brings forth, she goes to the black tom cat, and returns with him to view the progeny. He looks very attentively at them for a few minutes, and then deliberately marches home. He never is seen to visit the interior of the house at any other time.—J. H.

20. *Medicinal Plants which flower in May.*—Fraxinus ornus, Iris florentina, Pyrus cydonia, Rheum palmatum, Acorus calamus, Laurus nobilis, Arum maculatum, Asarum europœum, Carum carui, Geum urbanum, Juniperus communis, Malva sylvestris, Menyanthes trifoliata, Polygonum bistorta, Rhamnus catharticus, Œsculus hippocastanum, Pinus balsamea, P. sylvestris, Spartium scoparium, Glechoma hederacea.

LITERARY INTELLIGENCE.

The London Phrenological Society.—At the Society's Meeting, on April 6th, Dr. Epps read a paper on Medical Pathology, which will be found in our next Number; and, on Monday, April 20th, Dr. Elliotson read a Critique on Dr. Burrowes' Work of Insanity; in which the true bearings of the tale, related by Dr. Burrowes, in reference to Dr. Gall, when visiting Chantrey's, were made known. On Monday, the 31st, the following officers were elected:—President, Joseph Moore, M.D. Vice Presidents, Edward Wright, M.D., P. Alcock, Esq., C. A. Tulk, Esq., F.R.S., Charles Poole, M.D. Treasurer, Joseph Hayes, Esq. Secretary, John Kell Sedgwick, Esq. Librarian, T. R. Fearnside, Esq. Curator, F. D. Bennett, Esq. Council, John Elliotson, M.D., F.R.S., David Pollock, Esq., C. Wheatstone, Esq., H. H. Holm, Esq., G. Lewis, Esq., R. Maugham, Esq., H. B. Churchill, Esq., John Epps, D.M., J. Deare, Esq., R. Cooper, Esq., Edw. Lance, Esq., George Taylor, jun., Esq.

The Author of "Field Flowers" has in the Press a volume of Poems, entitled the Garland, to be published for the benefit of the Spanish and Italian Refugees, early in May.

Dr. James Clarke has in the Press an Essay on the Influence of Climate in Diseases of the Chest, Digestive Organs, &c. including Directions to Invalids going abroad, respecting the best seasons for, and modes of Travelling, and the general management of their Health; and Remarks on the effects of the principal Mineral Waters of the Continent in Chronic Diseases.

Dr. Kennedy has in a state of readiness for the Press a work which will form three volumes in 8vo. and be entitled, A History of the Medical Sciences, biographical and philosophical, containing an account of the Persons and Writings that have conduced to the improvement of Physic, from its origin in Britain to

the end of the eighteenth century. This work naturally admits of a twofold arrangement. Part I. consists of more than one thousand articles, each of which is divided into two Sections; *biographical*, wherein the circumstances of its subject, both personal and professional, are concisely represented; and a *philosophical*, which describes the more important discoveries, principles, and doctrines propounded in the same individuals' writings; into these Sections, disquisitive and analytical illustrations are occasionally introduced. Part II. includes an alphabetical list of all cases, essays and books having relation to the progress or applications of medical knowledge: it also comprehends anonymous treatises, translations and papers contributed to periodical Journals, and the transactions of Societies, by writers whose history could not be obtained. Each volume will be provided with a minute and copious index, so as to make the work a complete system of reference to the elements of our British medical literature and philosophy.

BOOKS RECEIVED DURING THE MONTH.

Dr. Robinson's Practical Treatise on the Peculiar Power and Restorative Properties of the ROUND LEAF CORNEL (Cornus Circinata). Highley, Fleet-street. pp. 110.—We shall most likely notice this in our next Number.

Medical Botany, No. 28. By John Stephenson, M.D. and James Morss Churchill.

Conversations on Intellectual Philosophy, 2 vol. 12mo. Bull, Holles Street.—A familiar explanation of the nature and operations of the human mind has been long wanted; the subject is of considerable importance to the medical student, though too much neglected. In these two small volumes there is a great deal of valuable information upon the subject, expressed in an easy manner. We hope they will be extensively read.

An Essay on the Use of Nitrate of Silver, in the Cure of Inflammation, Wounds, and Ulcers. By John Higginbottom, Nottingham, M.R.C.S. Second edition, much improved and enlarged. 8vo. pp. 204. 1829

*** Every surgeon should be acquainted with the contents of this very useful work.

A General Exposition of the present state of the Medical Profession, in the Metropolis especially; with a plan for its Amelioration, embracing the question relative to the Removal of Existing Obstructions to the Study of Human Anatomy. By Alexipharmicus. Second edition. pp. 17. 8vo. London, 1829.

*** This little pamphlet is deserving of perusal, though our views of Medical reform differ in many respects from those of the author.

An Account of the Morbid Appearances exhibited on Dissection, in Disorders of the Trachea, Lungs and Heart, with Pathological Observations, to which a comparison of the Symptoms with the Morbid Changes has given rise. By Thomas Mills, M.D. Honorary Fellow of the King and Queen's College of Physicians. 8vo. pp. 303. Dublin, 1829.

On the Varieties of Deafness, and Diseases of the Ear, with proposed Methods of Relieving them. By William Wright, Esq., Surgeon-Aurist to her late Majesty Queen Charlotte, &c. 8vo. pp. 295. Hurst, Chance, and Co. London, 1829.

*** The present work appears to be a sort of an *advertisement* to some former works of the Author's.

J. K. Received on the 28th.

All Communications and Works for Review, to be addressed to the Editors, to the care of Messrs. Underwood, 32, Fleet Street.

THE LONDON

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CRITICAL REVIEW.

I.—*Elements of General and Pathological Anatomy, adapted to the present state of knowledge in that Science.* By David Craigie, M.D.

(*Continued from page* 400.)

Chap. VII. *Erectile Tissue.*—This tissue appears to owe its anatomical peculiarity chiefly to its veins. It is unnecessary to give an exposition here of the opinions of the various anatomists who have examined the structure of the erectile tissue, as they have been proved to be erroneous. The fact appears to be, that the arteries of this tissue ramify into very minute branches, like those of other parts, and, instead of pouring their contents into cells, as has been long supposed, they terminate in large veins. These veins form numerous inosculations or anastomoses, which give the substance they constitute the appearance of being penetrated by sieve-like openings, and which makes it resemble areolæ, or interlaminar spaces mutually communicating. The only difference between the vessels of this tissue and those of others, consists in the enlargement of its veins at their union with the arteries.

Some anatomists have been of opinion that the tissue of most parts of the body is more or less erectile, which is, probably, the case. This property cannot, at any rate, be denied the lips and cheeks. These parts appear much more developed when the countenance is animated with the glow of satisfaction and pleasure, than when the spirits are depressed with grief and trouble. The change from the one state to the other is sometimes very sudden, and the alteration in the development of the features is equally sudden. But the parts which are most erectile are the cavernous bodies of the penis and clitoris, the female nipple, the nymphæ, the spleen, &c. The wattles of the turkey and the

comb of the cock are also endowed with similar properties. The phenomenon of erection has not been yet satisfactorily explained. Like all other tissues, the erectile is well adapted for the function which it has to perform; but the connexion between the cause and the effect, or the manner in which the mind acts in producing dilatation of the veins, so as to give rise to erection, is involved in obscurity.

Dr. Craigie observes, that "little is known regarding the peculiar pathological states of this tissue." He, however, mentions the following as some of the morbid states of it:—1, *rupture* of its vessels; 2, a peculiar species of enlargement, in which the parts are tense, and resemble a swollen bladder; 3, *priapism* and *chordee;* 4, *hemorrhage;* 5, *aneurism by anastomoses;* 6, a species of throbbing tumour, not dissimilar to anastomotic aneurism.

Chap. VIII. *System of Exhalants.*—This is a "system" whose existence has never yet been proved. It is true that fluid is constantly exhaled on the surface of the serous and mucous membranes, but whether this fluid be derived from the open mouths of vessels, distinct from the sanguiferous, or from lateral pores in the capillary system, or in the general structure of the sanguiferous tubes, is a mere conjecture.

"The exhalations, properly so called, may be morbidly augmented, or diminished, or quite changed." When augmented, they give rise to the disease called *dropsy*, of which, as our readers are well aware, there are several varieties. A diminution of exhalation, amounting to disease, seldom takes place. The exhalation of a part sometimes changes into pure blood. "This bloody exhalation may take place either in the exhalations termed excrementitial, or in those termed recrementitial." It is by no means uncommon to observe a sanguineous fluid ooze from the surface of the mucous membranes without any rupture of their vessels. Hæmoptysis and hæmatemesis are generally caused in this way, and not by the bursting of a vessel or vessels, as was formerly supposed. The sensible pathological condition of the vessels of the part consists in congestion; but whether the blood issues from the open mouths of vessels, or from lateral pores, has never been proved. Dr. Craigie notices *elephantiasis* under this head. The "accidental development or morbid formation of the exhalant system," consists, according to him, of the following:—1, *hyatids;* 2, *hygroma*, or cysts secreting serous, sero-purulent, or even a sero-sanguine fluid; 3, *hæmatoma*, a cyst secreting or containing a bloody fluid; 4, *meliceris*, an indolent tumour, containing matter resembling honey in consistence and aspect; 5, *atheroma*, a cyst containing granular, semifluid matter, like

boiled meal or saw-dust; 6, *steatoma,* a cyst containing adipose matter, like lard, or sometimes of a suety appearance; 7, *lipoma;* this name has been applied to cysts containing matter possessing the properties of animal fat; 8, *lupia;* 9, *melanoma.* The author speaks of all these maladies under the present division, but why they should be referred to this head, we cannot understand. Our idea of exhalation relates simply to the aqueous vapour thrown out on the surfaces of the different membranes, mucous and serous, and the exhalant system of vessels, if there be such a system, is that from which this exhalation is derived. But we consider this function very different from that of nutrition, and we should say that the formation of wens and of such other tumours as have been just noticed, is more allied to nutrition than to exhalation.

Chap. IX. *Lymphatic System.*—As the author says nothing respecting the lacteal vessels, we suppose he intends them to be considered as a part of the lymphatic system. As physiology forms no part of the work before us, it is not to be expected that Dr. Craigie should offer an opinion respecting the office of these vessels; but it would appear that he is doubtful of their being really absorbent vessels: for he says that it is expedient to employ the term lymphatics in preference to absorbents, "as the latter implies the performance of a function, the reality of which has been much questioned of late years." Now we very much regret that Dr. Craigie does not tell us what office are assigned to these vessels by those who deny their being absorbents, for we confess ourselves quite ignorant on this point.

There is nothing novel in the anatomical description given of the lymphatics by Dr. Craigie. Their pathological states are, 1, *inflammation;* 2, *wounds;* 3, *cirsus,* or varicose dilatation; 4, *rupture* of the lymphatics; 5, *dilatation with obstruction;* 6, *osseous deposition.* These terms are sufficiently explanatory of the states which they are intended to express. The author does not mention dropsy under this head. It would appear, therefore, that he believes either that the lymphatic vessels are not absorbents, or, if they be, that the accumulation of fluid in dropsy depends solely upon increased exhalation.

Chap. X. *Lymphatic Gland or Ganglion.*—The structure of the lymphatic glands is well known to every medical man. Their morbid states are, 1, *inflammation;* this may be of the ordinary, of the strumous, or of the irritative kind; 2, *enlargement from the operation of poisonous matter;* under this head, Dr. Craigie specifies pestilential bubo only; 3, *enlargement, with death of the glandular tissue;* the author

mentions two kinds of this disease. The first is strumous mortified bubo; and the second is phagedenic bubo. He restricts the former term to a peculiar disease affecting the glands at the bend of the arm. "The glands become enlarged, painful, and hard; and, notwithstanding all efforts to procure resolution, the skin first gives way, chiefly by sloughing, and matter, with some membranous shreds, is discharged. A sore of a peculiar character is formed. Its edges consist of skin cut very sharp, and notched or serrated, as it were, into angular slips. From these margins the sore descends deep and foul to an ash-coloured, solid, convexly-rounded body, which is evidently a diseased gland. Round this the process of suppuration and ulceration proceeds, with the occasional discharge of sloughs, till the gland is expelled, either in fragments or in a mass; after which the hollow is filled with granulations, and cicatrization is easily effected." 4. *Enlargement and induration*; Dr. Craigie observes that although the enlargement in this disease may have originated in strumous action, the structure of the gland or glands is so much changed as not to be distinguished from vascular sarcoma; 5, *ossification; calcaous deposition;* 6, *melanotic deposition.*

Chap. XI. This is a short chapter, wherein the author offers some remarks on the "distinction between organization and structure." We see nothing worthy of particular notice in it.

Chap. XII. *Nerve; Nervous Tissue.*—Dr. Craigie does not adopt here the term nervous system, because he does not, under this head, treat of the brain or spinal chord. He deviates from the usual practice, because he, in the first place, does not conceive it demonstrated that the brain is the same organic substance as the nerves. It may be said, on the other hand, that it is not *demonstrated* that they are different. In the second place, although their identity of substance were proved, still, he thinks, "this (treating of them under the same head) would not contribute to a knowledge of the minute structure of the nervous chords." This we consider no objection, or an erroneous objection, because if the cerebral and nervous substance were naturally the same, the morbid alterations of the brain and of the nerves must be also the same, and no advantage could be derived from arbitrarily dividing them into two distinct tissues. Thirdly, Dr. Craigie thinks that the arrangement of the nervous chords in the animal body is inconsistent with the treating of them conjointly, and will be best understood when described separately. We doubt not the expediency of adopting the author's plan as far as regards anatomical description, because this relates to

the investing membranes, as well as to the proper nervous tissues. But it has not been yet demonstrated in what the proper cerebral and the proper nervous tissues differ, nor has it been shown in what their pathological difference consists. Nevertheless, if we may be allowed to draw an inference from the functions of these parts, some difference does exist between the cerebral and nervous substance, although this difference may not be sufficiently distinct to be recognized by the senses.

The author observes that "although the nervous trunks are distributed through the animal body, they do not terminate in all the tissues or organs indiscriminately; and have been observed to be lost in the following only: 1st. The proper organs of sensation, the eye, ear, nose, palate, and tongue; 2d, the muscles, whether subservient to voluntary or involuntary motion, as the heart, stomach, intestines, &c. 3d, the mucous surfaces; 4th, the skin; 5th, glands, salivary, liver, kidneys, &c.; 6th, bones." They have never been traced to the cartilages; fibrous textures, as the periosteum, dura mater, capsular ligaments, aponeurotic sheaths, tendons and ligaments; fibro-cartilaginous textures; marrow; lymphatic glands, &c. However, if nerves be the only organs of sensation, we cannot help inferring their existence in all or most of the tissues just mentioned; for while in a state of disease, they are highly sensible. With regard to the pathology of the nerves, it is probable that the alteration of structure observed in them is generally connected with the neurilema, and not with the nervous tissue itself. There is little doubt that the condition of this tissue may alter so far as to cause a great disturbance of the function of a nerve without being attended with any sensible change of structure. The morbid states of the nerves are, according to Dr. Craigie, the following: 1, *inflammation*, spontaneous and from injury. He considers this to be the cause of neuralgia, or nerve-ach, as several other pathologists do. We must, however, differ from them upon this point. Neuralgia has no symptoms in common with inflammation but pain; but the pain of inflammation never occurs in paroxysms, nor do any of its other symptoms. The fairest specimens of neuralgia are tic douloureux and sciatica. It is scarcely necessary to observe that the pain attending these occurs always in paroxysms; and it is difficult to conceive why it should ever have been confounded with that of inflammation. Neuralgia may last for years without causing any disorganization of the nerve, whereas a change of structure would be the necessary result of inflammation if it continued so long. 2. *Neurilemmia chro-*

nica. This may take place spontaneously, or may be the effect of injury. 3. *Division and re-union; excision or removal, and reproduction.* It is now satisfactorily proved that, if a portion of a nerve be removed, the space left by the removal will be again filled up by nervous matter. We have often witnessed this process. The two extremities do not appear to extend themselves gradually until they meet, but a very thin bond of union is first formed, and this grows gradually thicker until it attains the size of the original portion. This process shoots out very soon after the nerve is divided, but it does not appear to be capable of transmitting nervous influence until it has attained nearly its original size. 4. *Local palsy,* being, according to the author, a common result of injury done to a nerve or nerves. *Tetanus* is another effect of injury. 5. *Tumours* of various size and structure have been found in nervous trunks. These may be produced by pressure, or, perhaps, by other species of injury. We have in our possession a preparation of a tumour of the size of a chesnut, unto which a portion of the sciatic nerve of a rabbit was converted, in consequence of a ligature applied to it. 6. *Neuromation.* This consists of small, hard, painful tumours, situated immediately beneath the skin. These tumours, not larger than common peas, have been supposed to be situated in the extremities of the subcutaneous nerves. They have been noticed by several pathologists, particularly by Mr. Wood, of Edinburgh, who thinks that they are not, as had been supposed, nervous tubercles, but that they are situated in the subcutaneous cellular membrane. 7. *Wasting* and *shrinking* of some nerves, particularly the optic, have been noticed by authors.

Chap. XIII. *Brain; Cerebral substance.*—Within this term, Dr. Craigie includes the cerebrum, the cerebellum, and the spinal marrow. He devotes a long section to the descriptive anatomy of the brain. The subject is an interesting one, and affords room for further anatomical research. Dr. Craigie treats of the brain and spinal marrow under one head with nearly as little propriety as if he had included the nerves also. But we are aware of the difficulty of forming any thing like a satisfactory classification of the tissues.

We are told that " cerebral substance is liable to inflammation, acute and chronic, to hemorrhage, to effusions of serous fluid, to alterations in its natural consistence, and to tumours. Now, we have much doubt whether cerebral substance is liable to any of these diseases, but one; namely, alterations in its natural consistence. It has not been yet proved that this substance is supplied with vessels; and if it be not, it cannot be liable to inflammation. The cerebral

vessels ramify abundantly in the substance of the pia mater, but we have no proof that any of them are lost in the proper substance of the brain. As to hemorrhage, this cannot be properly considered as a disease of the cerebral substance. It is connected with another tissue, already spoken of, namely, the arterial. Next, the author mentions effusions of serous fluid. But this affection depends upon the membranes of the brain, or upon its vessels, and has no connexion with the cerebral tissue. The same may, perhaps, be said of tumours. Indeed, very little appears to be known respecting the morbid states of the cerebral tissue. Induration and softening (ramollissement) are two recognized morbid conditions of the proper substance of the brain; but, with the exception of these, our knowledge of this subject is very limited. However, the brain, taken as a whole, is liable to organic maladies, analogous to those which affect other vascular parts. Most of these are allied to its membranes, or to its vessels. The following are the heads under which Dr. Craigie treats of them: 1, *encephalia acuta*, or acute inflammation of the cranial contents; 2, *encephalia subacuta*. This is a much more common disease than the former. It leads to what the French call *ramollissement*, softening, or pulpy degenerescence of the cerebral mass; 3, *suppurative inflammation;* 4, *ulceration*, or *erosion;* 5, *encephalæmia*, hemorrhage of the brain, or sanguineous apoplexy; 6, *diminished consistence* of the brain; 7, *sclerencephalia*, or induration of the brain; 8, *organic changes*, morbid growths, or tumours. The author refers the different forms of tumour of the brain to the following heads: the simple cerebral tumour; the adenoid, or fleshy tumour; strumous tumours, comprehending tubercles and tubercular deposits; the adipose, lardaceous, or wax-like degeneration; the cartilaginous tumour; calcareous or bony deposits; encysted tumours, including the hydatid cyst, the blood-cyst, the fungoid tumour, and the melanotic cysts; 9, *anencephalous monstrosity*. These are the morbid states presented by the brain, according to Dr. Craigie; but, as we have already observed, most of them are connected with the membranes, or with the vessels of the brain. The spinal brain is liable to similar morbid alterations as the cranial brain.

Chap. XIV. *Muscular Tissue.*—The appearance of muscle is familiar to every one. Every muscle may be resolved, by careful dissection, into very delicate fibres, called, by Prochaska, primary muscular fibres, which, he thinks, are incapable of further division. Each of these fibres is said to consist of a series of globular or oblong spheroidal atoms, disposed in a linear direction, and connected by a transparent,

elastic, jelly-like substance. This description, even if correct, amounts, in our opinion, to little that is desirable to know; for we have still to learn how the atoms constituting this jelly-like matter, are disposed or arranged. Dr. Craigie remarks, that, amidst the variable results necessarily obtained in an inquiry into the physical properties of muscle, "the only point which is certain is, that muscular fibre has much less tenacity and mutual aggregation than most other tissues. It sustains much less weight and force of tension without giving way." We shall merely observe, that it is rather surprising that nature should not know her business better than to make that tissue, which, besides tendon, is the only one destined to lift weights and to bear tension, less able to accomplish this purpose than any other. But Dr. Craigie must, of course, mean dead, not living muscle.

The muscular tissue is said to be liable to, 1, *inflammation;* 2, *hypertrophy;* 3, *atrophy;* 4, *steatosis*, or *adipification*, which consists of fatty degenerescence; 5, *elongation* and *shortening* (convulsions?) of the muscular fibres; 6, *rupture* or *laceration;* 7, *bony induration* or *deposition;* 8, *accidental productions* and *tumours*. It may be here remarked, that most of these affections are connected with other tissues than the proper muscular. In fact, we have the same morbid changes mentioned over and over again as being allied to different tissues. If we are to study disease according to the nature of the tissue with which it is connected, is it not necessary to confine ourselves strictly to an examination of the particular form of structure forming the seat of each disease? For instance, can inflammation, strictly speaking, be a disease of more than one modification of tissue? Is it a disease connected with the capillary vessels alone? or has it also a relation with some of, or all, the tissues which these vessels supply?

Again, Dr. Craigie mentions accidental productions and tumours as morbid conditions of muscular tissue; and these are mentioned as diseased changes of almost every other tissue. Now, are not accidental productions the effect of disease of the nutrient *vessels* solely? or of some other system of vessels connected with the capillaries? If so, why mention it as being related to so many tissues? We are well aware of the difficulty attending this subject. But, as the difficulty is so great of classifying diseases according to the *tissues* supposed to form their seats, it may be worth while to consider whether pathology would not be rendered more simple by classifying diseases according to the *organs* constituting their seats.

Chap. XV. *Tendon.*—Tendon is said to be subject to in-

flammation, which is generally the result of injury. It may be observed that tendons do not slough, like the other soft parts, in gangrene. They may be seen as white, and as healthy, apparently, as ever, in the midst of parts in a sloughing state.

CHAP. XVI. *White Fibrous System.*—Dr. Craigie includes under this head, ligament, periosteum, dura mater, and fascia.

This system is liable to, 1, *inflammation* of various forms; 2, *tyroma*, or tyromatous deposition; 3, *chondroma*, or cartilaginous induration; 4, *ossification;* 5, the author observes, that some of the forms of *osteo-steatoma*, and *osteo-sarcoma* appear to originate in the periosteum; 6, the periosteum is supposed to be sometimes the original seat of *fungus hæmatodes;* 7, *wounds* of different kinds, and *laceration;* 8. *excessive relaxation* of the ligaments.

CHAP. XVII. *Yellow Fibrous System.*—Besides the yellow ligaments which connect the spinous processes of the vertebræ to each other, Beclard includes, under this term, "the proper membrane of the arteries; that of the veins and of the lymphatic vessels; the membranes which form excretory ducts; that of the air passages; the fibrous covering of the cavernous body of the urethra, and, perhaps, that of the spleen." This system answers a more conspicuous purpose in the lower animals than in man. In quadrupeds, "the posterior cervical ligament (ligamentum nuchæ) counteracts the tendency to inclination of the head; and a similar membrane strengthens the abdominal parietes, and resists the weight and distending power of the viscera. In the feline tribe, an elastic ligament, inserted into the inguinal phalanges, retains them extended so long as the muscles do not alter their direction. The shells of the bivalve molluscous animals, as oysters, mussels, &c. are opened by a similar fibrous tissue as soon as the muscles which close them are relaxed." The morbid alterations incident to the yellow fibrous system are unknown.

CHAP. XVIII. *Bone.*—It would be a waste of time to give a full description here of the anatomical characters of bone, as they must be well known to every member of the profession. We shall, therefore, merely observe, that, although the bones are plentifully supplied with blood-vessels, still neither nerves nor absorbent vessels have yet been traced into them.

The pathology of the bones forms a very interesting subject. We can only take a glance at the morbid changes to which they are liable. We may observe, first, that *inflam-*

mation is generally considered as the cause of the great majority of these changes. They are arranged under the following heads by Dr. Craigie: 1, *adhesive inflammation:* a specimen of this inflammation is afforded by the process of union in fracture; 2, *diastasis,* or the disunion of epiphyses; 3, the author speaks more particularly under this head of the effects of inflammation of the periosteum, and of the filamentous web of the bones. *a.* When the periosteum becomes inflamed, it may give rise to effusion of lymph into its substance, or between itself and the bone, so as to constitute a simple node. *b.* "By a modification of this action lymph may be effused, which afterwards becomes ossified, constituting the ossific node of Hunter and Howship." We have, at the present time, under treatment a case of this nature. The enlargement of the bone occupies a considerable portion of the humerus immediately above the inner condyle. *c.* The inflammation may take on the ulcerative process, and the subjacent bone may partake of the malady. *d.* It may produce death of the periosteum and of the subjacent bone. *e.* "Certain forms of periosteal inflammation give rise, simultaneously, to osseous deposition and ulceration, or caries." *f.* The periosteum is supposed to be concerned in the production of exostosis. The author attributes the following morbid states to inflammation of the filamentous web: *a.* Necrosis, proceeding from inflammation of the medullary web; *b.* spina ventosa is another effect of inflammation of the medullary web of the epiphyses, and of the cuboid or short bones; *c.* medullary exostosis. Under the third head we have articular diseases of the synovial membranes and cartilages. 4, *rickets;* 5, *mollities ossium.* The cause of this disease is not well understood; 6, *fragility,* or friability, of the bones; 7, *interstitial absorption;* 8, *angiectasis.* "The arterial system of bones is liable to a peculiar anormal development, in which they become much enlarged, and, forming a cyst in the substance of the bone, gradually effects its absorption." This disease is not commonly met with; 9, *ivory-like induration;* 10, *osteo-sarcoma;* 11, *encysted tumours:* these consist of osteo-steatoma, hæmatoma (blood-cyst), and fungus hæmatodes; 12, *scirrho-carcinoma;* 13, *tubercular destruction* sometimes occurs in bones; but Dr. Craigie observes that it most frequently originates in the periosteum or adjoining tissues; 14, *hydatids;* 15, *an incomplete state of the osseous system,* an example of which is spina bifida; 16, under this head some remarks are made respecting the morbid states incident to the teeth.

The author treats of cartilage in the 19th chapter, and of

fibro-cartilage in the 20th. Both of these chapters are very short, and they contain nothing worthy of particular remark.

CHAP. XXI. *Cutaneous Tissue.*—Dr. Craigie includes under this head, besides the corion or true skin, the rete mucosum, the cuticle, the nails, and the hair.

The following table will show Dr. Craigie's classification of cutaneous diseases. It may be observed, that *inflammation* (a very convenient term) forms the basis, or is the proximate cause, of all these diseases.

"Cutaneous inflammation, though it eventually affect the substance, which, however, is not frequently, may be conveniently distinguished in the following manner. First, it may be seated in the exterior or cuticular surface of the corion; secondly, it may affect the *papillæ* or minute elevations of the corion; thirdly, it may affect the substance of the corion; fourthly, it may occur at the inner or attached surface of this membrane. If these circumstances be adopted as the basis of general division, subordinate characters may be derived from the mode in which the inflammatory process advances, and from the effects which it produces, in the following order:—

Diffuse or spreading inflammation.—I. Cutaneous inflammation seated in the outer or cuticular surface of the corion, *(cutis vera, derma)*, and generally spreading along it.

Measles,	Rubeola.
Rash fever, scarlet fever,	Scarlatina.
Nettle-rash,	Urticaria.
Rose-rash,	Roseola.
Common rash,	Erythema.

Effusive inflammation.—II. Cutaneous inflammation seated in the outer surface of the corion, producing a fluid which elevates and detaches the cuticle.

Rose, St. Anthony's fire,	Erysipelas.
Bleb fever, bullose fever,	Pemphigus, febris bullosa.
Simple blebs,	Pompholyx.

Punctuate papular inflammation.—III. Cutaneous inflammations commencing in circumscribed or definite points of the corion, producing minute eminences.

Gum, gown, red gum, tooth gum,	Strophulus.
Sun-rash, prickly heat,	Lichen.
Itchy rash,	Prurigo.

Punctuate desquamating inflammation.—IV. Cutaneous inflammations of the outer surface of the corion, more or less circumscribed, affecting its secreting power, and producing exfoliation of the cuticle.

Scaly leprosy,	Lepra.
Scaly tetter,	Psoriasis.
Dandriff,	Pityriasis.
Fish-skin disease,	Ichthyosis.

Punctuate vesicular inflammation.—V. Cutaneous inflammations originally affecting the outer surface of the corion, circumscribed, definite, or punctuate, producing effusion of fluid, first pellucid, afterwards slightly opaque, with elevation of cuticle, with or without further affection of the corial tissue.

Miliary rash,	Miliaria.
Shingles, vesicular ringworm, or fret,	Herpes.
Heat spots, or red fret,	Eczema.
Limpet shell vesicle and scab,	Rupia.
Cow-pox vesicle,	Vaccinia.
Chicken-pox,	Varicella.

Punctuate phlegmonous or pustular inflammation.—VI. Cutaneous inflammations

originally affecting the outer surface of the corion, afterwards its substance, and producing purulent matter more or less distinct.

Small-pox,	Variola.
Plague,	Pestis.
Malignant pustule, Persian fire,	Anthracion.
Itch,	Scabies.
Moist or running tetter,	Impetigo.
Scall or pustular ringworm,	Porrigo.
Great-pox,	Ecthyma.

Punctuate chronic phlegmonous inflammation.—VII. Cutaneous inflammations originating in the substance of the corion, sometimes at the bulbs of the hair, and terminating in partial or imperfect suppuration, with formation of scales, crusts, &c. and more or less destructive of the corial tissue.

Boil,	Phyma, furunculus.
Carbuncle,	Anthrax Carbunculus.
Whelk,	Acne.
Scalp or chin whelk,	Sycosis.
Canker,	Lupus, noli me tangere.
White scall,	Vitiligo.
Yaws,	Frambœsia, rubula.
Sivvens,	Sibbenia.

Punctuate phlegmono-tubercular inflammation, chronic.—VIII. Cutaneous inflammations, chronic, attended with general affection of the fibro-mucous tissues.

Arctoic leprosy, radesyge,	Lepra Norwegica.
Lombard evil, pellagra,	Pellagra.
Scherlievo, Falcadina,	Lepra Pedemontana.
Asturian itch or scab, Mal di Rosa,	Lepra Asturiensis.
Crim evil, Krimmische krankheit,	Lepra Taurica.
Arabian leprosy,	Elephantiasis.
Soft tubercle,	Molluscum.
Wart,	Verruca.

CHAP. XXII. *Mucous Tissue or Membrane.*—This membrane consists of two great divisions, namely, the gastro-pulmonary, and the genito-urinary. The first embraces the lining of the mouth, of the nostrils and the passages communicating with them, of the trachea and bronchi, of the alimentary canal throughout its course from the mouth to the anus, and of the excretory ducts of the liver and pancreas. The second division of the mucous membrane lines the genito-urinary passages of the male and female. In the former it lines the urethra, the bladder, the ureters, and the seminal ducts; and, in the latter, it lines the urethra, the bladder, the ureters, the vagina, the uterus, and the fallopian tubes. The mucous membrane is covered by a very thin and transparent cuticle or epidermis. Although the tissue in question is called mucous membrane, and does, in fact, secrete mucus in all the passages just described, still its secretion differs materially in modification in different parts. This is rendered evident when we compare, for instance, the secretion of the nose, of the stomach, of the urethra, and of the vagina, with one another.

The diseases, also, of the mucous membrane, in different situations, differ as much in their modifications as its secretions do. The following is the primary division of these

maladies, according to our author: 1, *inflammation* of various forms; 2, *hemorrhage* in different regions in which the mucous tissue is situated; 3, *inflammatory stricture;* 4, *adhesion;* 5, *polypus;* 6, *tyromatous deposition;* 7, *scirrho-carcinoma;* 8, *warty excrescences;* 9, *fungous growths;* 10, *hydatids* have been considered by some authors as morbid productions of the mucous membrane; but Dr. Craigie says, that "it is not easy to understand, without violation of certain pathological principles, supposed to be well established, the reason of their development in these situations;" 11, *deposition of bony matter* in some of the mucous surfaces is mentioned by various writers; 12, under this head, the author mentions certain morbid growths which occasionally take place in certain regions of the mucous membranes; 13, *displacements;* 14, *malformations.* With respect to inflammation of the mucous tissue, it differs very essentially in its characters according to the region or part affected. Inflammation of any region may also be of different kinds and degrees, so as to lead to very different changes of structure.

Chap. XXIII. *Serous Membrane.*—The disposition of the serous membranes is now well understood. With the exception of the peritoneum of the female, into which the fallopian tubes open, these membranes consist of shut sacs which have no outlets.

Diseases of the serous membranes have different names applied to them according to the particular membrane which forms the seat of the malady, such as meningitis, pleuritis, pericarditis, &c. Inflammation of these membranes may give rise to various secondary diseases or morbid changes of structure. Some of these consist of effusion of fluid, serous, sero-purulent, purulent, or sanguineous; adhesion, erosion or ulceration, albuminous exudation, &c. Besides these alterations, the mucous membranes are liable to hemorrhage, and to many kinds of morbid growths and depositions, analogous to those which affect the mucous tissue.

Chap. XXIV. *Synovial Membrane.*—Synovial membrane is said to differ from serous membrane in the following respects:—"1st. it possesses little vascularity, no blood-vessels are almost ever seen in it after death, nor can they be made to receive the finest injection; 2d. its lymphatics are quite incapable of demonstration; 3d. very delicate fibres, like those of cellular substance, or like the finest filaments of tendons, are distinctly seen in it after slight maceration; 4th. it is considerably less strong than serous membrane." These constitute the anatomical distinctions of synovial membrane; but, so far as its pathology is concerned, no

advantage results from considering it as a distinct membrane, as its diseases are perfectly similar to those of the serous tissue.

We have now given an outline of Dr. Craigie's work. Like most works of the kind, it is rather dry of perusal; but it contains much useful, and a proportion of useless, matter. Should the reader expect to meet any thing of a novel character in its pages, he will be disappointed.

II.—*An Essay on the Use of the Nitrate of Silver in the Cure of Inflammation, Wounds, and Ulcers.* By John Higginbottom, Nottingham. Second Edition, 8vo., pp. 204. London, Seeley and Burnside, 1829.

In this treatise, which the author wishes "to be regarded rather as a new work upon the same subject, than as a second edition of his former volume," p. xlxii, Mr. Higginbottom describes and recommends the use of the nitrate of silver as a remedy for external inflammation, in a manner of which he claims the discovery, but professes himself unable to furnish the explanation. Thus he begins by observing—

"I am not aware that the influence of the nitrate of silver, in subduing inflammatory action, has been at all noticed by surgical writers, much less have its unexpected and extraordinary powers in this respect been fully ascertained. That the application of the nitrate of silver should subdue the inflammation of phlegmon, or of a line of inflamed absorbents, arrest the spreading of erysipelas, prevent and modify the formation of pus, are facts, I believe, totally new. I am thus distinct in my statements of the effects of the nitrate of silver, which I am about to describe as the results of my own investigation, because I cannot by any means be supposed to claim, or to have suggested, all the beneficial applications of this useful remedy. In some cases of external inflammation it is sufficient merely to blacken the cuticle. In other cases it is necessary to induce a degree of vesication. This kind of vesication is less irritable than that induced by cantharides, and it has a singular and peculiar effect in subduing the process of inflammation." —p. 1, 3.

He afterwards remarks,

"I have already mentioned that abscesses, over which the nitrate of silver has been applied, are left in a state more disposed to heal than similar abscesses in the very same case in which this remedy has not been used. It would, therefore, appear that the nitrate of silver modifies the action of the parts, so as to induce that form of inflammation which Mr. Hunter has termed the adhesive. The effect of the nitrate of silver is equally observed in recent wounds, whether incised, punctured, or bruised. In incised

wounds, union by the first intention is frequently secured by the application of the nitrate of silver on the surrounding cuticle. In punctured wounds, union is promoted and suppuration prevented. In bruised wounds, the action of the parts is so modified that their texture is often preserved unbroken; and sloughing, which would otherwise inevitably have taken place, obviated. I speak in general terms, merely wishing to state in this place, the fact of this peculiar effect of the application of the nitrate of silver. The various limitations and exceptions of this statement will be pointed out hereafter."—p. 6, 7.

After stating, in an introduction, the general advantages of the practice, including the negative one of "never being known to do the least real harm," p. xii, the author divides his work into seven chapters, of which the first proposes the principles of the treatment by the nitrate of silver, and the following ones describe its use in the treatment of external inflammations, of punctured wounds, of bruised wounds, of ulcers, of old ulcers of the legs, and of burns and scalds. The utility of the nitrate of silver as a blister, and its application in gun-shot wounds, and in several other cases, are briefly suggested in an Appendix; and two communications in favour of the practice, from Mr. Webster, of Dulwich, and Mr. Browne, of Camberwell, conclude the volume.

The author is entitled to much commendation for the exact and perspicuous manner in which he has detailed the mode of applying the remedy, and its immediate effects. Without indulging in undue prolixity, he has given that precise and circumstantial information which is not always furnished in works of this kind, although it is absolutely necessary to render them useful and instructive. He directs that the part should first be washed with soap and water, to remove oily or other impurities. After being wiped dry, it is to be moistened with pure water, and a long stick of nitrate of silver is to be passed over the moistened surface, so as to touch it in every point, extending to some distance around the seat of the disorder: and, lastly, it is to be exposed to the air to dry, and is to be kept cool. If the application is slight, the surface is merely blackened; if strong, it is also blistered. This mode of blistering has been found beneficial in urethral inflammation, and in enlargement of the knee; and the author suggests that its use might be extended to external inflammations; but the greater part of his treatise is confined to the simpler and milder practice. In punctured wounds, open whitlows, and recently opened abscesses, the nitrate of silver is to be applied, first within, and then around, the cavity. In fungous ulcers of the navel of infants, which are sometimes apt to continue for a year

or more, the fungus must first be removed by the scissors, and the bleeding stopped. In neglected punctures from dissection, a small tumour is usually formed under the skin, which also should previously be detached by the lancet. In many cases no further treatment is requisite; and it is represented as one of the advantages of this remedy, that, while it is more speedy and efficacious than any other, it spares the patient much suffering and inconvenience, as well as the repeated application of dressings and ointments. But, should excessive inflammation occur, it must be reduced by suitable auxiliary treatment; particularly by rest, and cold poultices or lotions without grease. If the eschar is prematurely separated, the nitrate of silver is to be reapplied, as also if any excoriation remains behind. Should fluid form beneath the eschar, it is to be occasionally discharged by one or more small incisions with any sharp-pointed instrument; taking care not to detach it more than is necessary, and closing the apertures by a fresh application of the remedy. If a scab forms beneath the eschar, the entire crust must be removed by cold poultices, renewed during two or three days; after which the nitrate is to be re-applied. A similar treatment, varied alternately from day to day according to circumstances, is adapted to the more severe cases of wounds or ulcers in which an adherent eschar cannot be procured.

Such is a brief outline of the practice which, to a certain extent, Mr. Higginbottom claims as his own discovery; and although there is a general jealousy of claims to originality, which, when not carried to excess, is salutary and proper, and tends to render public opinion on such points more correct and valuable, there are, probably, few who will deny that the author has ascertained and described an efficacious mode of employing the nitrate of silver for the prevention and cure of external inflammation, which, previously to his treatise, was not commonly or distinctly known. On this subject we willingly adopt the remark of his correspondent, Mr. Webster:—"It is true the profession had some confused and indistinct notions on the benefits occasionally derived from the use of this remedy; but I believe I may with confidence say that, till the appearance of Mr. Higginbottom's work, none of its members had any very correct ideas, even of the proper mode of applying this remedy, far less of the extent to which it might be used in such variety of cases." p. 179, 180.

It is, however, rather remarkable that, after studying with so much accurracy the conditions necessary for the successful employment of the nitrate of silver in the manner which

he peculiarly recommends, the author should not have attempted to determine more precisely the principle on which it acts. This principle, we have no hesitation in stating, is the exclusion of atmospheric air, of which the oxygen, more especially, exerts an important influence on the skin during health, and proves a noxious stimulant in most cases of its morbid excitement. It is unfortunate that in this country, at the present time, medical men are too often deterred from investigating the principles of their profession by a prevailing, but groundless, prejudice, that such investigations are useless, at least, if not injurious. In other sciences, those who labour to detect the latent links of physical connexion, or to resolve ultimate results into their elementary principles, are proportionally esteemed; but in medicine it has long been the fashion to decry all attempts of this kind as visionary and unprofitable; and, under the common and misplaced appellation of theory, to proscribe alike the most rational analysis and the wildest conjecture as equally unworthy the pursuit of a sober practitioner.

It is, probably, under an apprehension of this prejudice, that our author, in the very act of proposing the principle above-mentioned, seems to shrink from so dangerous an undertaking. Thus, after observing, as already quoted, "In some cases of external inflammation it is sufficient merely to blacken the cuticle," he adds, "How this apparently simple process acts in subduing the inflammatory action, I am quite at a loss to determine. But it is my object, simply, to ascertain and state practical facts. It is plain, however, that a chemical union takes place between the metallic salt and the animal substance, by which its pores are obliterated, and the action of the external air excluded." p. 2. And again, in p. 7, "In the mean time, it must be confessed that this principle—these effects of the nitrate of silver—are equally new with those pointed out in the preceding section; and, I confess, I am equally at a loss to account for them." Yet, in his Introduction, ix, x, he goes so far as to deny that the remedy operates as a caustic, and conceives that a new term is required to express the peculiar kind of influence which it possesses in subduing and checking inflammation. In like manner, his correspondent, Mr. Webster, deems it necessary to apologize for an attempt to explain the operation of this agent.

"If," says he, "I might be allowed to theorise a little, I would say the eschar produced by the nitrate of silver, acts by excluding the atmospheric air from the wound. This may seem paradoxical; as I have stated above that I consider the access of atmospheric air necessary to the cure; yet so it is, for it acts by pro-

ducing a thin scab or crust, and protects the part below, so as to allow it to skin over. And, so, when the nitrate of silver is applied, it forms a thin layer by uniting with, and decomposing the animal matter with which it comes in contact; this gradually hardens, and becomes black by exposure, and forms an almost impenetrable crust, which effectually shuts out the atmosphere. I suspect this crust may operate, also, in another way in curing wounds; merely by producing considerable pressure on the part; for, if the eschar is closely observed, it is evident that it contracts, and corrugates, and finally cracks, and peels off."

Now, if Mr. Webster had chosen to bestow a little more pains on the subject, instead of merely conjecturing, he might, doubtless, have demonstrated the truth of the first of these solutions, the latter being probably of minor importance. Fearful, however, as it appears, of being taken for a theorist, he hastens to quit such perilous ground; and in order to show that he is a decidedly practical man, observes:—

"But to leave theory, and come to facts, I have tried the caustic in several cases since I have read Mr. Higginbottom's book; and it may be well to notice its effects in other hands." p. 181-2.

We must here protest against the fallacy of regarding theory and fact as mutually opposed; and, on the contrary, maintain that every theory, which deserves the name, is as much a fact as the most direct and ordinary observation; but it is a fact of a different order. The one is an elementary principle deduced by reason, the other a complex result perceived by sense. In analysing the mode of action of the nitrate of silver, it is unnecessary to consider its operation as a vesicant; since it does not materially differ from that of other blisters, and in the majority of cases is not employed. In its other mode of application it produces two opposite effects; irritation, and eschar; of which the former would, no doubt, be generally injurious, were it not speedily superseded by the latter; in which sense alone can we admit the assertion of Mr. Higginbottom, that the nitrate of silver is not a caustic. A certain time, and a free exposure to the air are necessary to form a perfect crust; which can evidently operate in no other manner than by excluding the influence of the atmosphere; and which is more efficacious in this respect than a common scab, merely because it is more impenetrable and inert.

This explanation is fully stated by Mr. Higginbottom himself, although he does not seem to be satisfied of its completeness. Thus he observes that, if lint is applied before the eschar is dry, it is prevented from remaining adherent, p. 87. "The pain experienced on the application of the nitrate of silver is greater or less, according to the sensibility

and size of the wound. In small wounds it is trifling and of short duration; it is more severe in recent wounds than in ulcers; but the pain in every case soon subsides, and the patient enjoys greater ease than would be experienced under any other mode of treatment." p. 17. "To the surface of the wound the eschar supplies a complete protection and defence; and allows the healing process to go on underneath uninterruptedly, and undisturbed. It renders all applications, such as plasters, totally unnecessary, as well as the repeated dressings to which recourse is usually had in such cases; and it at once removes the soreness necessarily attendant on an ulcerated surface being exposed to the open air." p. 11. A further illustration of its mode of action is furnished by the remark in p. 5, 6. "In twenty-four hours, if the nitrate of silver has been properly applied, it will be frequently observed that the inflammation has subsided, and its progress has been checked; but if there be any inflamed spot left untouched, the patient will complain of it. To every such spot the nitrate of silver must be applied. At this period there is usually a little vesication. On the fourth day the vesications begin to disappear. It is best to leave them undisturbed, for the dried exudation defends the subjacent cutis." In like manner, when the eschar has been intentionally or accidentally opened, the orifices must be accurately stopped by a re-application of the nitrate of silver. p. 15, 17. As this last fact admits but of one explanation, the author is fully justified in suggesting, "May not the nitrate of silver be employed to exclude the atmospheric air, to close the external wound, and so to reduce the dangerous circumstances of a compound fracture to that comparatively simple and innocuous case of a simple fracture?" XI. In exact conformity with the same principle, he observes: "It is improper to employ the nitrate of silver, with a view of healing by eschar, in large ulcers or wounds which do not admit of the formation of a complete eschar; or where the ulcer or wound is so situated as to render it impossible that the eschar should remain undisturbed." p. 18. In such cases, after previously reducing inflammation by rest and cold poultices, the action of the nitrate of silver is to be aided by the application of lint, neutral ointment, compress and bandage; all of which evidently concur with the former in the common effect of excluding the atmospheric air, p. 112, 113, 119, 135. And, as a final illustration of the same principle, on recommending that, in cases of recent and extensive bruised wounds, after applying the nitrate of silver, "the skin should be brought as nearly into apposition as may be, by means of common adhesive

plaster, without any intervening dressing;" he adds: "the plaster will not irritate the skin or wound, for they are protected by the eschar." p. 95.

We have dwelt the longer on what may (we trust without offence,) be termed the theory of our author's treatment, because, we think, such investigations are too much neglected; and, because although its minor details can only be learnt from experience, a knowledge of the principle on which it acts will best enable us to appreciate the real value of the remedy, and the cases to which it is available. The natural and laudable enthusiasm of an inventor usually leads him to over-rate the merit of his discovery; and it consequently too often happens that, after a short career of unmerited popularity, during which it is expected to do every thing, it is consigned to an equally unmerited oblivion, under the pretence that it can do nothing. Some traces of this disposition may be observed in the present work. In his first edition our author spoke more reservedly of the powers of his remedy; and considered it either inadmissible, or of little advantage, in recent burns, in erysipelas with vesicles, in boils, and in incised wounds, as well as in ulcers of great size, liable to disturbance, or attended with much œdema or discharge. In this second edition, making allowance for the progress of experience and improvement, less of this caution is perceivable; little is said of the limits which must necessarily exist to the efficacy of the remedy; all the cases terminate successfully; and it is confidently asked, "May not this remedy become useful, by its power of subduing inflammatory action, or as a prompt mode of blistering in phrenitic, pleuritic, peritonitic, and other *internal* inflammations?" p. xi. On the latter subject we are willing to adopt the opinion of Mr. Webster—"Whether the nitrate of silver produces any specific or peculiar effect on internal extensive inflammations, I am not prepared to state; but, I believe, that it is capable of producing all the beneficial effects of the common blistering plaster, without its troublesome ones," p. 199. We should suppose that, in most cases of this kind, it would be found a weaker, but, at the same time, a safer, blister than cantharides; not so powerful in exciting counter irritation, but less liable to extend its operation to distant parts, or to aggravate the internal disorder. When employed to produce an eschar, we should consider its immediate efficacy limited to the subtraction of atmospheric excitement; thereby excluding one of the chief sources of irritation and inflammation, but not extending to those which are internal and constitutional. Even in the latter cases it may, however, prove a useful auxiliary, although it cannot be supposed to pre-

clude the necessity of other remedies. As a means of cure in many external and accidental inflammations, we are disposed to think highly of its merits; and as a preventive of those formidable effects, so often produced by atmospheric influence, such as erysipelas, inflammation of the absorbents, extensive suppuration, gangrene, and, we would add, tetanus, it may be regarded as a most valuable agent.

In conclusion, this work may justly be recommended as comprising, in a short compass, and in a precise and perspicuous form, much original information on a subject extremely interesting, and, in a great measure, new; and with which it is therefore desirable that every practitioner, zealous for his professional improvement, should be acquainted.

ORIGINAL COMMUNICATIONS.

I.—*Medical Pathology.* Read before the London Phrenological Society, 1829. By John Epps, M.D.

In medical works, and in the conversations of medical men, how frequently is the doctrine urged, that injuries of the brain have taken place without any affection of the mind. Since phrenology has been introduced to the notice, and has received the approbation, of many among mankind, this doctrine has been urged with great pertinacity against those who *know* the science to be true. The absurdity and the inaccuracy of this doctrine may now be pointed out. That it is very absurd to say that the brain can be injured without any of the mental faculties being disturbed, is evident, from the circumstance that men, and these very individuals, allow that the brain is the organ of the mind; and, if placed in such a relation, it follows, of necessity, that no injury can affect an organ without the functional power attached thereto being, as a consequence, affected, and that morbidly.

The inaccuracy of the doctrine is equally great; and, as the examination of the causes of this inaccuracy may be of service in establishing the mind against the inroads of error, this may now be attempted. The first cause is the prevalence of the inaccurate division of the mental powers into MEMORY, JUDGMENT, IMAGINATION, and REFLECTION. These terms are, in themselves, as applied to the mental powers, vague enough, and, as used by most, are still more vague. Since a man may have a memory for one subject, and not for another; one man is imaginative on one subject, another on some other; and so without end. Now, when an individual suffers an injury of the brain, these four grand powers, view-

ed as genera, may be unaffected; but who can say that the particular species of memory, judgment, imagination and reflection, are all in their proper state, unless he knows all these species; and no man can easily attain a knowledge of these except by the medium of phrenology; and yet the broachers of the doctrine noticed above, refuse to receive the light to be derived from this science, which would free them from this source of error.

Another cause of this inaccuracy is connected with the circumstance, that the medical man *rarely sees his patient after the peculiar symptoms immediately arising from the injury are removed.* He does not trace the individual injured into his domestic and business concerns; he does not observe him as increasing in years; he does not regard the peculiarities of his mind; in fact, he cannot, because the connexion between the medical practitioner and his patient ceases very soon; or, if continuing, it is not so intimate as to afford those opportunities for observation which are necessary before any one ought to presume to decide that the mental powers are not at all injured. It is to be hoped that those gentlemen who are so fond of talking about injuries of the brain, and no injury of the mind, will have the modesty, in future, not to speak to a matter as a matter of fact, concerning which they have not had the opportunities to decide whether or no it be a matter of fact.

Fortunately, circumstances have placed me in a situation in which it was possible to attend to all the matters requisite for correct observation.

An individual, when a boy, was playing with a horse, and he received a blow on his head, which fractured his skull, and occasioned some of the brain to be lost and removed. He survived the blow, and has now attained to manhood; is engaged in business, and has, from his engagements, considerable exercise of mind. The part of the brain lost is situated at the organs of causality, wit, ideality, and constructiveness. He has a developed head, and is a man of common sense. From the statement hitherto made it might be imagined that his mental powers are not at all affected; but now to the matter of fact. This gentleman is subject to what are commonly called fits. He falls down suddenly, and is generally relieved by bleeding, either spontaneous, or excited by art. What is peculiar is, that these fits come on when his mind is much harassed by occupation, and by making arrangements and perfecting plans. When his mind is thus employed a peculiar sensation is experienced, which warns him to direct his thoughts to other objects; the attempt is made, and, if successfully, the fit does not occur. The phre-

nological physiologist explains this by the circumstances that causality, constructiveness, and ideality are in an injured state (the new bone, it should be observed, is but imperfectly formed, and sinks in) ; that, when these faculties are in great activity, a flow of blood takes place to the parts ; the organs of these faculties, which, not being in their natural state, and partly from the unnatural sunken position of the bone, are thereby morbidly affected, and the fit takes place. But if the sufferer can turn his mind to other objects, that is, excite other faculties, the blood immediately takes its direction to the organs of these faculties, and is thus diverted from its former course. This gentleman's memory, too, fails him very much; and he is at present quite a young man.

Here, then, we see the mind to be affected when the brain has been injured, while all the other functions of the body are in a healthy condition.

Two cases, interesting in reference to phrenology, have occurred lately at the Royal Western Hospital, Nutford-place. The cases came under my own care, and, therefore, I can vouch for their accuracy. The first is the case of Sarah Smith, a young woman, who came to the hospital a short time since : a friend came with her, she herself being in a highly nervous state. She *complained of pain in the seat of the organ of adhesiveness;* also of being subject to peculiar nervous feelings, so powerful at times that she could scarcely stand. The pain, on inquiry, was found to have come on immediately after having heard a report, which, however, was false, that her sister had fallen into the fire, and was burned. She stated, in addition, that when she is busy she does not feel this pain, and does not have the curious feelings. Her heart palpitates, and when asleep she dreams, and the object of her dreams is her *brother*, or some of her family. She soon became better by the use of means which were applied with the view of exciting an action contrary to the diseased action in adhesiveness, and which, being kept up, have restored her to health.

The next case is that of an individual of the opposite sex. The following are the particulars :—A. B., aged thirty, has, from his youth, felt himself, as it were, not a man : has no determination ; has felt himself a little better at times, but always very weak. About a year since had a pain come in the back of the head : on being asked to point out its primary seat, the cerebellum was the part on which the hand was placed ; has also a weakness in his loins ; is a coachman to a private gentleman, and after cleaning the carriage feels a great pain about his chest. He has, it may be no-

ticed, a fine formed body; the limbs well proportioned; a broad chest; in fact, he is a fine figure, being nearly six feet high. He has had palpitations of the heart, now and then, for two years past. On his stating these symptoms, I intimated my fears to him that he had either abused himself when a boy, or that he had been given too much to sexual pleasure. The man blushed: he confessed he had abused himself when a boy, and afterwards, in youth, he gave himself up for some time to women. He has been married three years, and has children: however, as he saw his complaint was known, he was pleased, since he thought that the knowledge of the disease was half the cure. And here it may be added, that phrenology suggested the real condition of the man: and here, in one instance, and continually in several others, have I experienced the use of phrenology viewed in reference to medicine. When the pain exists he has emissions during the night, generally having lascivious dreams. After connection with his wife, he states that he has pain in the head; namely, in the region of amativeness, and generally has a trembling sensation come over him, and then a giddiness.

He had been under medical treatment some time when he applied to the hospital. The plan of treatment was simply the following, and is presented to the notice of the Society, because it seems strikingly to illustrate the benefits that will accrue from the knowledge of phrenology:—As disease evidently existed in the cerebellum, it became a duty to raise a diseased, or, at least, another action in some other part. This was effected by the application of a blister, a part of which was kept open; in other words, had a discharge kept up from it for three weeks. By the end of this time the pain was all gone. About the termination of the second week, the pain in the loins, arising, perhaps, from disease of the spinal cord at this part, was considerable. This also was removed by the use of an irritating application, applied externally; and, as the patient complained of great weakness, he was ordered tonics, and has now a healthy countenace, looks lively, is free of pain, and says that he is more a man than ever he was.

This case, Mr. President, seems to me highly important, being practically useful.

Another case of diseased brain has, of late, occurred to me in private practice. The individual is a lady, whose disease consists in an excessive anxiety regarding her husband, whom she cannot bear to be out of her sight. She thinks continually that something will happen to him; in fact, she is so miserable as to be almost a mere maniac. On being

asked where she felt pain, she put her *fingers upon the organ of cautiousness on each side.* A blister was applied, and kept open close to the organ of cautiousness, the head, at this part, having been previously shaved, and in the course of three weeks the pain was relieved, and the anxiety was diminished.

Dr. Elliotson then related a case of a young lady under his care, who is diseased mentally in reference to cleanliness. She suffers the greatest anxiety lest any dirt should touch her, or any dust get upon her. If she treads upon any thing in the street that is in the form of dirt, she stands and examines it, and, after looking at it for some time, heaves a sigh and goes on. Sometimes she stops so long, that a crowd collects, a coach is called, and she is carried away. When any person enters the room, she rises and tries whether the door is fast, lest any wind should blow dust in upon her. On being asked whether she felt any pain in her head, she replied, "yes," and put her fingers upon the organ of cautiousness.

The Society, after several other interesting facts were mentioned, adjourned at the usual hour.

J. E.

II.—*Remarks on* Mr. Stone's "*Evidences against the System of Phrenology,*" *No. VII., including a Comprehensive View of the New Theory of Temperament.* By Dr. Thomas de Troisvevres *.

(Continued from page 146.)

Whoever may be disposed to peruse Professor Richerand's immethodical and inconclusive Sections † on the Temperaments and Idiosyncrasies, must be satisfied that certain "facts" and "examples" employed by this popular physiologist, in discriminating the predominance of physical and mental *energy* which establishes each of the temperaments, is its cause, and constitutes its "essence," have been taken into the "Evidences against the System of Phrenology," and misapplied there as arguments against the doctrine of "native dispositions"—a doctrine not of the phrenological merely, but also of the medical physiology. Whoever, on the other hand, may be inclined to examine the sophistical incongruities which compose pages 40, 41, 42, 43, 44, 45, 46,

* Physiologie des Temperamens ou Constitutions; nouvelle doctrine applicable a la Médecine Pratique, a l'Hygiéne, a l'Histoire Naturelle et a la Philosophie; precéde d'un examen des diverses théories des temperamens. Par F. Thomas de Troisvèvres, D.M.P. 8vo. pp. 256. A Paris, 1826.

† Elements of Physiology, 1824, p. 519, 531.

and 47 of the self-same "Evidences," must, in like manner, be convinced that, if inferences of any kind can be deduced from such anomalies, the following seems the best "substantiated:"—That, as the *earliest known* is necessarily held to be the *original* form of a thing, circumstance or condition, so the histories of Napoleon, Tasso, and Rousseau, make it apparent that Man possesses a primary—*the sanguine, over-sanguine, or remarkably sanguine*—temperament: that, by "anxiety and remorse," "bitterness of grief," "cruel imprisonment," "calamities and despair," "unexpected dissipation of long-cherished illusions," "wounds of disappointment," "mortified pride," "hopelessness," and such like "incidental causes,"—a sanguine temperament may be debased into a melancholic; an over-sanguine into a lymphatic, and a remarkably sanguine into one that is less a peculiar constitution of the body than a real disease:—and, that the bilious temperament*, primitive or acquired, which prevails in men capable of signalizing themselves by superior energies, may be "occasioned," "*excited*," or very much heightened by those "circumstances that call forth great bodily and mental exertions:"—all which "inductions" undeniably constitute an exclusive and sublime discovery, a harmonious antiphrenological "*fact*," whereby the admirers of poetical morality will, of course, be extremely delighted and edified.

With regard to the means of discerning the operation of temperament in modifying the activity of the mental organs, nothing more is necessary than attention to the definite characteristic "evidences," whereby peculiarity of constitution is usually indicated. For two reasons the characters of temperament, as delineated by Richerand, may be recommended to the reader's contemplation:—namely, *because* this consistent philosopher, inasmuch as he pronounces the phrenological doctrine of the functions of the brain to be "*frivolous*," will not be suspected of intentional partiality to a system he superciliously condemns; and, *because* Mr. Stone has made free and frequent exactions from the "Elements of Physiology," as a quarry abounding with the rubbish so bunglingly hammered by himself into missiles where-

* According to Richerand, an opponent of phrenology, the "nervous" temperament is "*seldom* natural or primitive, *commonly* acquired." He adds, "the two most remarkable men of the eighteenth century, Voltaire and the Great Frederick, may be given as instances of the nervous temperament; and the history of their brilliant and agitated life show sufficiently how much the circumstances in which they lived contributed to *develope their native dispositions*."—ELEMENTS OF PHYSIOLOGY, p. 528—29.—Let this short sentence illustrate the learned Professor's doctrinal perspicuity, and, at the same time, exemplify the childish knavery whereby his obscurities are obscured in "the Evidences against Phrenology."

withal to " put down" phrenology. From this source, notwithstanding its unconcealable flimsiness, both " facts" enow, and " examples" also may be deduced, to prove that the distinctive attributes of temperament are manifest and ascertainable, and tha temperament actually does modify the activity of organs, as instruments of the vital and mental powers.

Next, in the " Evidences," p. 47-8, stands a gossiping sketch of the " Theory of Thomas de Troisvèvres;" but, since the object of this rickety sketch is so much in " *double darkness veiled*," p. 49, " that it cannot be demonstrated or comprehended," let us disregard the thing altogether as a symbol of the chaotic dulness from which it emanated; and, escaping for a time from the *simple tale*, with its malignary abominations, let us endeavour to appreciate the medical and philosophical importance of the " doctrine" it attempts, with an exquisite contempt of justice, to degrade.

Dr. Thomas is not a phrenologist. He entitles his work, " *Physiology of the Temperaments or Constitutions;*" and professes to unfold in it a new doctrine applicable to the medical sciences, natural history, and philosophy. Previously, however, to the statement of his own views, he institutes a disquisitive examination, in seven chapters, of the opinions entertained by Hippocrates, Galen, Stahl, Haller, Cabanis, Richerand, Hallé, and other modern physiologists, on the nature and diversities of temperament; and, taking authority from the results of this examination, he concludes,—That every former theory of the temperaments is, in some way, defective; and that his own has the merit of being altogether new, simple, and comprehensive. His work comprises two parts, which may be retraced—the *first* succinctly, the *second* analytically—according to the original arrangements.

Part I.—Dr. Thomas, in this, unfolds " the *art* of ascertaining the energy of functions." According to him, physiology explains all the manifestations of life, all the organic actions: it defines the seat, mechanism, and laws of the functions; one branch of this science distinguishes, by observation of their external form, the size, and, consequently, the energy of organs: it reveals all their conditions and healthy functions; its foundations are manifest, precise, extensive; and, in thus being the science of determining the functional energy of animals, by examination of their organs, it forms a perfectly new and distinct department of physiology.

Animate bodies are formed of matter disposed into organs; and, he says, these organs, in action, constitute the *life* of each being; an assertion, by the bye, inherently absurd.

He adds, the number and variety of functions are proportionate to the number and variety of organs: according to its relations with other organs, each has a distinct and peculiar action, so that the action of each and of all is reciprocal and subsidiary. Although all the organs are thus subjected to mutual dependency, the degree of this is not universally equal; for, while some are essential, and exercise extensive influence on the general system, others act merely as their subordinate or accessory instruments. In man and animals, the organs contained in the cranium, thorax, and abdomen, are the most important; even, in some, says Dr. Thomas, they constitute the sphere and limits of life: thus, the muscles, bones, sanguiferous and lymphatic vessels and nerves of the members derive their energies from the organs of the great splanchnic cavities; being the mere instruments whereby the functions of these last are extended; they may be removed without endangering life, or inducing much derangement of the vital functions. Each group of the splanchnic organs exhibits a remarkable analogy of function; and, at the same time, may undergo independent exercise or increase: the cranial organs are "charged with intelligence and the passions;" the thoracic maintain sanguification and the circulation; the abdominal execute chylification and excretion; the cranial, moreover, have the greatest analogy in their situation, structure, and functions; the thoracic are so interconnected by their functions of making and distributing the blood, that their actions, affections, and lesions are correlative: with the abdominal it is the same; by them, chymification, chylification, absorption of chyle, secretion of the biliary and pancreatic and seminal fluids, the fœcal and urinary "depurations," fecundation, and the fœtal developments, are accomplished: all these actions, in fine, conduce, through their ultimate results, to the "preparation" of the nutritive and reproductive principles: thus, then, the members, in all their parts, are mere passive agents, subservient to the splanchnic organs. From all these facts, our author is satisfied, it naturally results that, inasmuch as the central organs are proportionately more developed than the members, insomuch does the energy of the vital function become ascendant; and that, on the other hand, when the members predominate, the central organs have less energy, and their functions are less "complete." This explains how, in low-statured persons whose splanchnic cavities generally predominate over their members, the vital functions are more vigorous than in tall persons, whose members usually possess a predominating development.

Dr. Thomas is no phrenologist, nevertheless he declares,

explicitly, that the brain is the exclusive organ of "intelligence and the passions;" and the proposition, he adds, is incontestably proved by "anatomical and physiological facts. Before birth, the brain is a soft pulpy mass;" the cerebral fibre begins to be formed only in the "first months" of life, and then sensation and volition appear. So soon as the forehead enlarges anteriorly, and the brain acquires a certain development, attention, memory, and *comparison* are manifested. The brain, he says, increases generally till the *twentieth year*, and remains stationary till the fortieth, when it diminishes in size. In like manner, the intellectual faculties and passions improve till the twentieth year; then their strength remains stationary, although modified in their results, till the fortieth year; after which, these functions gradually decay with the organs on which their exercise depends. Such is the natural progress of the development and increase of the brain and its functions; but, if the growth of this organ be arrested or accelerated, its functions also are arrested or accelerated. Thus, for instance, when in early infancy the brain is excessively developed, there exists at the same time a premature superiority of intelligence and energy of the passions; and, when the development of this organ is excessively defective, idiocy prevails. Again, at the ordinary period of decrepitude, when the encephalic organs retain their size and predominance, the faculties and passions preserve their ascendancy, and, in part, their energy—*in part*, because those organs wear, like all other material instruments. From these positions Dr. Thomas concludes, that intelligence and the passions are manifested exactly in proportion as the organization of the brain is perfect and developed.

If any of the thoracic or abdominal organs were the seat of the passions, or the cause of the extent of the intellectual faculties, most idiots, who have these organs much developed and well formed, would possess a fair proportion, at least, of intellect and the passions. This, however, is not the case; the brain of idiots is as limited as their ideas, and their heads are known to be palpably smaller than those of ordinary men. Cretins, distinguished by the narrowness of their understanding, have much less brain than other Europeans, among whom those remarkable for great faculties and energetic passions have universally the head large in comparison with their "dry," lean body. It is an obvious fact, therefore, our author asserts, that idiots, who not only want intelligence, but even *all* the passions, have the brain very small and misformed, relatively to the thoracic and abdominal organs, and even to those of the senses, which are often

greatly developed and very energetic. On the contrary, in ingenious and impassioned persons, the brain predominates over all the other organs, which frequently are imperfectly developed, while the senses are very feeble and misfashioned.

Immoderate exercise of the intellectual faculties and passions induces fatigue, which is naturally referred to the brain; and which, on being carried beyond certain bounds, occasions direct disorder of that organ. Intense thought gives rise to a feeling of oppression in the head, and to an undue rapidity of the cerebral circulation. If this exercise is immoderately prolonged or violent, the brain is promptly threatened with congestion, which may terminate in inflammation. Primarily, vehemence of the passions or appetites may congest the brain; consecutively, it implicates the heart, and thus causes swooning and palpitations. Apoplexy, mania, and melancholy frequently result from excessive passion. The causes of such diseases are entirely attributable to inordinate exercise of the brain. Dr. Thomas holds all these statements to be demonstrable and absolute evidences of the truth of his general principles.

Alteration of the brain, or of some of its parts, determines complete or partial derangement of intelligence and the passions. Hence, every such alteration of these functions indicates alteration of those organs; consequently, integrity of the brain is necessary to the perfect manifestation of intelligence and the passions. Constant observation of diseases, and manifold experiments, confirm this proposition. When the brain is lesioned, compressed by a piece of bone, pus, serosity, or blood, intelligence and the passions are partially or entirely perverted or suppressed; and on the material cause of this disorder being removed, these functions regain their natural condition. The proofs of these positions, Dr. Thomas regards as being too numerous and too positive to admit any doubt of their accuracy.

Diversity and energy of the faculties and passions are proportionate to the complication and relative development of the brain in the scale of animals. Those of the lowest orders, whose sensibility is obtuse and limited, have only a small number of ganglions wherein the cutaneous and alvine nerves terminate; each of these ganglions possesses an independent principle of action, so that in dividing the animal into as many sections as it has little nervous centres, each section retains a separate vitality. This is demonstrable in the different kinds of worms. The molluscous tribes have the senses of taste, smell, touch, sight, and hearing well developed; and, at the same time, in them is a corresponding number of agglomerate ganglions, to which

the nerves of these senses are attached. Reptiles and fishes exhibit the sentient ganglions always fairly separated and perfectly distinct; they possess two more—a cerebrum and cerebellum—the ganglions of intelligence and the passions, which are less developed. These organs, however, become more considerably developed in birds and mammiferous animals, especially in man, the most intelligent and impassioned of all beings. Finally, says the doctor, the brain is the exclusive seat of intelligence and the passions; because, if these functions depended on the thoracic and abdominal organs, or the blood or the bile, the ox, elephant, camel, sheep, which have those organs more ample, and these fluids more abundant, should also have "the faculties and passions more energetic than man."

Experiments the most positive, says Dr. Thomas, show that the venous, which is a mixture of lymph, chyle, and *de sang qui a déja servi aux organes,* is changed into arterial blood in traversing the lungs; in this passage it becomes more fibrinous and warmer by two degrees; hence the lungs *form fibrine,* and are one of the most powerful sources of animal heat: the heart distributes these products to the various organs by means of numerous vessels; the circulation of the blood is one of those functions whose mechanism still requires profound investigation; the heart, however, constitutes its active organ; and, of this, the arteries, veins, and other vessels are merely the subservient instruments. Some physiologists regard the heart as the organ of courage; nevertheless, both reasoning and experience demonstrate the futility of this notion; neither persons nor animals, having the heart relatively very large, are the most courageous; besides, the heart being essentially muscular, and possessing cavities and fleshy columns perfectly adapted to impel the blood, indicate its exclusive functions; lastly, when any cause has long and powerfully excited the heart, so as to induce its extraordinary enlargement, this increase of size does not in any degree influence the person's courage, but only his sanguiferous functions. It is Dr. Thomas's conclusion, therefore, that the lungs form the organ of sanguification, and the heart that of the circulation.

Chylification, secretion, and excretion, are the exclusive functions of the abdominal organs; thus, the liver, spleen, stomach, and intestines have one common object—the separation of chyle from the food; the liver secretes bile only, and this conduces chiefly to chylification: the genital organs elaborate and excrete the seminal fluid, which is applicable alone to fecundation. With certain physiologists, ardour and impetuosity of character, loftiness of imagination, result

from the predominant activity of this organ: according to the same notion, hatred, anger, grief, are seated in the liver and its fluid, because lean, "dry," sallow, persons generally possess the moral characters assigned to the bilious and melancholic temperaments; in such cases, however, the brain predominates, while the abdominal organs are small and their functions consequently defective: the size of the liver is proportionate to that of the intestinal canal, and corresponds with the necessity for a biliary secretion; it is relatively large in early infancy, when the digestive functions are very energetic; in herbivorous animals it is comparatively larger than in man; why then, do they never become a prey to such passions? Others suppose that acridness of the bile *sympathetically* imparts activity to all the organs; that the excess of this fluid may be mingled with the chyle and thus communicated to the general mass of blood; and that its presence is discernible in excitement of the organs and discoloration of the skin. It is, doubtful, however, says Dr. Thomas, whether cutaneous yellowness does really proceed from the bile; this, he says, has not been demonstrated by any direct experiment, even in jaundice; such discolorations are also consequent on contusions and sanguineous extravasations. How can acridness of the bile produce organic activity? If *sympathetically*, the term sounds prettily, but explains nothing; if *physiologically*, the thing is absolutely indemonstrable. Experience and observation universally lead to the opposite conclusion; thus, in the blood of bilious persons, the proportion of bile is not greater than in that of others having different temperaments; bile, like urine and other acrid substances, when preternaturally determined to organs, excites inflammation; that of a vigorous idiot presents nothing appreciably different, either in quantity or quality, from the bile of a person endowed with high feeling and intelligence: in both, this fluid contributes exclusively to the processes of digestion. Their conformation, position, and manifest functions evince, in like manner, that the general organs cannot conduce in any degree to the manifestation of mental emotion. For all these reasons it is evident, says Dr. Thomas, that the *cerebral* organs are the instruments of intelligence and the passions; that the *thoracic* perform the functions of regenerating and distributing the blood; that the *abdominal*, though numerous and very diversified, combine in executing the analogous functions of elaborating the nutritious principle and dejecting useless or noxious substances from the system; and that, though all these groups of organs intercommunicate by

means of their operations, each has, nevertheless, its own distinct and peculiar functions.

Dr. Thomas ascribes to a false notion of the energy of organs—their power or aptitude to the performance of function—the rejection of his doctrine, that "the relative size of an organ indicates a relative energy of its functions." This "great truth," he says, constitutes a proposition capable of several distinct consecutive applications; thus when, for instance, in the same individual one organ is proportionally larger than the rest, the functions of that organ are also relatively more energetic; but, on the contrary, when an organ is much smaller than the rest, its functions are distinguished by a proportionately inferior degree of energy; this, says our author, is one of those simple truths whereof the mere statement demonstrates the evidence; observation of all living beings, of every kind and of every age, confirms the certainty of this position. A diseased organ may predominate in size without predominating in function; in such cases, its functions are enfeebled or perverted; but the proposition has reference exclusively to the *healthy state* of organs; and, thus limited, its principle is absolute. Among individuals of the same species, those wherein one organ predominates, have also the functions of that organ predominant; thus, for example, in one of two men the brain is larger than in the other, relatively to the rest of the organs; and, in the former, consequently, the cerebral functions are more energetic. Unless the complication and structure of their organs be essentially different it is the same, to a certain extent, when compared with each other, in various tribes of animals.

Physiologists have proposed several means for ascertaining the absolute energy, extent and diversity of the cerebral functions; such as comparison of the brain's magnitude with the entire mass of the nerves, with the spinal chord, with the whole body, and with the face; but (says Dr. Thomas) from each of those comparative processes there are many exceptions. Camper's "facial angle" indicates the size of the head's posterior and lateral proportions only, and thus necessarily leads to imperfect results. Gall, he adds, considers the brain as a group of many particular organs, having an existence, an action and an activity more or less independent; so that we ought rather to *consult* the different constituent portions of the brain, than the aggregate of its organs, in order to appreciate *the development of intelligence and the passions*. He admits twenty-seven faculties or dispositions in man, and attaches each of these to a particular *lobe* of the brain; so that it is necessary to examine the de-

velopment of each of these organs *(the twenty-seven lobes of the brain!)* for the purpose of discovering the energy of the faculties and propensities he attributes to them. But, although physiology and anatomy, now-a-days, do not permit a doubt of the brain's being composed of *many* parts, it is impossible by any means to demonstrate the existence of all the particular and distinct organs admitted by this physiologist (Dr. Gall); a circumstance, Dr. Thomas thinks, which diminishes considerably the importance of this part of his excellent work on the functions of the brain. All the other theories tend to support the proposition applicable to the encephalic organs—that relative size of an organ indicates the relative energy of its functions—that of Gall presents some objections, drawn from the manner of considering separately the action of different parts of the brain, especially in cases of partial genius and partial imbecility. Nevertheless, concludes Dr. Thomas, since anatomy and physiology have not demonstrated *all* these distinct and isolated organs of each faculty and of each passion, such objections are unessential.

Since the structure and complication of the brain are variable in individuals of very different species, the mode of applying the new doctrine (Dr. Thomas's) is perfect, inasmuch as it has reference exclusively to the same individual, to individuals of the same species, and to those having the structure and complication of their organs almost identical. Thus, if certain animals have a cerebral prodominance as considerable as man, the great difference of their cerebral organization makes this predominance the cause of very different effects: the ganglions of intelligence and the passions, so developed, so predominant in man, have either none whatever, or exceedingly small *circumvolutions* in animals. These ganglions are imperfectly developed, and their anterior, superior, and lateral *regions* appear to be completely deficient, whilst, on the contrary, those ganglions, which correspond to the nerves of the senses, and of the whole body, are very voluminous. The eminences, named *testes* and *nates*, form the greatest portion of the brain in birds: in like manner, the olfactory and auditory ganglions constitute the most important part of the cerebral mass in the small mammiferous animals. From these organic dispositions, it results that animals often have certain *sensations* more energetic than those of man; but that such sensations are transitory, and incapable of being combined and aggrandized as those of mankind. It is obvious, therefore, that cerebral predominance must occasion much variety of effect in the different kinds of animals. In some, says Dr. Thomas, it indicates merely an extreme general sensibility; in others,

a remarkable delicacy in one or more senses; and, in others, nothing beyond great energy of certain faculties or passions: wherefore, among individuals of the same species, whose cerebral structure and complication are always the same, those in whom the brain predominates, have the highest endowment of intelligence and the passions; and, for the same reasons, it is incontrovertible, that, inasmuch as the brain exceeds in size the other organs of any one person, in so much are the faculties and passions of such person more energetic relatively to the other functions; and that this predominance of energy in the specified individual induces a predominance of energy in it, relatively to other individuals of the same species.

When the lungs are relatively large and capacious, their numerous cells admit the contact of a great quantity of air with a great quantity of blood, from which contact an abundant and perfect sanguification necessarily results; likewise, when the heart is very "voluminous and robust," the circulation is active in all parts; and these combined actions dispread a profusion of animal heat over the whole system. Children and females have the thoracic organs less developed relatively to the cranial and abdominal; hence, their blood is more serous, the pulse softer, the animal heat less considerable, than in adults, especially athletic men, whose blood is fibrinous and abundant, the pulse strong and full, the animal heat plentiful. Cold-blooded animals, reptiles, and fishes, possess small lungs, whereof the structure is very simple. In frogs, salamanders, lizards, the lungs are mere sacs, presenting only a few cellules in the inside; the heart in them has fewer cavities, is less complicated and smaller, than in the mammiferous tribes. Thus, in the first, the blood is less fibrinous and in less quantity, the animal heat less "developed;" they consume a very small quantity of oxygen, and survive, for sometime, the abstraction of their heart and lungs. In warm-blooded animals, the mammiferous kinds, and birds, the lungs are much more complicated; their numerous cells, in inspiration, expand ample surfaces for the admission of atmospheric air into contact with the venous blood; the heart is more complicated, more "robust." In birds having the largest development of the thoracic organs, the pulmonary cells communicate with the cavities of their bones. In them, this organization determines an abundance of fibrinous blood, vigorously diffused over all the system, facilitating the organic functions, and maintaining a copious supply of animal heat. Thus, finally, when the chest is very capacious, greatly developed, relatively to the rest of the body, the functions of the heart and

lungs are proportionately more energetic than those of the other organs.

In worms and zoophytes, the abdomen forms the entire animal; it is a simple sac, wherein chyle is formed and absorbed, while the excretions are generally expelled through the passage by which nutriment was received. Insects, and the crustaceous tribes, have this cavity somewhat more complicated, and possess a nervous centre, with organs for respiration and diffusion of the fluids. These, however, are but accessory relatively to those of the abdomen, which are more capacious and energetic. Reptiles and fishes present an increase of development in the thoracic and encephalic organs, and the abdominal diminish proportionately in extent and importance. In mammiferous animals and birds the abdomen has a much smaller proportional development; its functions also are less essential; so that the abdominal organs acquire an increase of development and energy proportionate to the animal's inferiority to man in the scale of being. The degree of an organ's energy can be rightly appreciated only by estimating accurately the character of its functions. Thus, for example, that of the digestive organs cannot be calculated by the quantity of aliment whereon they act, but by the quantity they digest and convert into chyle. Many persons eat much and make little chyle; others take little food, and from this extract a large proportion of the chylous fluid. Herbivorous animals eat little at a time and often, but their ample and manifold abdominal organs maintain an uninterrupted action; they elaborate chyle in great abundance, and this is deposited in natural reservoirs; hence the copiousness of their abdominal secretions and excretions. Carnivorous animals, on the contrary, do not take sustenance so frequently, and exercise their thoracic and cranial organs less than their abdominal. Thus, their belly is narrow, and contains energetic organs; and, though devoured with avidity and in great quantity, their prey passes quickly through the bowels, and consequently yields a small proportion of chyle; hence their leanness notwithstanding their voracity. "Abdominal" men eat little at a time, but often; they digest almost continually; they sleep much, and their life is pleasant and serene, like that of herbivorous animals. On the other hand, men whose abdominal organs are less fully developed relatively to their thoracic and cranial, eat greedily, and devour their food like the carnivorous tribes. But the digestion of such persons is imperfect; they elaborate little chyle, and remain lean, notwithstanding the great quantity of aliment which passes rapidly through their contracted bowels. It is easy to con-

ceive, says Dr. Thomas, how physiologists may assert, that magnitude of the abdominal organs and universal obesity constitute the indication of general feebleness, inasmuch as the cellular tissue and lymphatic fluids *inundate* all the organs and embarrass their functions. But, says the Doctor, besides being entirely mechanical, such explication is inapplicable to any one organ, and unsupported by one positive fact. It is obvious, he adds, that such feebleness has place only in the cranial and thoracic, and not in the abdominal, organs, which are predominant and very energetic, separate a profusion of chyle, and yield most abundant secretions. How is it possible, he asks, that voluminous organs, which act incessantly, and whose products are copious, can have little energy? The abdominal organs, he asserts, emphatically, are subjected to the general laws of organization. The more they are exercised "at the expense of the rest," the more their relative size is augmented, and, by consequence, their relative energy increased. To maintain the contrary is absurd; wherefore, it is certain that the relative size of the abdominal organs indicates the relative energy of their functions.

Dr. Thomas's next chapter is entitled—"appreciation of the size, and, consequently, of the energy of the splanchnic organs;"—and in this he affirms that, since we can estimate the dimensions of these organs by examination of their "envelopes," so also can we ascertain what organs, in any individual, are the most powerful, and what the most feeble. The limits between the skull and the face may be defined, both externally and internally, by drawing a line from one orbitary arch to the other, continuing it on each side to the auditory duct, and prolonging it thence to the nape behind the occipital hole. The skull contains the cerebrum, cerebellum, and cerebral ganglions, in which the nerves *terminate*. All these organs are enveloped with membranes that line the inside of their osseous repository, and form the several cells (*"loges"*) whereby they are separated. The cavity of the skull is oval, with the broadest "extremity" behind. Its principal diameters are the occipito-frontal, the transverse, and the vertical; and the length of these varies much, not only in different ages, sexes, and persons, but in the same individual, according to the points of admeasurement. Its sides present two distinct regions—the superior or vault, the inferior or base; the former is appreciable externally, the latter not. This last has a plane but very irregular surface: internally, it forms a part of the cranial cavity; externally, a portion of the face. Internally, the skull retains a great number of "circumvolutions" and anfractuosi-

ties, which correspond with the "circumvolutions" and anfractuosities of the brain. It also exhibits remarkable differences in the relations of its size and shape in different ages, sexes, and persons. At birth, its absolute size is not great, but, relatively to the whole body, disproportionately large. At this age also, relatively to after-times, the anterior predominates over the posterior regions. Until the twentieth year, the head increases in absolute size, but decreases relatively to the entire person. At this age the sutures have acquired perfect solidity, and the posterior region its utmost dimensions. About the fiftieth year of life, the internal layers of the bones become thicker, in consequence of a diminution of the brain, which at that time usually supervenes. In females, the posterior region of the skull predominates over the anterior. Immense varieties, likewise, obtain in the dimensions, form, and thickness of the cranial bones, in different individuals. In ordinary adults, the skull generally measures from nineteen to twenty-two inches in "horizontal circumference." Moreover, two heads equal in size may surmount two bodies differing by a third, or even a half, in their respective dimensions. The skull is the exact and "faithful" image of the configuration of the brain; so much so as to enable us to conclude rigorously and absolutely, that every small eminence and depression in its internal surface represent correlative eminences and depressions in corresponding spots on the surface of the brain; the truth of this position, says the doctor, can be demonstrated by simple anatomical observation.

According to Dr. Thomas, the circumstances that may occasion error in appreciating externally the size of the brain, are apparent. *First*, it may be remarked, that the skull's superior region only is visible; that this region, being covered with integuments and hair, is not appreciable minutely by ocular examination; and that the frontal region alone is manifest, while all the rest is "marked" with hair, and requires being touched in order rightly to discover its true size and configuration. *Secondly*, accuracy in the limits between the skull and face is indispensable to the right "evaluations" of the cranial dimensions: it is proper therefore, to recollect that these limits, internally, as well as externally, are definable by the line already designated. *Thirdly*, the skull in children is thinner than in old persons; in these last, it generally acquires an increase of thickness proportionate to the shrinking of their brain. *Fourthly*, the cranial bones vary in thickness, in each individual, independently of the difference determined by age; but, in general, this has a relation to that of the other bones; thus, the size of the facial

bones or those of the members being given, the thickness of the cranial bones may be ascertained: for making this calculation, Dr. Thomas gives no rules, but merely asserts that he is perfectly assured of the accuracy of the process, by many dissections of subjects in whom the osseous system exhibited various degrees of development. *Fifthly*, the frontal sinuses and orbitary cavities are never so large as to produce important mistakes. *Lastly*, hydrocephalus and other diseases of the head enlarge the skull considerably, while the brain may be small in size; but the question exclusively respects the head in a *healthy*, not a morbid, condition. Thus, Dr. Thomas declares, we may always discover the size of the encephalon by inspecting the external surface of the head, and the knowledge of this qualifies us to determine exactly the energy of the encephalic functions.

After describing anatomically the relations of the thorax and its contents, Dr. Thomas ascribes to it a sterno-vertebral, a transverse or costal, and a vertical diameter; all of these vary very much in different individuals; the two first are longest towards the base; and the last is shortest when taken near the anterior part of the chest. The "walls" of the thorax, he says, have absolutely the same diameters as the cavity itself which they circumscribe and form; but these walls, covered with their integuments and surmounted laterally by the shoulders, present externally the figure of a cylinder, flattened anteriorly, posteriorly, and on the sides. He divides the thorax into six regions—an anterior or sternal, a posterior or dorsal, two lateral, an inferior or diaphragmatic and a superior or cervical, each of which he minutely and scientifically discriminates. Age, sex, and personality occasion extremely numerous varieties of the thorax, with respect to its total and relative dimensions and also its conformation. At birth, the organs of the thorax, especially the lungs, promptly acquire such an increase of volume as to distend its lateral regions; its vertical diameter increases little till puberty, when the epigastric organs, hitherto disproportionally large, tend also to expand the base of the chest. About the eighteenth year of life, the thorax attains a considerable increase; its base remains stationary, but its vertical diameter enlarges; in the central and superior parts, it dilates, imparting to the sternal region especially "that beautiful configuration which we admire so much in athletic persons." Between the forty-fifth and sixtieth year, it becomes less moveable, by reason of the ossification of its cartilages; it also really diminishes in size, and resembles the adult chest during expiration; its inferior margin descends; the diaphragm becomes more concave, and the tho-

racic base "lodges" an undue proportion of the abdominal organs. The female thorax is proportionately less developed than the male; its vertical diameter, particularly, is shorter; its base is wider, especially in women who have not inordinately compressed the chest; for, says Dr. Thomas those females in whom the use of whale-bone stays has narrowed the inferior part of the chest, this cavity projects in the middle, and, its form resembles that of old men. Nothing, however, is more variable than the absolute and "proportional" size of the thorax in persons of the same age and sex, and a "vast thorax" is also found associated with a small abdomen and head. In fine, by observation of the chest and its varieties on the external surface, we possess the means of ascertaining the exact dimensions of the thoracic organs. Do the thoracic organs fill exactly the cavity wherein they are contained? If the intercostal muscles be carefully removed, and the pleural membrane exposed but not divided, we may perceive the surface of the lungs in immediate contact with the internal face of the thoracic walls; but, if the pleura be punctured or incised, the lungs instantly recede, diminish in size, and "sink upon the sides of the vertebral column;" and, as in dead bodies, occupy a small space only of the chest. On opening living animals having a transparent diaphragm, we observe the lungs following exactly the motions of the diaphragm, and maintaining an immediate relation with the "walls" of the chest. That person, says Dr. Thomas, must have a very incorrect notion of the relations of the development of the thoracic organs with the cavity they occupy, who takes his judgment of them from inspection alone of a dead subject. Usually, in dissection, the lungs are found in a state of recession upon themselves, and the sides of the spine, the heart, and large blood-vessels empty, collapsed, and occupying less than their natural space; the diaphragm pressed upwards by the liver, and the stomach and intestines distended with gaseous air, so that the chest, in some instances, is so much narrowed as to be incapable of containing one entire lobe of the lungs when filled with air. If, however, the organs of respiration be inflated, and those of the circulation injected, we shall be astonished at the extraordinary dimensions these organs by this means acquire; in a word, we shall find them filling exactly the whole thoracic cavity.

Are the walls of the thorax moulded on its internal organs, or do these organs "obey" the development of the thoracic walls? In inspiration and expiration, the thoracic organs certainly obey this development; they are then actually

passive; but, in their growth, the walls entirely obey the development of the organs, and are moulded upon them; so that, if the latter spontaneously decrease or increase, the former corresponsively retract, or are enlarged.

In the fœtus, the heart and lungs are formed before the thoracic walls; these continue membranous, while those have attained considerable solidity. The ribs may be soon ossified, but their elastic cartilages always facilitate the development or contraction of the thoracic walls. At birth, the lungs really follow these walls, as they expand in inspiration; but it is their growth solely that ought to be considered; for, it is altogether in consequence of the lungs acquiring double their absolute dimensions and weight, that the chest, in a few days, increases in size. Persons, in whom all or one only of the thoracic organs are considerably enlarged, have the whole or one side merely of the chest proportionately developed. Thus, in children, the heart and large vessels predominate over the lungs; in adults, this happens exclusively in disease; and, in such cases, the antero-posterior diameter of the thorax exceeds the transverse. Often in young persons, having active aneurism of the ventricles, the region over the heart only projects: the same circumstance is observed in general and particular pneumonic inflammation. When the lungs are diseased, the thorax loses, not unfrequently, as much as one-third of its absolute dimensions. This, the Doctor declares, invariably has place in phthisical subjects, and nothing is more remarkable than the partial retractions of the chest, which result from inflammation of one lung, or one of its parts: the lungs ceasing to be perfectly distensible, the thoracic walls primarily lose their mobility, and, in the end, their size. All these circumstances make it evident, Dr. Thomas concludes, that the thoracic cavity is filled exactly by the organs in which it is "moulded;" and that, by considering the arrangement of the osseous construction which circumscribes this cavity, there will be no difficulty in appreciating its capacity by examination of the external proportions of its walls. Now, says the author, such examination is always easy, and in all cases we can, at the same time, "verify" with the eyes and the fingers the extent of the cone enveloped with soft parts, because, he says, the muscles do not cover equally the whole thorax, but leave intervals through which the bones may be traced; and the border of its base being at all times readily perceived, the observer cannot possibly be led into error. When much developed, the cellular tissue "rounds" all the parts, and makes the surface smooth. In women, moreover, the breasts form two considerable protuberances; but all

these " dispositions," however marked they may be, cannot mislead any person the least attentive or accustomed to make such examinations. The thoracic and abdominal limits are not precisely under the edge of the base of the thorax, but exactly at one inch above it, in adult persons. These observations, however, refer exclusively to the healthy, not to preternatural or pathological conditions of the chest; for, sometimes, the lungs are very much reduced in size by serous depositions or aneurism of the heart and blood-vessels; sometimes, on the contrary, the respiratory and sanguiferous organs suffer embarrassment from an abdominal dropsy, and from cancerous or tuberculous enlargement of the liver; and, at other times, they are " naturally" transposed.

Dr. Thomas next describes the abdomen and its contents. With him, this cavity has a diaphragmatic or superior, an inferior or pelvic, a posterior or lumbar, an anterior, and two lateral regions. According to the diversities of attitude, the fulness or vacuity of the digestive organs and the interchanges of inspiration and expiration, the superior, anterior and lateral regions are susceptible of great mobility; but the varieties of their form and size are neither constant nor the same in all mankind. It is indispensible, therefore, to attend to the *permanent* proportions of the abdomen when comparing them in different individuals: some are remarkable for its vast capacity; others, for its great defect of amplitude. Comparative anatomy demonstrates both these states in herbivorous and carnivorous animals: it is the unchanging constitutional size of the abdomen which indicates that of the organs it contains: this, with its soft dilatable walls, Dr. Thomas affirms, must be moulded on those organs. Moreover, observation shews that, in a healthy person, the abdominal viscera are always proportionate in size to the development of their inclusive cavity; and that differences arising from obesity, whether internal or external, may be readily appreciated so as never to misguide the scientific inquirer. Thus, in fine, the cranial, thoracic and abdominal organs form three essential groups, which are perfectly distinct in the relations of their structure, situation, and particularly of the analogy of their functions; and, in their healthy state, their relative size does indicate the energy of these organs.

Part II. of his work contains an exposition of Dr. Thomas's doctrines regarding the temperaments or constitutions: these, he affirms, consist in those varieties of nature which result from the different proportions of the three great splanchnic cavities. With him, the terms *temperament* and *constitution* are synonimous, and the less import-

ant organic and physiological dispositions, which are also very various in individuals, he calls *idiosyncrasies*. In many cases, he thinks, the word predominance might be employed to indicate temperament. Thus, for instance, it might be said indiscriminately, that a person has a cranial temperament, that his head is predominant, or that his encephalic organs predominate. He distinguishes and characterizes seven:—the mixed, cranial, thoracic, abdominal, cranio-thoracic, cranio-abdominal and the thoraco-abdominal temperaments; and, with the preliminary remark, that, in medical observations, it would be advantageous to specify not only the individual's temperament, but likewise to notify precisely whether it is moderately or excessively developed, he proceeds to make each of them, methodically, the subject of a descriptive illustration.

Mixed Temperament.—This, we are assured, results from the just proportion of the splanchnic cavities—from that modification of their physical disposition wherein no one of them is predominant. It exists in persons apparently very different, but who, nevertheless, present an important relative equivalence of function: thus, there are short and tall, corpulent and lean, handsome and ugly persons, in all of whom there is a harmonious proportion of size and energy among their cranial, thoracic and abdominal organs—the essential characteristic of this temperament.

Our physiologist represents "L'Apollon du Belvédère" as an exquisite "variety" of the mixed constitution, and descants very pathetically upon its excellencies as the "type de l'egalité, de la santé, et de la beauté." This peerless archetype, this "quelque chose de celeste," exhibits a brain that cannot, he declares, become the *seat* of passions too violent or too impetuous, although it may *experience* them all;—intellectual faculties well developed, and incapable of being seduced into the errors of hypothesis and theory;—blood, neither too fibrinous nor too animalized;—abdominal functions so freely executed, that chyle is elaborated and absorbed in right quantity for repairing the "beautiful body;"—members endowed with every requisite for exercising, pleasantly and perfectly, all the movements necessary for such a frame;—and, in fine, a physiognomy manifesting, in all its features, the absolute symmetry of the entire figure.

According to Dr. Thomas, the mixed temperament prevails very generally in France, and has place everywhere; in most instances, during the maturity of all the organs, from the twentieth to the forty-fifth year of life. When the functions throughout the system are equally balanced, their

energy is seldom immoderate: out of this disposition arises a degree of well-being altogether unknown to the man whose encephalic organs predominate: and, although persons endowed with such a disposition may have vigorous faculties, and be susceptible of vehement emotions, still they can never, like the other, become the victim of insupportable torments, which are often originated by himself, or derive their source from his own organization. With this constitution, men usually enjoy the best health, and are "propres a tout, disposés a tout:" their's passes readily into another temperament; for, says Dr. Thomas, if the organs of one splanchnic cavity be inordinately exercised for a certain period, they soon obtain an ascendancy over the rest, especially at certain epochs of life: hence, the mixed, readily, and often very speedily, becomes a cranial, thoracic, or abdominal temperament. Nevertheless, in not being apt to determine "excess of exercise," the mixed constitution necessarily predisposes to no particular disease; and, therefore, all those maladies that occur accidentally cannot sustain from it any degree of direct influence.

Cranial or Encephalic Temperament.—Individuals in whom the head is large, the forehead vast and high, the facial angle very open, the abdomen and thorax small, and the body not corpulent, have the intellectual faculties and passions peculiarly energetic, the pectoral and abdominal functions feeble. This variety of constitution is ascendant in most of those extraordinary persons who render themselves conspicuous by their great crimes, or by exalted virtues. Such men are usually lean and slender, remarkable for the predominance of their cranial organs over those of the abdomen and chest, susceptible of emotions the most profound, and "devoured" by the thirst for distinction and renown. We need not be astonished at finding, with the same temperament, men who have been the terror or admiration of the world, if we reflect, that the passions are the *cause* of all the great actions, whether good or evil, achieved by mankind; and that eminent poets, heroes, criminals, conquerors, are impassioned men, who differ from others only in the superior energy of their passions and intellectual powers. The cranial temperament, however, is sufficiently characterized by a general predominancy of the encephalic organs over "all the rest of the individual." When this constitution is very decided, the abdomen and chest are most frequently small; for, were it otherwise, the head must be enormous that could possess an ascendancy over them: Thus, as has been said, they who have such a temperancy strongly marked, are neither personally powerful nor ro-

bust: their digestion is imperfect, their food passes rapidly on its course, and cannot be completely assimilated. With them, also, the abdominal secretions are scanty; constipation frequent; but all those actions which have their source in the brain are vigorous. The feeblest desires of other men in them are "passions." Their virtues and vices are extreme; and although all their faculties and all their propensities be in general fully developed, circumstances universally favour the ascendancy of some over the rest. It is, therefore, requisite, in order to appreciate rightly the various shades of their cerebral functions, to contemplate man in every state, from that of nature, when he wanders in the woods, and is destitute of "the consolatory arts," to that when, fashioned to the social yoke and enlightened by the torch of science, he becomes the plaything of all the passions he may successively experience in the highest degree. It is likewise necessary to consider the modifications of this temperament, resulting from age, sex, professions, and the varied circumstances of life. It occurs in all ages, but is most frequent, and most fully developed between the seventh and the thirtieth year of life.

In infancy the cranial organs, being relatively voluminous, execute their functions with proportionate energy; and, although to qualify them for action they require a kind of education, this is the age at which man acquires a diversity of knowledge, when truth and error simultaneously germinate. Let us then improve, says Dr. Thomas, this short space of life; for when, in the course of years, the brain shall become inferior in size to the other organs, it will have less energy, and we less aptitude to obtain an increase of knowledge. It is in the adult age, however, adds the Doctor, and in highly polished society, that we must try to remove the veil that covers the thoughts of him who has an encephalic temperament; for, inasmuch as he is good or terrible, in so much is he to be courted or shunned. Has his brain, from infancy, preserved its predominancy in size and energy over all the other organs? we are terrified or enraptured with admiration at the view of his large projecting forehead, at his enormous head, sustained by a "dry" lean body; at his eyes, wherein sparkles the fire of genius and the passions! Under the appearance of a profound calm, he can fabricate a snare the most perfidious. If you have excited his wrath, dread him; he cannot hate by halves; his resources are incalculable; the wound he inflicts excruciating and inveterate. He may be an implacable enemy, or a trust-worthy friend. His mind is mighty, and his body, though diminutive, capable of displaying all his powers. In every situation his ardent imagin-

ation leads and transports him. Sometimes, in silence and wrapt in ecstacy, he contemplates nature, and elevates himself to her author; or, with agitated gait and drooping head, he flies from the society of men, secludes himself in the loneliest retreats, and not unfrequently resigns himself to the saddest reflections. It is remarkable, says our author, that persons endowed with this constitution have often a decided melancholy, and an originality of character approximating insanity. Possessing this, also, we find most men who seem born for high achievements; vainly, in youth, are they placed in inferior situations; they surmount every obstacle and attain consideration and glory by means unknown to the rest of mankind.

We shall better discern, however, the moral shades of the cranial temperament, if we turn our attention from him who has arrived at the highest degree of civilization, and passes his days in contemplating the sublimest philosophy, to the man whom circumstances have thrown into the opposite condition: we shall then observe excellent dispositions sometimes taking a vicious direction, or, at other times, remaining altogether uncultivated; for, between the philosopher, absorbed in lofty aspirings, and the man whose destiny has doomed him to be incessantly engaged in petty intrigues and speculations, there are immense differences; exalted dispositions, says Dr. Thomas, always announce their possessors to be persons in whom the cranial temperament predominates; every day we perceive how much circumstances alter individuals, how much the cerebral functions may be changed, by giving a bad *direction* to their exercise. One person, whose encephalic organization is very powerful, may, nevertheless, pass his time and occupy all his faculties and passions in frivolous or self-annoying pursuits; another, having the same organization, may yield himself, during the best days of his life, and those the most important to his destiny, to the indulgence of some overpowering vice, to gambling or debauchery; another, employed in commercial enterprizes, devotes himself exclusively to mercantile objects and minute details; and another, abandoned to the mere support of nature, and fixed irresistibly to a solitary abode, can exercise a small number only of his faculties and passions.

We might always expect to find "genius and mind" in the rich, the honoured, the fortunate; and, on the contrary, the absence of all these "mental advantages," in the poor, the unhappy, and the forlorn. Observation, however, discovers that the opposite of this has place in society; birth, most commonly, gives fortune, and, consequently, rank; and thus, both these circumstances are independent of the mind.

Last of all, our author declares, it is "blind chance" alone that often determines the situation of man.

Genius, absorbed in its own profound reflections, frequently proves an obstacle to riches. Man, carried away by the energy of his intellect, too often abandons his best interests to the management of vulgar persons, who abuse his confidence; on the other hand, he is frequently repulsed by those whom he eclipses; for, experience generally shews that the man, who, like Prometheus, has seized the celestial fire, is doomed to endure the worst ills of life, and to find the human race regarding him as a fool or a madman. Nevertheless, he who enjoys the cranial temperament has more resources in civilized society than in the savage state, in large towns than in the country; then, being destitute of the physical force that supports the peasantry, he usually leads a discomfortable and unhappy life. This constitution is much more frequent in males than in females; much more prevalent in free countries than in those which have been oppressed by the yoke of despotism; much more common among those who are contemplative and studious, those who are addicted to effeminacy and pleasure, than among those who engage in physical labour. When the brain predominates in an individual, this organ is proportionately disposed to preternatural activity; and, if this predisposition be very considerable, such individual experiences an incontrollable propensity to exercise the overactive organ: hence, in him, there is a perpetual restlessness of the faculties and passions. According as this exercise is frequent and complete, the more it augments the nutrition, the size, and, consequently, the energy of the brain. Observation, moreover, demonstrates the fact, that, when the brain undergoes an excess of action, all the other organs are, in an equal degree, thrown into a state of repose; and hence, a proportionate decrease of their nutrition are equivalent feebleness of their functions. Thus, says Dr. Thomas, the diseases of this temperament are those that result from immoderate exercise of the cerebral, and from an "absolute repose" of the pectoral and abdominal, organs. Most of the diseases denominated *nervous* proceed from this temperament, and have their seat in the brain. In general, they require a "disgorgement of the encephalic organs," which frequently become the seat of congestion: antispasmodics and anodynes, our pathologist affirms, are much more indicated in disorders of this, than of any other constitution! But, he concludes, it is chiefly from persons endowed with an ardent imagination, that the physician should derive such profound knowledge of the human *heart*, and endeavour so

to recognize the causes of disease, as to qualify himself to direct the moral nature of those who may have abandoned themselves to an excess of sensibility; for the prevention of disease, it is necessary to exercise the body at the expense of the mind!

(To be continued.)

III.—*Case, illustrating a remote consequence of Indigestion.* By J. Rawlings Monday, Esq., Surgeon, Olveston.

January 7, 1829, I was requested to see T. H., aged nineteen, of a spare habit, having a disposition to scrofula. He had dry skin, narrow chest, an acute and discriminating mind, and was firm in determination.—He had, in consequence of reading Dr. Lambe's work, *On the Benefit of Vegetable Diet*, strictly pursued it for the last seven years. It consisted principally of the dressed vegetables of our gardens—potatoes, beet, &c.; the unprepared, when in season, as cucumbers, lettuces, radishes, &c.; and the fruits, as apples, pears, oranges, &c., together with bread or biscuit, and drinking distilled water.

He had, some years before, been the subject of an inflammatory affection of the chest, with hooping-cough, which cough was obstinate; and, when very young, had also an inflammatory affection of the bowels. In other respects he enjoyed tolerable health till within these last twelve months, when he began to complain of pain and weakness in the back, and occasional pain in the right side; and it was remarked that he was irritable in his disposition, from slight causes, and fond of solitude. His hearing was rather dull.

At this time there existed pain in the right side of the chest; short harassing cough; expectoration of a small quantity of mucus; a redness of the eyes, nostrils, &c., dryness extending down the lower part of the throat and bronchii; tongue slightly buffed, with a redness in the centre; no appetite, and but small quantities of food taken; tenderness of the epigastrium, and pain darting from the stomach through to the back; pain about the right hypochondrium; griping pains in the bowels, with flatulent distention; motions dark and unnatural; no pain expressed on pressure over the abdomen; urine depositing a quantity of stringy mucus; pulse small, beating fifty times in a minute; had a chilliness over him during the day, and at night copious perspirations.

This inflammatory state of the mucous tissues was relieved by local bleeding, by means of leeches, which was followed by considerable exhaustion; mixtures of castor

oil, and also Inf. Rosæ cum Magnes. Sulph., and a calomel pill at night; squill and spermaceti mixture for cough, and afterwards Bals. Copaibæ. On the 18th of February a fefeverish state occurred, with an erythematous rash, similar to measles, extending generally and gradually over the body; this disappeared after three days. He then complained of confusion of the head, but had no headach; a slight comatose state succeeded, with difficulty of articulation, and, partially, of swallowing; after two days he was completely comatose. Blisters were applied to the head and neck, and mercurials, with cathartics, were given, but, after a partial re-action, he sank on the fourth day.

Examination six hours after death.—The membranes of the brain appeared perfectly healthy; there was no preternatural vascularity or fulness of the vessels of the pia mater. The cerebrum was rather more dense or firm than usual, and the medullary part was particulary white; the ventricles contained about two ounces of serum. The cerebellum was very soft, pultaceous, readily breaking down under the slightest pressure. There was no serum in the spinal canal; the medulla was firm, similar to the cerebrum; it did not fill up the canal, but it appeared as if contracted upon itself.—*Chest:* The left lung was gorged with blood; the right adhered to the ribs by old adhesions; it was full of tubercles, and just opposite to the seat of pain there was a tubercular abscess, about the size of a walnut.—On opening the abdomen, the omentum was full of small tubercles, and it adhered firmly to the fundus of the bladder. The peritoneum presented all over the like studded, tuberculated appearance; and where it passed over the liver and muscles opposite to it, it looked as if covered with grains of rice. The external coat of the stomach was very vascular and thickened, and the whole of the mucous coat was covered with small bloody points, disposed in lines. The small intestines and the mesentery were covered with larger granulated bodies. The external coat of the duodenum was very thin, and easily torn; the mucous coat appeared absorbed, but leaving puckered ridges remaining. The small intestines shewed great vascularity, and they contained a black glary fluid. The coats of the large intestines and of the bladder were much thickened.

This case appears to me to present, as far as cause and effect could indicate, morbid alteration of structure in the cerebellum, from derangement of the functions of the stomach, although that derangement (or at least that extent of derangement) was not characterized by any very marked symptoms in the head, as there only existed a dullness of hearing and mental irritability.

Olveston, April 28, 1829.

IV.—*Observations on the State of the Urine in Incipient Phthisis.* By F. Bailey, M.D.

TO THE EDITORS OF THE LONDON MEDICAL AND SURGICAL JOURNAL.

Gentlemen,—I take the liberty of sending you some observations I have recently made on the urine of a young female, about seventeen years of age, labouring under incipient phthisis. At no time during her illness has she had any expectoration; her skin has been uniformly dry, and her diet of the vegetable kind. The catamenia have been pretty regular; the bowels rather costive; and her principal medicine digitalis, with saline diaphoretics.

Should you deem this communication worthy a place in your Journal, I must beg to add that care was taken that every specimen of urine selected for observation should be of the temperature of 60° on Fahrenheit's scale.

Yours, &c. F. Bailey.

[*See the Table.*]

It is obvious from the annexed table,

1. That, of 33 specimens of urine, 15 were distinctly acid, and 12 neutral; of the remaining 6, two were very faintly acid, altogether without crystals, and 4 very faintly acid, with a few minute crystals.
2. That the colour of transparent urine affords no criterion of its nature; the amber tint being equally common to the acid and the neutral kind.
3. That the appearance of crystals on the surface of urine, especially if abundant, is an almost certain proof of its neutrality.
4. That the turbid yellow urine, or that abounding with lithate of ammonia, has the greatest specific gravity; that, in general, the deep amber coloured comes next, and that the very pale water is, uniformly, the lightest.
5. That the transitions from an ACID to a NEUTRAL state ARE VERY FREQUENT, AND TAKE PLACE IN A VERY SHORT SPACE OF TIME.
6. That the daily recurrence of feverish paroxysms are not incompatible with a uniformly transparent state of the urine.
7. That, taking 5 grains as the averageof matters held in solution by 7 fluid drachms of urine, and that fbiss. of that fluid are discharged daily, about 2 drachms of such matters will be eliminated from the system in that interval by the kidneys.
8. That the specific gravity of ACID urine generally exceeds that of the neutral kind.

1829.	When voided.	
Feb. 27th..	Midnight	
28th..	11 a.m.	
	11 p.m.	
Mar. 1st..	11 a.m.	
	6 p.m.	I
	10 p.m.	
2d..	Noon	
	10 p.m.	
3d..	8 a.m.	I
	Noon	
	9 p.m.	I
4th..	9 a.m.	I
	11 a.m.	
	10 p.m.	
5th..	6 a.m.	
	Noon	
6th..	6 a.m.	I
	Noon	
7th..	6 a.m.	
	2 p.m.	
	9 p.m.	
8th..	6 a.m.	
	Midnight	
9th..	7 a.m.	
	Noon	
	Midnight	
10th..	6 a.m.	D
	11 a.m.	
	10 p.m.	P
11th..	7 a.m.	
	Noon	
12th..	10 p.m.	D
13th..	7 a.m.	

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MONTHLY SYNOPSIS OF PRACTICAL MEDICINE.

1. *Case of Pleuritis treated with Mercury* *.—A woman, aged twenty-eight years, was admitted, March 12th, under the care of Dr. Elliotson. Having been troubled with cough for the last fortnight, she now complains of lancinating pain under the right mamma, shooting through to the back, also between the shoulders, and extending around the lower part of the chest; she is unable to take a deep inspiration, and the pain is increased by coughing. The whole of the abdomen is tender on pressure; the pain is not increased by turning in bed, and she can lie equally well on either side; respiration 40 in the minute, irregular in extent; pulse 80, intermitting; tongue dry and coated; bowels constipated; occasional vomiting; was bled yesterday, but without finding any relief. Ordered to be bled from the arm to syncope, to take twenty grains of submuriate of mercury immediately, and house medicine in the evening, if required. Upwards of 40 ounces of blood were abstracted before fainting was produced. 13th. The bowels were not acted upon until the salts and senna had been administered, since which the patient has had two evacuations. Pains much mitigated, and cough somewhat abated; pulse 80, compressible; tongue furred, brown and dry; vomited once this morning. Let the submuriate of mercury be repeated, and, if necessary, house medicine the following morning. 14th. The mouth has become sore, but otherwise better. The house medicine was taken; bowels open. 16th. Pulse 82, intermitting, soft, and compressible; complains of but little pain, cough rather troublesome, and breathing difficult; bowels open. 18th. Perfectly free from pain; coughs very little; dyspnœa less; bowels regular; gums less sore. 20th. Has no pain or cough; mouth nearly well. Ordered farinaceous diet. 23d. Is quite well.

2. *Fatal Case of Chorea* †.—A young woman, aged seventeen years, admitted, March 19th, under the care of Dr. Roots. About Christmas last, during menstruation, she was attacked with convulsive motions of the left arm and leg, which have been increasing up to the present time, and, for the last month, she has been incapable of walking or standing. The right arm and leg began to be affected about a week ago, but not so violently as the left, which are in constant motion, so as to render her incapable of feeding herself, or holding any thing in her hand; the head and face but little affected; has occasional twitchings of the muscles of the mouth, but can protrude the tongue with tolerable steadiness; says she has not, nor ever has had, any headach; the constant motion prevents her from sleeping much at night; has some griping of the abdomen; no irritation of the nose; appetite good; bowels confined; menstruated regularly up to the time of her first attack, but never since; pulse small, quick, and frequent, but

* St. Thomas's Hospital—Lancet. † Ibid.

cannot be numbered on account of the agitation; pupils natural. Dr. Roots, feeling desirous in this case of trying the effects of purgatives alone, combined with antiphlogistic regimen, ordered the patient to be put on milk diet, and take castor oil and spirit of turpentine, of each half an ounce, immediately, and to be repeated the first thing in the morning. 20th. The bowels not having been evacuated, ordered to take of scammony, with calomel, fifteen grains immediately; and an injection with two ounces of turpentine, and fourteen ounces of gruel, three hours after. The powder did not operate on the bowels, and a *common* injection was given, the turpentine clyster not having been sent up. This produced three evacuations, containing a large quantity of hardened fæces. 21st. Has had three stools to-day; fæces not so hard; convulsions considerably increased since admission; is obliged to be tied to the bed; tongue white, speech much less distinct, and cannot now protrude the tongue without effort. Has some heat about the forehead, but no pain in the head; urine of a dark chocolate colour, and deposits a copious sediment. Dr. Roots considers himself no longer justified in continuing the above treatment, and, consequently has ordered the head to be shaved; cold lotions to be applied to the scalp; and, should she complain of pain, to have twelve leeches applied. Carbonate of iron, two drachms every six hours; extract of colocynth, with calomel, fifteen grains to-morrow morning. 22d. Motion not decreased; urine still of a dark colour, and now bloody, and emits a violet odour; pain on pressure of the epigastrium, and about the region of the kidneys; tongue rather coated; pulse quick and weak. Omit the carbonate of iron; eighteen leeches to the epigastrium immediately, and afterwards a blister. A common injection to be thrown up immediately, and an enema, with opium, three hours after. 23d. Bowels not open; vomiting. Ten grains of calomel immediately; and three hours after, six drachms of castor oil. 24th. Much steadier. Has passed a tolerable night, and quite natural when asleep. Does not complain of pain on pressure of epigastrium, and but little in the region of the kidneys. The vomiting has ceased; urine having been passed with her stool, it could not be ascertained whether it contained any blood. Submuriate of mercury five grains, immediately; compound senna mixture to-morrow morning. To be cupped over the region of each kidney to ten ounces. 25th. Has menstruated during the night; continues steadier and better, having been enabled to sit up in bed, and feed herself; urine has still a violet smell, complains of slight pain of the mouth and throat; bowels well purged. 26th. Has slept ill, and appears worse; had two offensive stools; motion rather increased; urine violet smell. Extract of henbane, five grains, immediately, and every six hours after. 27th. Foaming at the mouth; has great difficulty in protruding the tongue or speaking; some pain and tenderness of the abdomen; urine less bloody. 28th. Appears much worse; has been very restless during the night. It is with difficulty she can be kept on the bed. Vomiting. Leeches, twenty-four to the abdomen. Calomel, ten grains imme-

diately, to be repeated at night, and again to-morrow morning. Hip-bath. The patient continued to get worse, and was in constant motion until a short time before her death, which took place at about two o'clock the following morning. She went off very quietly, appearing to be completely worn out.

Post-mortem examination.—Patches of inflammation were found in the stomach, and the whole alimentary canal exhibited a more than usually vascular appearance. The pelves of the kidneys were much inflamed, several little red spots were noticed near the terminations of the ureters; and the mucous membrane of the bladder was ulcerated. The brain was observed to be particularly small, but no morbid appearances remarked there; and nothing different to what is commonly observed in health, could be found in other parts of the body. It has been elicited from the mother, since the death of the patient, that for some months her bowels had been very costive, and she had been in the constant habit of taking drastic purges. Her urine had exhibited a milky appearance, depositing a sediment which, from her description, is supposed to have been pus. But the patient, at the time of her admission, did not complain of any pain or tenderness in the situation of the kidneys or bladder.

3. *Spontaneous Gangrene of the Nose* *.—A young man, aged seventeen years, of sedentary habits, but generally healthy, presented himself with the following symptoms:—There was great swelling and blackness of the nose; it was cold, dry, and destitute of sensibility, and surrounded by a line which marked the incipient process of separation of the sphacelated portion. The surrounding parts, particularly one cheek and the upper lip, were much swollen, and of a dark-red colour. There was swelling and redness of the back of one hand, in two places on the other arm, and at the back of one leg. It was thought that fluctuation could be felt in these situations, but at a great depth; and a lancet was pressed into two of them, which gave exit to a considerable quantity of pus from abscesses, situated in the one case amongst the metacarpal bones, and in the other in the inter-muscular cellular membrane. A few ecthymatous pustules were observed in different parts of the body. In addition to these local appearances, the whole system appeared to be in a state of great excitement. The pulse was 136, and hurried, but not irregular; its feel was small, hard, and jerky. The heart appeared to be acting tumultuously, as if the cavities in contracting did not preserve their usual rhythm. Respiration was very difficult, apparently produced as much by swelling of the fauces and parts around the posterior nares, from extension of inflammation to them, as by disease of the lungs, although it was plain that the latter existed. The combination of these two causes produced frequently attacks of extreme dyspnœa, in which the patient uttered convulsive sobs and sighs, which could be heard a considerable distance. He complained of pain in the right side of the thorax, and respiration

* Ibid—Med. Gazette.

could not be heard in the lower part of the right lung. The countenance was pale and anxious, and the tongue white and dry. The following history was obtained from the patient and his friends:—About five weeks previous to his admission, he had a venereal discharge, for which he had applied to an irregular practitioner, who had given him what was believed to have been mercury, in considerable quantities. His gums were still rather turgid at his admission. On March 7th he was attacked by pain in the right side, apparently in the region of the liver; at the same time he had shivering and great dyspnœa, but no cough. For these symptoms he took 10 grains of pil. hydrarg. and the next day was quite free from all indisposition. On the following day the same symptoms returned, but by the use of local bleeding and of purgatives, they were, by the end of the week, again removed. On Sunday, the 15th, a pimple was said to have appeared on the right side of the nose; this became larger, and discharged a small quantity of matter. The nose afterwards swelled, and speedily became gangrenous. Considering the case as one of an inflammatory nature, Dr. Roots ordered, V.S. ad ℥xiv. This caused the pulse to become fuller and softer. Poultices to the abscesses. Lint dipped in Liq. Chlor. Calcis to the nose, and over that a stale beer-ground poultice. Ol. Ric. ℥j. stat. Milk, arrow-root and slops. Ten, *p.m.* Has passed involuntarily two stools of a greenish colour, and very offensive smell. Occasionally he is a little delirious. Respiration is quick and difficult. 20th. There is redness and swelling of some parts of the legs, of one elbow, and of both hands. The inflammation has also extended farther on the face; it now covers nearly the whole of the forehead, is circumscribed, and at its edges are a number of pustules, similar to those on other parts of the body. The pulse is as frequent as it was, small, and sharp; tongue white and moist; is very much purged; is in a state of constant agitation; has not slept; delirious at times. Mist. Cret. Co. ℥iss. statim et rep. si opus sit. Hirudines xvj. temporibus. Strong beef tea ℔j. daily. Four *p.m.* After taking two doses of the last ordered mixture, the diarrhœa was completely checked, and has not since returned. There is great heat of skin, with copious perspiration; the teeth are encrusted with dark sordes; the upper lip is much swollen, and of a very dark colour, as if about to become gangrenous; inflammation is extending to the eye-lids. Nine *p.m.* One stool since last report; occasionally delirious, but not furiously so, merely talking incoherently, with great agitation; tongue whitish and dry; pulse 136, small and soft. Quininæ Sulph. gr.j. Acid. Sulph. Dil. gutt.iij. Aq. Menthæ, ℥j. 4tis horis. Tr. Opii gutt.xxv. statim. Ol. Terebinth ad nasum vice Liq. Chlor. Calcis. 21st. He became more calm after taking the laudanum. About two this morning, his breathing became more laborious, with inability to swallow. He gradually sank, and at six *a.m.* he died.

Examination.—The right lung was adherent to the diaphragm, and between them was an abscess of considerable size containing healthy pus. The surface of the lung was ulcerated, but not to

any depth. The mucous lining of the stomach presented a patch, a few inches in diameter, of a dark-red colour, and there the membrane was easily lacerable. Similar patches, extending from two to six inches, were found at unequal intervals along the whole length of the intestinal canal. All the other viscera were perfectly healthy.

4. *Gangrene consequent to Typhus Fever* *.— A married woman, twenty years of age, was, in October last, after a severe typhus fever, left in a state of extreme weakness; which, as she believes, was increased and protracted by the lack of proper food, &c. During her slow convalescence, whilst still confined to her room by debility, she perceived in her left foot unusual numbness and coldness. This condition was not preceded nor attended by pain, or any inflammatory symptom whatever; and it continued three weeks before any other change took place. The foot then became the seat of prickly pains, and soon afterwards of an œdematous swelling, being still very cold, and generally white; excepting, however, a little inflammatory redness around the ankle. The colour of the foot soon became darker, being at first streaked like marble, and then, especially at the toes, quite black. As this blackness advanced along the foot, the inflammation around the ankle became more distinct; and at length commenced the work of separation by drawing a line of ulceration around the malleoli; all the parts below that line becoming perfectly black, shrivelled, and fœtid. During these changes the only remedies used were hot fomentations and stimulating ointments; but they do not appear to have been at all beneficial. On her admission, March 11th, the process of separation was far advanced; there was little left but bone and ligament; the patient's health was very good (for since separation commenced it has improved rapidly), and her system evidently well able to bear the process of spontaneous amputation, had Mr. Key thought right to wait for it. There was not, however, in this case, any temptation to the surgeon to forego his own art, in deference to the surgery of nature. Nature here did not promise to produce one of those beautiful stumps so much admired by some surgical writers; on the contrary, the integument was left very short, the bone was likely to be very long, and the intervening soft parts convex rather than concave. Mr. Key, therefore, having it in his power to shorten the process, to produce a better stump, as well as to remove the limb at a more convenient point, presumed to rob nature of her work, and to amputate himself. Accordingly, on the 17th March, he performed the usual circular operation below the knee; after which the patient did perfectly well.

5. *Calculi removed by the Urethral Forceps—Death* †.—A man, aged sixty years, was admitted December 24th, with symptoms of stone. On sounding the patient, soon after admission, Mr. Key ascertained that the symptoms depended on numerous calculi, ra-

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* Guy's Hospital. † Ibid.

ther small in size; he thought the bladder might contain twelve or fifteen of them, and that their size probably admitted of removal by the urethra, which was the more desirable, as the patient's ill state of health entirely forbad the operation of lithotomy. His appearance was that of a previously hale man, now suffering severely from disease; his system was feverish and irritable from constant pain; his breathing difficult; cough frequent; pulse irregular and intermitting; every slight cold excited disorder of the lungs, and occasionally he complained of pain in the region of the kidneys. Dec. 24th. ℞. Liquoris Potassæ gtt.xx. Tinct. Hyoscyami gtt.xl. Aquæ Menthæ ℥iss. Omni nocte sumend. January 8. An accession of fever, with aggravation of chest affection. Pil. Colocynth. Calomelanos gr.x. statim. 26th. No material or permanent improvement. ℞. Potassæ Carbonats ℈ij. Potassæ Nitratis gr.x. bis in die sumend. ℞. Extracti Conii gr.v. omni nocte sumend. The above and similar treatment was pursued until March 9th, with more or less relief to the urgency of his symptoms. March 9th. He suffers much less pain, and his system, generally, is in a more tranquil condition; but is not in a state to submit to the usual operation with any hope of recovery. Mr. Key, therefore, determined to try what could be done in removing the calculi per urethram. The facility with which this, in the first attempt, was accomplished, and the very little pain it gave the patient, were very pleasing. The instrument, scarcely thicker than a good-sized sound, was introduced almost as readily as the sound generally is, and was as quickly withdrawn, with a stone in its grasp. This was done three times, with no other difficulty than that, in withdrawing one of the stones, it hung a little in the narrow part of the canal, close to the external orifice. Mr. Key did not introduce the forceps a fourth time, leaving the remaining calculi to future attempts, that the amount of irritation might be divided. The stones were polished and angular, about the size of common plumb stones, being larger than any the patient had previously voided. His gratitude on finding three of his tormentors removed with so little pain, was very clearly expressed. In the afternoon a fourth calculus, nearly equal in size to the others, spontaneously came away with his urine. No constitutional irritation followed this operation, and up to March 28th the patient's health continued very nearly as before. March 28th. The forceps were again used. On this occasion the calculi were less readily grasped, and with more difficulty removed. Of one Mr. Key was compelled to relinquish his hold just anterior to the scrotum, but, by external pressure, he succeeded in forcing it along the urethra, and finally in expelling it. A second was removed, also with difficulty, especially at the anterior contraction of the canal, where it long resisted both pressure from behind and the application of common forceps through the orifice. The removal of these two calculi having been attended by great pain and some bleeding from the urethra, further attempts were refrained from, and the patient put to bed. 30th. Since the operation, the patient has suffered severe and almost constant pain in the urethra and neck of the

bladder, it being especially acute whenever he voids urine. There is also considerable disturbance of system; the pulse is quick and irregular; cough troublesome; breathing harassed; and general febrile symptoms. April 6th. The case becomes serious. The local pain increases, and is described by the patient as exactly resembling the sensation of a calculus lodging in the commencement of the urethra; but the introduction of a sound does not discover one. Urine very turbid, containing much mucus. The disturbance of the system is fully proportioned to the local suffering. 11th. Alarmingly worse. Pain in the neck of the bladder and perineum is extreme; no tumour appears externally. The patient is fast wearing out; his countenance becomes sunken; pulse very quick and weak; mouth parched; tongue dry and brown; cough frequent, and very distressing. The urine is exceedingly unhealthy, as if mingled with dark coloured fœtid pus. 12th. This morning a most distressing attack of bilious vomiting supervened, with increasing weakness and exhaustion. Sir A. Cooper saw him to-day, and prescribed, but it was evidently vain. The poor fellow expired the following day.

Inspectio Cadaveris.—The bladder contained sixteen calculi, varying from the size of a horse-bean to that of a large walnut. Its coats were thickened and contracted; the mucous membrane of a dark grey or ashy colour, and the fluid in the cavity was thick, dark-coloured, and offensive. The ureters were dilated to three or four times their natural calibre; their lining membrane, as well as that of the pelvis of the kidney, was softened, and had the same ashy colour with the bladder; they also contained the same semipurulent fluid. The membranous portion of the urethra, immediately behind the triangular ligament, was deeply discoloured, as if from slough or gangrene; and a very small opening was found leading from it to a cavity, apparently the collapsed cyst of an abscess, situated within the pelvis, between the bladder and rectum, rather to the right side; this contained a similar fluid to that found in the bladder, and its parietes were ragged and of the same dark ashy colour. The other viscera presented no recent or active disease; the lungs were nearly healthy, the heart above the natural size, the aorta dilated, and at some points having patches of ossification.

6. *Examination of the Brain of Esther Hibner* *.—The brain of Esther Hibner, who was executed for the murder of her apprentice, was examined by Dr. Bright, the body having been sent to Guy's Hospital for dissection. On raising the calvarium, there was found considerable congestion of the vessels of the dura mater, and bloody serum oozing from some of the torn vessels of the bone itself. The vessels of the pia mater not remarkably turgid, but a slight serous effusion in the membrane between the convolutions of the brain. On examining the substance of the brain, there was observed a general ash-coloured appearance, with numerous bloody points. The lateral ventricles contained somewhat more

* Ibid.

fluid than natural, and the plexus choroides exceedingly distended with blood. The vessels running over the corpora striata, very turgid; not the slightest trace of coagulum in the longitudinal sinuses, but filled with fluid blood, as were the lateral and other sinuses; nothing particular was observed at the base; the arteries, however, were quite empty, and the veins not particularly full. The veins of the right upper extremity, and side of the neck, were exceedingly distended with blood.

7. *Removal of an enlarged Bursa* *.—A fair-complexioned, yellow-haired Irishman, aged fifty years, was admitted, August 7th, under Mr. Lawrence's care, with a large superficial tumour, filled with fluid, extending directly over the right patella. This tumour, which had been of considerable duration, came on without any evident cause. September 13th. The usual means have been adopted, with the view of occasioning absorption, but without effect. Mr. Lawrence having now considered that the only mode of getting rid of the tumour was by extirpation, the patient was removed to the operating theatre. Mr. Lawrence made a lateral incision through the skin, on each side of the patella, as near to the base of the tumour as the operator thought would admit of their lips being brought together, after the tumour was removed. Dissecting them back, he, without difficulty, removed the bag. The edges of the integuments were then brought together by adhesive plaster, and the patient sent to bed. When the tumour was cut into, it was found to contain about a pint of thin bloody fluid. The bag was of a sort of half leathery and half cartilaginous substance considerably thickened, and very elastic. 15. Inflammation and swelling to a considerable degree have affected the knee. The patient complains of much thirst and pain; pulse quick, countenance anxious. Apply a bread and water poultice, and let the saline mixture, with tartarized antimony, be given three times a-day. October 1. The inflammation has abated, and the wound presents, at some parts, a pretty healthy appearance; but, at others, an unwillingness to unite. The patient remained in the hospital for more than a month after this period, considerable difficulty having been experienced in obtaining the union of the parts, owing, in all probability, to the unfavourable condition of the patient's constitution.

8. *Somnambulism* †.—The subject of this case was a dark-complexioned, muscular man, aged fifty years, a sawyer by trade. He was admitted into the hospital on the 14th of September. From a child had been in the habit of occasionally getting up at night, and walking in his sleep. Saturday night had slept in a strange bed near Highgate, and, as he had often done before, got up to make his nocturnal perambulation. Supposes he must have taken the window for the door, not having been able to find the latter; opening it, he leapt out of the room, and fell a distance of thirty feet. The shock awoke him, and his cries brought him assistance: he was unable to move. When brought to the hospital, there was

* St. Bartholomew's Hospital. † Ibid.

considerable emphysema over the chest, and fracture of the ribs, but, in consequence of the very acute pain examination occasioned, it was not ascertained how many of the ribs were broken. The fracture bandage was applied, and he was bled ad ℥x. Ordered ℞ Hydrarg. submur., gr. iij. c. Pulv. jalap., xv. statim. ℞ Mag. sulph.; Liq. ammon. acet. ā. ā. ℥j.; Spirit. æther. nit., ℥ss. Aquæ puræ, ℥viij. M. Sum. coch. ij. 2da quaque hora. 15. Venesection ad xvj.; feels better; passed a restless night, though better than the night before; pulse small and wiry, 120; harassed with a cough, which he had bad before the accident happened. 17. The emphysema greatly subsided; the bowels have been opened; has slept well, and, on the whole, feels improved; pulse strong, 104. 19. Continuing to improve. October 23. Discharged cured.

9. *Cases of Phlebitis**.—It is evident that the means calculated for subduing inflammation generally are not sufficient to overcome that of the veins. Indeed, no plan of treatment hitherto adopted seems to make any decided impression on this fatal malady. Under these circumstances, we should suggest the application of the nitrate of silver along the whole course of the inflamed vein, so as to produce vesication of the cuticle. It is probable that this would arrest the inflammation; at any rate, the remedy appears to us worthy of trial.

Case 1.—A man, aged thirty-four, of a light complexion, fair hair, and very irritable disposition, was admitted, February 18th, under Mr. Lawrence's care, with a fracture of the two bones of the left leg, about four inches above the ankle. The limb was put in splints, and the patient was ordered to be bled, the pulse being full, and the tongue foul. March 2. A week after the bleeding, inflammation of the punctured vein supervened, and pus appeared to be secreted in it: ordered twelve leeches around the orifice, and to take five grains of the compound colocynth pill. 4. The inflammation is extending down the arm, and the forearm is swelled. Apply eighteen leeches more. 5. Inflammation still extending down the vein and forearm, and the hand considerably swollen. Apply twelve leeches, and wrap the limb in a poultice. 6. Apply twenty-four leeches. 9. There is evidently an induration of the vein, extending from the orifice downwards for about six inches. The swelling is somewhat abated, and the inflammation subsiding. 18. The arm, to which the principal attention has hitherto been directed, is still going on well: the inflammation never extending above the orifice made by the lancet, but descended along the forearm and into the hand. The hardness, which, to the touch, very much resembles a strong tendon, is gradually subsiding, and the poultice may now be left off. 30. The arm is now quite well, the bones of the leg united, and the patient is fast recovering. During the inflamed state of the vein and arm, no particular constitutional derangement took place: the tongue occasionally was brown and coated, the patient irritable, (habitually so) but nothing further.

* Ibid.

Case 2.—The subject of the present case was a man, aged thirty, who was admitted March 26th, with the right hand severely lacerated, and a comminuted fracture of the carpal ends of both bones of the forearm. The patient is a strong, healthy man, of a fair complexion, and sandy-coloured hair. Mr. Lawrence considered that the only mode of proceeding was, to remove the injured parts; and accordingly the patient was conveyed to the operating theatre, and amputation, at the middle of the forearm, immediately performed. The arm was supported almost horizontally from the body of the patient, and in such a position as to bring the radius directly over the ulna. The operator then introduced a double-edged knife on the inside of the radius, thrust perpendiculary down, until it projected below the ulna, close upon its inner surface; the knife was next carried a little towards the palm of the hand, was then turned, and a flap made by dividing the soft parts in the removal of the knife. A flap was made on the outer side of the arm in a similar manner. The inter-osseous ligament then divided, and the bones sawn through from without inwards. With a pair of scissors, the projecting ends of several tendons were removed, four ligatures applied, the flaps brought together, and the patient then taken to bed. This form of operation was, in a great measure, novel at this hospital, and it was not considered to have been neatly performed. 27. Between eight and nine o'clock last night, hemorrhage from the stump took place; the straps were removed, four more arteries secured, the dressing again applied, cold cloths resorted to, and the further bleeding suppressed. In about half an hour afterwards, sixteen ounces of blood were taken from the left arm, and the patient ordered to be kept quiet. 31. Going on pretty well; the arm is slightly tumid and inflamed, but the patient expresses himself comfortable; the dressings have been removed, healthy pus is secreting, and there is every reason to believe the result will be favourable. April 4th. For the last two days the edges of the stump have become ragged, everted, swollen, and assumed rather an unhealthy appearance. The patient has also been restless: to-day he has a wild, staring look, and has been ordered thirty drops of opium. At ten *p. m.* ordered ten drops more. 5. Has had a disturbed night: the attention of the dresser has this morning, for the first time, been directed to the orifice of the left arm, where venesection was performed. It is slightly inflamed, rather painful, and pus issues from it. About mid-day Mr. Lloyd saw the patient, and he regards the case as one of well-marked phlebitis. A good deal of pus issues from the orifice; the pulse is quick and fluttering; the man occasionally insensible, and evidently in a dangerous condition. He complains of no particular pain; neither is there much appearance of inflammation about the orifice. Ordered ten minims of opium every four hours, combined with sulphate of magnesia. 6. Died at half-past ten this morning.

Sectio Cadaveris.—Permission was granted to examine the arm, chest and abdomen. At the orifice, and for a short distance above it, in the vein where venesection had been performed, there was

pus. In a deep-seated vein, pus was detected extending from the bend of the arm as high up as the axilla. The subclavian vein on the left side bore marks of inflammation; the pericardium healthy; some white patches, apparently the effect of effused lymph, upon the heart; the inferior vena cava slightly inflamed: on the right side, some old adhesions of the lungs, but no appearance of any phlegmonous abscess about them: intestines healthy; the blood throughout coagulated.

10. *Spasmodic Contraction of the Extremities**.—A young man, aged seventeen, was admitted, March 24th, under Mr. Vincent's care, with spasmodic contraction of the muscles of the superior and inferior extremities. About five weeks ago he was occasionally seized, for about an hour and an half at a time, with spasmodic contraction of the muscles, principally about the hands and toes, but it went off without any medical treatment. About five o'clock, on the evening of admission, he was again seized with a more violent attack than any that had preceded. The arm and legs were drawn up in a manner that gave him more the appearance of a trussed fowl than any thing else. One or two fingers were contracted, a few others extended; so also were the toes; was quite unable to stand or move; was not sensible of any material pain; the wrists and toe-joints a little swollen, and had a burning sensation; was not aware of having caught a violent cold, or of any cause likely to have produced this state of the muscles. Nothing done for him to-night, but ordered to be kept quiet. 25. Ordered forty drops of laudanum, and afterwards hydrarg. sub., 4 grs.; jalap, 15 grs.: much the same. 26. To be cupped from the neck and loins to twelve ounces, and to rub a drachm of the unguent hydrarg. on the limbs night and morning. 27. Feels much better to-day; the toes seem quite recovered; can move the arms with a degree of facility, except at the wrist-joints, the hands being drawn in towards the internal surface of the forearm.; the wrist-joints are swollen, and preternaturally hot; describes the heat to be more violent at one time than another; when the temperature is at the highest, the painful sensation is most severe; can stretch out the legs with ease. Ordered colchicum wine, a drachm every six hours. 28. Continues recovering, though the swelling, stiffness, heat and contraction still continue about the wrist-joints. April 7. Has continued gradually to improve, though he still feels a slight stiffness and inconvenience, particularly in some of the finger-joints; left the hospital this day.

11. *Removal of Fungus Hæmatodes of the Mamma.—Gangrene of the Leg*†.—A woman, aged sixty-six years, was admitted, November 20th, 1828. Several years before, she had been bled for rheumatic fever, and experiencing afterwards violent pain in the cicatrix, Mr. Brodie removed it with complete relief. Six months before her admission, she first discovered a small tumour in the right breast, which gradually increased, unaccompanied with pain.

* Ibid. † St. George's Hospital.

At the time of her entrance into the hospital, it occupied the lower part of the breast, was the size of a goose's egg, and had somewhat an elastic semi-fluctuating feel. The skin over it was loose; there were no enlarged glands in the axilla. In the course of a few visits, Mr. Brodie not being satisfied of the precise nature of the swelling, made a puncture with a fine instrument, from which issued a small quantity of glary fluid, but not a drop of pus. On the 7th of February she complained of pain extending from the fore finger of the left hand, (which she had cut about a fortnight previously), up as high as the axilla. The absorbents of the hand and arm were inflamed; she had suffered for the two or three days preceding from headache and fever; the pulse was 100; the skin hot; the tongue furred. Cold lotion to the arm, calomel and antimony, senna, and salines with antimony, were the means employed, and although a gland in the axilla enlarged, her health improved, and by the 19th, the pain and fever had subsided. The bowels were kept open, and on the 20th, the gland which had suppurated, was opened, and about two ounces of pus discharged. She was put upon bark, and the enlargement of the diseased mamma steadily augmenting, the tumour was removed on the 20th of February. An elliptical incision, its concavity looking upwards, was made by Mr. Brodie on the lowermost verge of the cutaneous redness, and the flap of integument a little dissected from the surface of the tumour. Into the substance of the latter a puncture was purposely made by Mr. Brodie before proceeding further, in order to ascertain its structure, which proved to be fungus hæmatodes. The dissection of that, the lower flap, was then continued, and the upper incision likewise was made, elliptical, with the concave looking downwards. Between the two incisions were included about two inches and a half of skin, or more, comprising the nipple and the greater part of the cutaneous redness. The *whole* of the gland was dissected out from above downwards, and the tumour being attached in one spot to the pectoralis major, one or two fibres of that muscle were removed. Soon after the patient's removal to bed, a little hemorrhage occurred, not more than sufficient to stain the dressings, and instantly arrested by the application of ice, without the removal of the straps. She was ordered twenty-five drops of laudanum, passed a tolerable night, and next day was doing as well as could be expected; the tongue was a little white, the pulse quick, the bowels had not yet been opened. Haust. Senn. ℥iss. statim.—Mist. Camph. ℥iss. Liq. Op. Sedativ. gutt. xv. h. s. s. She slept well that night; the bowels were freely opened by the senna, and on the 28th, nothing untoward was observed. The bleeding, it should be mentioned, had never returned since the first application of the ice, which was not continued so long as twenty-four hours. From this till the 2d of March, she was much in *statu quo*, but on that day she had a rigor, afterwards felt sick, was feverish, and next day a redness of the skin was perceived about the shoulder and front of the breast, with a distinct boundary line, and looking very like, if it was not, erysipelas. The pulse at this time was frequent, but without any

force; the tongue white and coated; the breathing rather hurried; the expression anxious. The wound had been dressed once or twice, was looking healthy, and all the ligatures but one had come away. The treatment consisted in salines with syrup of poppies, and house physic. Throughout the 4th, she felt chilly now and then, and was sick. She had pain on drawing in a full breath, especially in the right side of the chest, and apparently depending on the external wound. The redness of the skin was less apparent, but still was there; the pulse was about ninety, and extremely small; the skin not hot; the tongue coated; the bowels open; the manner quick; the cough, as it had been from the first, rather troublesome. The wound, when dressed again, looked healthy, and no collection of matter could be found. In the night of the 4th, she complained of pain in the left lower extremity, and next day, it was in the following condition. The foot, leg, and lower part of the thigh, were generally swollen, the swelling passing off in the thigh by almost imperceptible degrees, and not abruptly. The whole limb was tender upon pressure. The integuments of the leg, and particularly of the calf, were very tense, and the skin was glossy from being on the stretch, whilst the superficial veins were filled with coagulating blood. No fluctuation, but rather a feeling of elasticity, was present, save in one point, at and about the internal malleolus, where the skin, for the space of a crown-piece, was reddened, and a sense of fluctuation was given to the fingers. This and the outer side of the knee were the most painful parts of the whole limb. The skin, except in the part alluded to about the inner ankle, was not at all discoloured, and nothing like streaks of redness could be seen, or hardness could be felt, in the course of the saphena or femoral veins. The pulse was rapid and small, the tongue dry and loaded, the mind wandering, the countenance sunk and almost hippocratic. The sedative was continued, and some nourishment ordered; but next day, at Mr. Brodie's visit, all were surprised to observe the leg, as high as the knee, in a state of gangrene, swollen, cold or cooling, mottled but without vesication. The pulse was rapid, the countenance death-like; the wound when looked to, was gaping and dry. The sutures were cut away, some fresh strips of plaster loosely applied, and the gangrenous limb directed to be rolled in flannel. Ammonia and port wine were ordered, but before five, *p m.* she was dead.

Sectio Cadaveris.—The body externally, though sallower than natural, had no decidedly yellow tint. The wound of the breast presented little or nothing remarkable, but in its immediate vicinity were a couple of drachms of pus, apparently unconnected with the wound itself, and deposited in the substance of the pectoralis major. Vesications were found upon the leg in several places, so that it was not, as it seemed on the preceding morning to be, a case of *dry* gangrene. The thigh was externally little affected.

The femoral vessels were carefully examined, but no inflammation or disease could be seen either in the artery or vein. The muscles of the thigh, at their lower part, were soft, and torn by a

very slight force. The cellular membrane in the ham was rotten, and could be broken with the greatest ease. The popliteal vessels were sound. The cellular and cuticular structures of the leg were in a state of gangrenous disorganization, whilst the muscles generally were found in a semi-fluid rotten state, and the gastrocnemii were converted into a kind of bouillie, made up of half sloughy fibres and pus. In the cellular membrane, behind the malleolus internus, was a purulent depôt, and the ankle-joint itself contained pus, without ulceration of its cartilages. The posterior tibial vessels, artery and vein, were perfectly free from inflammation, and the nerves, popliteal and tibial, were also sound. The pleuræ were not inflamed. The lungs were healthy. The head was not examined.

12. *Fatal Peripneumony caused by the Sulphur Bath* *.—A man, aged between forty and fifty years, by trade a carpenter, was admitted December 17th, under the care of Mr. Brodie, on account of an extensive cutaneous eruption, half lepra, half psoriasis, which had existed for upwards of twenty years. Six years before his admission he had received some slight benefit from the use of the decoction of dulcamara, but nothing had proved of any permanent utility. By direction of Mr. Brodie he took various medicines in the house, with the effect of procuring some amendment; and on the 9th of last March he was ordered to try the sulphur fumigations, at Mr. Green's establishment, in Great Marlborough-street.

On the 18th or 19th, he took one of these baths, and was afterwards exposed, in his walk from Mr. Green's to the hospital, and that not in the best of clothing, to the cold easterly winds then prevalent. In the course of the evening, or early next morning he was seized with a rigor, which was followed by feverishness and vomiting. Five grains of calomel, and three of the pulvis antimonialis, with a dose of house physic, were prescribed by the house-surgeon; but on the 20th, he was evidently very ill. The expression of the countenance was intensely anxious; the tongue dark and red, and dry; the pulse 120; the skin hot. He had at this time a slight, and but a slight, pain in the lower part of the chest, on the left side, when coughing or making a full inspiration. He was now turned over to the care of Dr. Chambers, who ordered a blister to the chest, four grains of calomel every night, with half an ounce of castor oil next morning, and salines, with antimonial wine, every six hours. On the 21st he was evidently worse: the pulse was rapid; the tongue even dryer and rougher than before; the countenance sunken; the pain in the side more severe, and accompanied with cough. The cutaneous eruption, it should be mentioned, had faded in a very perceptible degree. On the 22d, the pain in the side was materially increased; but the other symptoms were much in *statu quo*, save that the pulse was growing weaker, and the patient in appearance much distressed. Adde Haustui Spt. Ætheris Compos. ʒss. On the 23d, he was sinking; the pain in the left side of the chest and

* Ibid.

hypochondrium was absolutely excruciating; the mind was wandering; the countenance wild and anxious in the extreme; the teeth incrusted; the tongue of one universal brown; the bowels greatly relaxed. ℞. Hyd. c. Cret. gr.iij. Ext. Papav. gr. ij. 4tis horis. Vin. Rub. ℥iv. ex aq. quotidie. Empl. Cantharid part. dolent. Next day he died.

Sectio Cadaveris.—There was nothing particular observable externally, the eruption being almost entirely gone, except upon the right thigh, where some faint purplish patches still remained. On opening the chest the left pleural cavity contained half a pint, or more, of dark turbid serum, mixed with flakes of lymph and pus; whilst the surfaces of the membrane were glued together in various parts by thick, gelatinous, and recent lymph. The substance of the lung throughout, but still more especially its lower lobe, bore marks of recent and destructive inflammation. It was generally hepatized, of deep, modena, liver colour; whilst the lower lobe presented an exquisite specimen of the "diffuse suppuration" described by Laennec. The right side of the chest was free from disease. The heart was large, and its left chambers unusually muscular, considering the absence of any extraordinary degree of muscularity in the body generally. The liver was extremely large, and afforded a good illustration of the granitic, or "dram-drinking" degeneration of structure. Its acini were severally of remarkable dimensions. The spleen, like the liver, was of large size; but presented no appreciable alteration of structure. The kidneys were also hypertrophied in dimensions, but not, as far as we could see, diseased. The head was not examined.

13. *Gangrene of the Foot, caused by a Coagulum of Blood in the Popliteal Artery* *.—A man, aged sixty-four years, was admitted on the 13th of January, on account of disease of the lungs. He had also a violent, lancinating pain in the right foot, which was cold, but otherwise of a healthy appearance. The pulmonary affection was found to be an extensive tuberculous excavation in the upper part of the right lung; the pain in the foot was treated by acupuncture and emollient cataplasms, but soon made such rapid progress, as to leave no further doubt as to its nature; the extremities of the toes became insensible, and of a dark-livid colour; the gangrene soon spread over the metatarsal region, being preceded by violent lancinating pain, and an erysipelatous redness; and, by the time it had reached the ankles, the toes were black, dry, and very hard, like parts of a mummy. Fomentations of a decoction of bark, with the spirit of camphor, were without any effect; the pulmonary disease, at the same time, increased, and the patient died on the 15th of February.

On examination of the body, the lungs were found filled with tuberculous matter; the upper part of the right lung contained a large cavity communicating with the bronchia, which were ulcerated; the anterior and inferior part of the right lung only was exempt from the tuberculous degeneration, but emphysematous. The heart was flaccid, and of a pale colour; the large vessels were

* Hotel Dieu.

healthy, and without any ossification; the left femoral and posterior tibial arteries were ossified to a large extent; the trunk of the right femoral artery above and in the ham was obstructed by a coagulum of considerable firmness, about two inches in length, and slightly adherent to the parietes of the vessel, the internal membrane of which was healthy, and easily separated from the muscular coat, which was thickened, and presented evident signs of previous inflammation, but no ossification. The coagulum being situated immediately above the articular arteries of the knee, circulation had been interrupted, and no possibility was left of its being carried on by collateral arteries.

14. *Spontaneous Cure of Aneurism* *.—A man, aged forty-five years, labourer, was admitted with a large femoral aneurism of the left extremity: had been in the hospital two years previously under Mr. Lyford, at which period he underwent the operation of having the right crural artery secured for a popliteal aneurism. The patient's account of his present affliction is as follows: In June last, whilst in the act of mowing, he felt something give way, or, as he expressed himself, snap in his thigh, which was productive of such excessive pain as to entirely prevent him proceeding with his employment. From this time, a pulsation or throbbing, commenced, which became so much aggravated at night as to deprive him of sleep. A very short time elapsed before a small tumour became distinct at the place where he felt the pulsation at the lower anterior and internal part of the thigh, which has gradually increased to its present enormous size, being four or five inches in circumference, circumscribed, rather hard, and can be almost entirely reduced by pressure on the artery above. The whole extremity much enfeebled; and he is quite incapacitated from moving without a stick or crutch. As he was desirous of making some domestic arrangements prior to his coming into the house, he became an out-patient; he was requested to make moderate pressure on the part by means of a flannel roller, and to keep himself at home perfectly quiet. September 27.—He was made an in-patient. On examining the thigh, the tumour was found to have greatly subsided, and to have lost all pulsation, which, according to his statement, had taken place three days previously. He had experienced a most decided diminution of pain from the pressure of the bandage, which he therefore increased from time to time by tying a handkerchief very tight around the thigh, the knot of which was directly over the centre of the aneurism. Since the pulsations have ceased, he has felt exactly similar sensations to those with which he was troubled after the operation on the opposite limb. He now complains most severely of a burning heat immediately under the skin, which he compares to boiling water trickling down his foot and leg. May not this disordered feeling be connected or depend on the circulation of the parts below the aneurism being carried on by the more superficial vessels? The pressure has been reapplied by means of

* Winchester County Hosp.—Provincial Gaz.

a tourniquet and splint. The temperature of both feet exactly correspond. October 8.—On removing the apparatus by which the pressure had been applied, all appearance of swelling had entirely vanished, and every vestige of disease removed. The knee-joint is now capable of the most perfect flexion and extension, and the patient enabled to walk without any support, and without inconvenience. He was therefore discharged, cured.

15. *Remarkable Case of Coma.*—The following remarkable case is translated into the *Lancet*, from a clinical work, lately published by Dr. Bischoff, of Vienna. K. Haag, ætat. forty-two, had enjoyed excellent health up to the year 1823, when he was quarter-master at the garrison of Komorn, in Hungary. On the 6th of June, of that year, being extremely agitated at a severe reprimand which was given him, he suddenly fell down, and remained in a state of catalepsis, in which voluntary motion was completely extinct; the limbs, with the flexibility usual in this disease, retaining any position in which they were placed. This state having continued for a few days, he had a violent fit of epilepsy, which, from this time, returned about every third day, and though at first of extraordinary violence, gradually abated in length and intensity, and after three months entirely ceased. From this time he fell into a comatose state, in which he continued for *fifteen months*, without exhibiting any sign of muscular motion; the eyes, which at the beginning of this singular affection had been open and fixed, were subsequently closed, and remained so for the whole period; respiration and circulation, as well as the excretion of urine and fæces, and cutaneous transpiration, were carried on uninterrupted, although with less energy than in healthy persons. The patient was nourished by the introduction of liquid food; for which purpose, the jaws being firmly closed, it was necessary to break out a tooth. Deglutition was regular, though extremely slow. All solid food was almost immediately rejected by coughing. The treatment employed at Komorn consisted of stimulants, but had no effect whatever. The patient having continued in this lethargic state for fifteen months, was carried to Vienna, where he arrived on the 1st of December, 1824, and was immediately admitted into the military hospital of the Imperial Josephinum Academy; from this period he was constantly watched by two military surgeons. On his admission he was found in the following state:—He was of middle stature, fair complexion, and considerably wasted; the countenance was pallid, collapsed, and expressive of pain; the jaws were firmly pressed together, and the eyes were constantly closed; but when either of them was opened, the other opened also spontaneously; the temperature of the body was natural; the skin soft, flaccid, and slightly transpiring; the functions of the nervous system, and the mental powers seemed to be quite extinct, and not the least trace of consciousness or will could be discovered; the external senses exhibited a complete torpidity towards stimuli, even of the strongest kind; intense light produced a very slight contraction of the pupil, but appeared to have no effect on the optic

nerve; the strongest noise made no impression on the ear; caustic ammonia, when applied to the mucous lining of the nose, and the most intense irritation of the skin, had also no influence. All the voluntary muscles were perfectly motionless; the limbs remained in any position in which they were placed, with the exception of the left leg, which was spasmodically contracted. The organic functions were regularly, though very slowly, performed; respiration was carried on by the abdominal muscles; the pulse was between 84 and 90, small, contracted, and rather hard. The quantity of the excretions corresponded with that of the food which the patient took; the urine was scanty and high-coloured; the bowels were very torpid, and required the repeated use of irritating injections. He was ordered infus. amara, with tartarized antimony, and the daily use of the warm bath, in which two ounces of caustic potash were dissolved. On accurate examination, it was found that, in the forenoon, the pulse was 84, small, and contracted, and in the evening rose to 90; during the bath, the frequency of the pulse and respiration was increased; after it a slight perspiration took place. The dose of the tartarized antimony in the infusum amara, and the quantity of the potash in the bath, were gradually increased, and sinapisms repeatedly applied along the spine, but without any apparent impression; very seldom only a slight movement of the eyelids, and once a trembling of the under lip was observed. On the 9th of December a strong sternutatory powder was introduced into the nose, but without any effect. On the 11th, after the usual dose of tartarized antimony, some attempts to vomit were visible, during which the patient opened his eyes, and his face was spasmodically distorted. At one o'clock, after midnight, the lower jaw fell down, but was, after a few hours, again closed; on bringing a lighted candle towards the eyes, the face was slightly convulsed. On the 13th, two moxas were applied over the region of the atlas; during the operation, no sign of pain, or any voluntary movement, was observed; at three o'clock in the afternoon, a considerable quantity of tenacious mucus was brought up by vomiting, and pressed towards the teeth. The upper eyelids were occasionally lifted up for a few seconds. On the 16th, the actual cautery was applied over the tuber occipitale; this operation also elicited no sign of pain, nor any voluntary movement; but, half an hour afterwards, the muscles of the face and shoulders, and at midnight the lower extremities, were slightly convulsed. On the 18th, the patient was, while in the bath, seized with a violent attack of epileptic opisthotonos; it lasted for a few minutes, and terminated in yawning, and entire disappearance of the trismus. Half an hour afterwards, the patient repeatedly opened the eyes, which were clear, but languid; he also several times moved his hands slowly towards the forehead, and emitted a moaning sound. On application of a sternutatory powder, some efforts to sneeze took place. Voluntary motion now appeared to be, in some degree, restored, for the hands and right leg were repeatedly moved; the left remained spasmodically contracted. He also frequently stretched

out his tongue, and seemed to swallow some sago with great avidity. The alkaline baths, and all internal remedies, were now discontinued; he used only the warm bath, and took sago. On touching the soles of the feet, some twitching of the right leg was produced; the left evinced no signs of sensibility. On forcibly pressing on the stomach, the eyes were opened; but, on bringing a candle near them, they were quickly closed. In the night of the 18th, he had another attack of convulsions, which lasted for about ten minutes. During the following days, the symptoms of restored sensibility and voluntary motion continued; at night, the convulsive attacks, though not so intense as before, returned. On the 23d, a large sinapism was put over the region of the stomach, and musk, with the infus. rad. angelic., and ether given internally. The colour of the face now gradually increased, and consciousness seemed to return by degrees. The eyes were, for the most part, open, or were slowly opened, when the patient was called by his name; the motions of the upper extremities became also more steady, and he could even, for a few minutes, maintain himself in an upright posture. On the 29th, on dressing the wound of the moxa, he exhibited, for the first time, signs of pain; and, on hearing the scream of a child which happened to be near him, he instantly turned the head towards the side from which the sound came. From the 30th, the patient began the use of aromatic baths; the strengthening and stimulating treatment was continued, with the exception of the musk, which was left off. The return of sensibility and voluntary power became more and more apparent; the left leg only remained contracted and insensible; a sinapism being applied to the left ham seemed to cause some pain, and the patient endeavoured to remove it. He also appeared to make ineffectual attempts to speak. On the 10th of January the general state of the patient had considerably improved; the wound of the moxa suppurated profusely, and its margins were much inflamed. On the 11th, he had an attack of shivering, which terminated in general perspiration, during which the skin was very hot, the tongue white, and the pulse 107; towards the evening, he bled from the left nostril. The stimulating treatment was now discontinued; digitalis in dec. alth. given internally, and an emollient poultice applied to the wound.

During the following days, the fever gradually subsided, but the wound became surrounded by erysipelas, which rapidly spread over the neck to the face. Under the application of dry aromatic herbs it subsided, and on the 17th, had disappeared entirely, so that the strengthening treatment could be resumed. On the 22d, a tourniquet was applied to the left leg; first to the ham, and afterwards to the middle of the thigh; its effect was very remarkable; for, within a quarter of an hour a general trembling ensued, which ended in convulsions of the whole body, with violent distortion of the face, rolling of the eyes, the emission of inarticulate groaning sounds, foaming at the mouth, and opisthotonos; at the same time the left leg became extended. The attack lasted for ten minutes, and returned three times, at an interval of ten mi-

nutes each. After it, the patient fell into a short sleep, from which he, however, was roused by a fourth attack, in violence exceeding the former; but after the termination of which, perfect consciousness suddenly returned; he showed by signs, and soon afterwards even by abrupt words, his surprise at his condition, and eagerly asked for his wife and children, whom he believed dead, as they were not with him, though they had, during the whole of his disease, almost constantly attended him. He seemed to have no recollection whatever of what had happened, and thought he was still at Komorn. He complained of extreme debility, and lancinating pain in the left leg. On the 23d, he had passed a tranquil night, and was perfectly conscious; he had, for the first time, a stool without the assistance of glysters; all the vital, as well as organic functions, were regularly performed. No internal remedies were given from this time, and he used only the aromatic bath. His health now slowly returned; speech, however, remained for a long time incoherent, and the organs of the senses appeared to require a considerable period before they became accustomed to external stimuli; at first, even a slight sound produced a violent tingling in the ears, and daylight was intolerable to the eyes. His appetite became stronger, the stools regular, and the voluntary muscles gradually regained their former strength and facility of motion. He was in good spirits, and by degrees recovered the memory of his former life; of what had happened during his disease, very few obscure images only, as of a confused dream, returned to his recollection. At the end of April he had completely recovered his speech, and the use of his left leg; and at the middle of June he was able to use the mineral waters at Baden, after the employment of which, his health was perfectly restored, so as to enable him to resume his former occupations. In January, 1827, up to which period he had been in the constant enjoyment of good health, he was, after the exposure to wet and cold, affected with pneumonia, from the effects of which he never completely recovered. Three months after it, he was again admitted at the hospital, with all the signs of confirmed pulmonary consumption, of which he died on the 16th of May.

On examination of the body, the brain was found healthy; the pons varolii, and the origin of the nerves, were much injected; the sympathetic nerve, especially at its first thoracic ganglion, of a very white colour, and unusually large; the dura mater of the spinal column considerably injected at its cervical portion. In the lumbar vertebræ, two ounces of blood were extravasated between it and the spinal chord; the cauda equina was surrounded by an albuminous effusion; the spinal arachnoid gorged with blood; the chord itself healthy. The lungs contained very large ulcerous cavities; the heart and large vessels, as well as the abdominal viscera, were healthy; the spleen only was of greater size than usual, and the solar ganglion, with the nerves originating from it, appeared to be considerably enlarged.

16. *Experiments on the Velocity of the Blood*, &c.—These experi-

ments were performed by Dr. Hering, Professor of the Veterinary School at Stutgard, on horses, by injecting a solution of hydrocyanate of potass and iron into the jugular vein. He found that, 1st. A solution of hydrocyanate of potash and iron, introduced into the jugular vein of the horse, runs the course of the circulation, and arrives in the jugular vein of the opposite side, *in an interval of from twenty to twenty-five seconds*, or from twenty-five to thirty. It arrives in from twenty-three to thirty seconds in the external thoracic vein of the opposite side, in twenty seconds at the vena saphena major, in from fifteen to twenty seconds in the mesenteric artery, and in from twenty to twenty-six seconds, in the maxillary artery; lastly, in from twenty to twenty-five, and from twenty-five to thirty seconds, in the metatarsal artery, always on the opposite side to the place of injection. If the liquid introduced by this injection is moved by the same means as the blood, the velocity of the motion must be the same in both. It appears that the velocity of this motion is not increased in the ratio of the number of pulsations of the heart; for in a horse in which the pulse was sixty in the minute, and in two others in which it was from thirty-six to forty-four, and from forty-eight to fifty-two, the results were the same. Yet, in another, in which the pulse was from thirty to forty-four, the circulation was found to be some seconds slower. 2d. The hydrocyanate of potash and iron is promptly secreted by the serous membranes, but in small quantities; and this in the direct ratio of their distance from the heart. Thus, the secretion commences by the internal surface of the pericardium, where it is also the most abundant; it then takes place in the pleura, the peritoneum, and, lastly, in the articular capsules. The cerebral cavities were opened only in a few cases; and there was never found any trace in them of the saline solution injected. In the other serous cavities, the presence of this solution was discovered two, three, four, seven, and fifteen minutes after injection. These moments were also those when the animal ceased to give symptoms of life. 3d. The mucous membranes secrete the injected solution less quickly than the serous. A few minutes are, however, sufficient to discover the foreign principle at their free surface; and soon after it is found at their other surface. The mucous membrane of the right half of the stomach secretes more promptly than that of the intestine, and the latter more quickly than the surface of the lungs. Secretion is much slower in the genito-urinary surface; what was found of the solution in the urinary passages came only from the kidneys. The mucous surfaces covered with an epithelium (as the walls of the mouth, the pharynx, the left half of the stomach, in the horse), gave no traces of secretion of the saline solution injected. 4th. The liver, the spleen, the thyroid gland, &c. allow the presence of the hydrocyanate to be detected but with difficulty, on account of their dark colour. The salivary glands appeared to perform a considerable part in the elimination of the foreign substance. 5th. the kidneys act also very powerfully. The re-agent manifests the presence of the hydrocyanate at the expiration of one minute in the cortical and tubular parts,

and in the pelvis. The passage of the urine through the ureters being rather slow, the consequence is that the bladder does not present traces of the foreign precipitate until after a pretty long interval. The small blood-vessels of the kidneys gave signs of re-action, while the large ones gave none; whence it might be concluded, either that the circulation is slower in the former, or that the hydrocyanate already commences beforehand to separate from the blood. 6th. In the lungs this salt is not so difficult of discovery as might have been presumed. 7th. The saline solution adheres in some cases to the walls of the blood-vessels, and is then easily discovered by the re-agents; more frequently it does not adhere to them. Sometimes it adheres in some of them, and not in others The cause of this difference is unknown. 8th. The shortest time which the solution takes to reach the thoracic duct is still undetermined. A minute sufficed in one case, and from two to five minutes in others. It is only discovered a little later in the lymphatic ganglia, although it already occurs in the thoracic duct. It therefore would appear, says the author, that there is a direct communication between the arteries and lymphatic vessels. 9th. The foreign substance introduced into the blood is quickly ejected by the secreting organs, especially by the kidneys. In from five to eight hours there no longer remained any traces of it in the products of the secretions; and in twenty-four hours all traces had disappeared, even from the solid parts. 10th. Lastly, it appears from these experiments, that the hydrocyanate of potash and iron may be mixed with the blood without inconvenience to the animal. A solution of indigo has not the same advantage. A solution of the sulphate of iron injected into the blood coagulates it, and speedily causes death.

17. *Ligature of the Spermatic Arteries in a Case of Varicocele* *.—A native of Greece, aged about thirty years, was about fifteen when he found a tumour make its appearance on the right side of the scrotum. This at first produced little inconvenience, but it soon began to impede his walking, and it afterwards became painful. Several surgeons at Vienna had been consulted, but they had only recommended emollients topically, and rest. Last October he consulted M. Amusat; at this time the tumour was as large as a child's head at birth, and was so inconvenient that the patient was obliged to have it supported when he walked. M. Amusat was of opinion that the only prospect of success depended upon producing wasting of the testicle, by tying the arteries. The parts were divided, as in the operation for inguinal hernia, and the arteries separated, not without difficulty, from the surrounding parts, owing to their being very small, and the veins very large. Several ligatures were applied. The operation was followed by re-action, requiring general bleeding and rigorous diet. On the 5th some matter formed, and a few days after shreds of sloughy cellular membrane came away, and an abscess formed, which discharged a good deal of pus. The parts healed slowly,

* La Clinique.

but the object of the operation was gained. The testicle wasted, and the varicose veins were converted into hard cords.

18. *Ossification of the Vitreous Humour of the Eye* *.—M. Kahn has lately met with a case of ossification of the vitreous humour, the preparation of which is deposited in the museum at Strasburg. It occurred in a man aged seventy, who had died of inflammation of the stomach. The left eye was healthy, but the right was in the following state: the globe had sensibly diminished in size; it had lost its spherical figure, and presented the appearance of four furrows or wrinkles, which corresponded with the insertion of the recti muscles; it was heavy, and felt hard. When a horizontal incision was made from behind forwards, the sclerotic was found to be very thick, particularly at its posterior part, near the entrance of the optic nerve; the instrument was soon arrested by a hard body, filling the whole space of the eye-ball behind the crystalline lens, and, consequently, occupying the place of the vitreous humour. Immediately within the sclerotic was the choroid membrane, distinct, and rather thicker than natural. The retina was unchanged. The solid body within was marked by the same depression which had been observed externally; it was of a pale white colour, and was internally of a cellular texture, like the cancelli of the long bones. The chrystalline lens was indurated, and of a yellowish-white colour; the optic nerve was wasted.

19. *Obscure Case of Hernia* †.—The subject of this case was a private patient of Mr. Vincent. In our last Number we gave a review of a very interesting work on hernia, by Mr. Stephens, and the present case, as our readers may observe, tends most materially to corroborate Mr. Stephens's views respecting obstructed and inflamed ruptures. The subject of it was a robust, healthy-looking woman, fifty-six years of age, who, previously to the present attack, was not conscious of having a hernia. On the 23d of March she directed Mr. Vincent's attention to an inflamed swelling, somewhat larger than a pigeon's egg, which took its seat rather upon than below Poupart's ligament of the left side, and a little to the inner side of the external ring. It was moveable, and presented very much the character of an inflamed gland. But this superficial swelling seemed to lie immediately upon another, which was deeper seated, and, consequently, more obscurely felt; though, when pressed upon, it gave considerable resistance to the finger, was perfectly immoveable, and excessively painful on being touched. She had observed this swelling only the day before, since which she had not had any motion from the bowels, but had been in a constant state of sickness, accompanied by hiccup. The abdomen all over was tender on pressure, but at the lower part of the left side she complained of its giving her acute pain. The pulse was quick and strong. Mr. Vincent took away about fourteen ounces of blood from the arm, which afterwards became very much cupped and buffed. Mr. Vincent then ordered that she

* Ibid. † Med. Gaz.

should take repeated doses of Epsom salts, but the stomach rejected every thing; in consequence of which enemata were repeatedly administered, but without moving the bowels. She continued restless through the night, and on the following day (24th), at two o'clock, there did not appear to be any alteration in the symptoms. She had retained no food. On directing her to cough, no impetus was communicated to the part, while she at the same time voluntarily observed, that it gave her no pain. Considering all the circumstance of the case, the excessive tenderness, the constant sickness, the hiccup, and the constipated state of the bowels, Mr. Vincent thought (and those gentlemen who were present agreed in his opinion) that it would be advisable not to defer the operation of cutting down upon the tumour. An incision was accordingly made, an inch and a half or two inches long, commencing just below the external ring, and passing downwards and a little inwards upon the tumour. After the fat was divided, the first thing observed was an inflamed and enlarged gland, which seemed to block up the wound. This was divided, when another tumour came into view, corresponding to the one which had been felt beneath. The operator raised the gland, and cutting horizontally upon this last tumour, which was the size of the tip of the finger, expected by so doing to enter the sac of the hernia. The part had a black appearance, and looked like a sac in which the circulation had been obstructed by stricture above. The division of this, however, only exposed another covering beneath, to which it was very firmly adherent. Mr. Vincent now raised a portion of this last covering with the forceps, as he had done the former, and, making a similar horizontal cut, when about an ounce of turbid yellow urinous-smelling fluid gushed out. He now thought he had opened the sac of the hernia, and, after having enlarged the aperture, introduced the point of the index finger, and felt for the strictured gut, but there was none to be found; the sac was quite empty. He desired the patient to cough, but no impetus was given by so doing to the tumour, and the sac appeared to have no connexion with the abdomen; but the opening under Poupart's ligament was plainly to be felt, and by passing a director upwards in the direction of the sac, it was observed to enter the cavity of the abdomen. The patient did not express herself relieved by the operation, though the sickness left her for a time, and as there was no intestine or omentum to reduce, the wound was immediately closed by a ligature and some pieces of strap, after which she was placed in bed. Fourteen ounces of blood were drawn from the arm, the pulse being sharp; she then felt faint, but slept for about four hours. At the expiration of this time an injection was given, but it produced no effect, and she remained restless, though free from sickness. 25th. The sickness had not returned, and she was now directed to take calomel and colocynth by the mouth; but after these had been repeated a few times, the sickness returned, without their producing any evacuation by the bowels. The blood which had been drawn yesterday was not cupped or buffed; but there was still the pain and tender-

ness of the abdomen, and the pulse was beating about 90. Several injections were now repeated, but to no purpose; and in the evening she brought up, by vomiting, a great quantity of matter which had the appearance, and she said tasted, of the injection. 26th. The night was disturbed by sickness, and she continued to bring up matter of the same character. Altogether she had vomited about three quarts of fœcal matter. The abdomen was more tender. Two large blisters were now placed on each side of the abdomen; she felt considerably relieved by them, but this relief was not permanent, nor, perhaps, depending entirely upon the blisters. Another injection was administered, which was the only one which seemed to be at all efficacious; it produced an evacuation of a quantity of hardened scybala, and the relief was great for the time. 27th. The sickness had gone off, and she slept occasionally through the day. The pulse was the same in frequency, but rather smaller. As there had been no evacuation from the bowels, she was ordered to take three grains of calomel and twelve of jalap. 28th. No evacuation from the bowels. The stomach could retain small quantities of farinaceous food, but she seemed lower, and her pulse was materially weaker. In the evening the sickness returned with greater violence; her anxiety was very great. An injection was given, which was returned without any thing. She was ordered some pills containing calomel and opium, but the night was passed in increased restlessness and anxiety, and she died early the next morning.

Sectio Cadaveris.—The examination was conducted by Mr. Vincent, in the presence of one of the female relatives. On opening the cavity of the abdomen, neither the peritoneum nor intestines were, to appearance, at all inflamed. Towards the lower portion of the ileum, in tracing it down, there was seen to be about an inch of its long diameter adherent to the neck of the sac, but only by about half an inch of the calibre of the intestine; which part was so firmly attached as to look as if it had been nipped. The inner coat about this part of the intestine was ulcerated, and there was a slight inflammation around; but the channel of the bowel was perfectly free, and its circumference opposite to the part which was nipped not at all inflamed.

20. *Inflammation of the Umbilical Vein, with Infantile Erysipelas* *. —An infant, four days after birth, was attacked with erysipelatous inflammation of both fore-arms, and severe febrile symptoms. Two days after the first appearance of redness and swelling of the integuments of the arms, a similar affection was perceived in those of the hypogastrium, genital organs, and upper part of the thighs. The child died on the twelfth day subsequent to birth, and was examined on the 18th November, 1828, two days after death. The cellular tissue of the affected parts was highly vascular, and, in the inguinal regions, infiltrated with serum. On opening the abdomen, the peritoneum covering the different viscera was found in a healthy condition; but the umbilical vein, from the navel to the

* Dr. Lee.—Ibid.

liver, was preternaturally indurated and distended. On laying it open, a yellow-coloured, purulent fluid escaped, and the whole of its interior surface was found lined with a layer of closely adhering lymph. This coating of lymph extended into the principal branches of the umbilical vein, proceeding to the liver, and along the ductus venosus, as far as the vena cava. The umbilical vein and ductus venosus remained pervious, and there was no morbid appearance in the vena cava above or below its entrance. The coats of the umbilical were much more thickened than they are usually found to be at the same period after birth.

21. *Case of Extensive Organic Disease of the Brain* *.—A young woman, aged twenty years, servant, had been, for the last three years, occasionally subject to severe pains in the head, which were sometimes attended with a purulent discharge from the right ear, and slight derangement of the general health. The attacks had been, however, for the last few months, both less frequent and less violent; and she had, latterly, been quite free from them, with her general health much improved. On February 2d, 1829, she was attacked with severe headach, with occasional pains in abdomen, and a sensation of soreness over the whole body. The pulse was 90, and rather full; the tongue coated, and the bowels constipated. As accumulation, in consequence of the obstruction, was considered to be the principal feature, and the cause of pain in the head, five grains of calomel, with strong purgatives, were given, but without effect. In a few hours after, eight grains of calomel, followed by still stronger purgatives, were taken, and with the same unsuccessful result; until at last, by a continued perseverance in the same active remedies, the difficulty was removed, and copious evacuations procured. During the exhibition of these medicines, a lumbricus teres, of about five inches in length, was discharged from the stomach. On the fourth, after the full action of the above remedies, the pain in the head was much less, and she was, in every respect, better. She continued improving till the next morning, when the pain in the head suddenly returned; but instead of occupying, as before, the back part of the head only, it became more acute in the right temporal region, affecting also the right eye, which was partially closed and suffused. The iris of the same eye was contracted and immoveable; the muscles of the right side of the neck rigid and painful; she laid constantly on the right side of the head, and the least attempt to remove her occasioned the most painful and indescribable sensations in that part; she now became slightly delirious, but was perfectly sensible when roused. As it was now evident that the affection of the head was primary, and the pulse being strong and full, she was bled to ℥xxx. The blood drawn was very much buffed and cupped. On the following morning, there being no amendment in any of the symptoms, she was again bled to ℥xxiv.; and, in the evening, ℥viij. more were taken from the back part of the neck by cupping, but with little abatement of

* Mr. Everett.—Lancet.

the pain. On the following morning the patient suddenly became comatose, her pulse 140, intermitting, and so low as scarcely to be felt: irides immoveable and contracted, respiration stertorous and hurried, &c. After remaining in the state described for about five hours, she expired.

Sectio Cadaveris, eighteen hours after death.—The dura and pia mater every where presented marks of acute inflammation. The vessels of the former were excessively turgid; the right ventricle filled with dark-coloured, thick, very fetid pus, around which, to some extent, the brain was completely disorganized. The other parts of the right hemisphere, and a small portion of the left, were also in a softened, pultaceous state. At the inferior part of the right middle lobe was an irregular ulceration, about three lines in diameter, of the dura and pia mater, communicating by a large sloughy sinus in the substance of the brain, with the ventricle. A part of the petrous portion of the temporal bone, about half an inch in length, and a fourth in width, was in a completely carious state. Through this part, and immediately corresponding to the aperture in the membranes, was an oblique perforation opening into the cochlea. The membrana tympani was entirely obliterated, so that a probe passed into the external meatus, and went directly into the tympanum. There was a slight deposition of lymph on the superior and anterior part of the left hemisphere: the other organs were not examined.

22. *Fatal Aneurism of the Abdominal Aorta**.—The subject of this case was a man, aged twenty-four years, who had laboured under hæmoptoë and cough for some years. June 21st. About a month ago he was attacked with violent vomiting one hour after his dinner: at supper, on the same day, he ate a small quantity of boiled mutton, and drank half a pint of rough cider: an hour after (between nine and ten o'clock) he went to bed and fell asleep; at one o'clock he awoke suddenly with severe shiftening pains in his bowels, and a violent pulsation in the epigastrium. The pulsation continued for the remainder of the night, and through the succeeding day, and a great part of the following night, but subsided gradually towards the morning. Ever since this attack he has had violent vomiting a quarter of an hour after each meal; his bowels have been irregular in their action, sometimes loose and sometimes bound, and often affected with griping pain. The pulsation in the epigastrium attacked him for three weeks, on first rising in the morning, and continued for two or three hours. After vomiting his dinner, he was always attacked again in the same way; a loose stool always relieved the griping and the pulsation. For the last week the griping and the pulsation have been constant, and the bowels bound; he has lost flesh since the first attack: this last week he has had cough, sore throat and hoarseness; the urine is high-coloured and scanty; no thirst. There is a preternatural fulness of the epigastric region, to the left of the linea alba, nearly circular, and covering the space of two crown pieces: this fulness is ob-

* Med. and Surg. Reporter.

vious to the sight and touch ; it is soft and yielding ; it pulsates strongly and regularly, and its pulsations correspond with those of the artery at the wrist, and of the heart. He says the tumour is painful when pressed ; the pulse at the wrist is small and weak, 88 in a minute ; he has a dry cough, which is particularly troublesome at night : he has pain, immediately after eating, in the situation of the tumour ; the tongue is moist and much furred. Applicentur Hirudines xx. tumori. Dein Emplastrum Lyttæ ibidem. Sumat Extracti Colocynth. Comp. gr.v. Hydrargyri Submuriatis gr. j. ter indies. Diet milk, and milk and water, in small quantities : perfect rest. Soon after, the patient was admitted into the Worcester Infirmary, under Dr. Malden's care. He was confined to his bed, put upon low diet, and had small repeated bleedings from his arm : he was cupped occasionally in epigastrio, and his bowels were kept, by mild laxatives, in an open state for three weeks. Under this treatment, he lost entirely all affection of the stomach, and tenderness of the epigastrium ; and the tongue became clean and natural in appearance. July 11th.—The pulsation is much the same, but with the exception of weakness, he says he feels as well as ever he did in his life. He never has any vomiting or griping, and his appetite is good. He has lost his cough entirely, and sleeps well. He has not passed any tapeworm for some time. On the 29th of July, he walked two miles into the country, to see some friends, and whilst he was drinking some brandy and water, he complained suddenly of pain in the stomach, became very faint and pale, and vomited. He then lay down on a bed for two hours, said he was better, rose, and walked home to his house in Worcester. Dr. Malden was sent for to him at three o'clock, *p.m.*, and found him lying in bed on his back, with his knees drawn up, complaining of great faintness, and pain in the abdomen. His face and skin generally were of a deathlike whiteness, the extremities cold, and the pulse very feeble, small and fluttering. The abdomen was generally enlarged, hard and tense, without pulsation, and painful on pressure. He had frequent micturition. He continued gradually sinking, and died at four o'clock on the following morning.

Examination of the Body, twenty-eight hours after Death.—In the sac of the peritoneum, there were found five pounds and six ounces of grumous blood. In the space between the liver and smaller curvature of the stomach, was an aneurismal sac, of the size of a large orange. It pushed the left lobe of the liver upwards and forwards, and the duodenum and pancreas downwards. The latter was strongly adherent to the lower portion of the sac. The sac had burst anteriorly under the edge of the liver, by an opening too small to admit the point of the little finger. Near the opening, the walls of the sac were much extenuated. Upon removing the aneurismal sac, with the abdominal aorta, the inner tunic of the latter was found ruptured in the space between the cœliac and superior mesenteric arteries, forming an entry into the aneurismal pouch, which would freely admit two fingers. The remainder of the artery appeared perfectly healthy in all its coats, and without

any appearance of ossification. The cœliac, splenic, and hepatic arteries were compressed, and nearly obliterated, by the posterior part of the sac, to which they were adherent. The superior mesenteric artery was larger than usual. The other contents of the abdomen were healthy. The heart and lungs also were quite natural.

23. *Strangulated Hernia.—Removal of Six inches of the Intestine* *.—On the 1st of January, 1816, Dr. Simpson was sent for to operate upon a poor man, named Thomas Gite, for strangulated hernia. Gite was about sixty years of age, of a spare form, and pale; capable of great fatigue, for his principal occupation was that of a poacher; his ostensible one, that of a weaver of linen cloth. He had, for many years, been troubled with a large inguinal hernia, which had frequently descended into the scrotum, but was always reduced. Four days before, the intestine had come down, and could not be returned; it then became strangulated. A gentleman resided in the immediate neighbourhood, who had received a medical education, but who did not practice, except amongst his poor neighbours. He was applied to for assistance, which he lost no time in rendering. The treatment had been very proper and decided. Very free bleedings, nauseating medicines, and the warm bath, were employed, both to overcome the inflammatory action, and to assist in the reduction of the hernia. After all attempts to return the intestine had proved ineffectual, the gentleman recommended an immediate operation, and until it could be performed, applied ice and snow, which at that time were very plentiful. When Dr. Simpson first saw Gite, he was lying on his back, with his knees bent. His features were contracted, and ghastly pale, and he was troubled with constant hiccough. There was pain in the hernial tumour, and in the abdomen, but not so much as there had been. He frequently vomited, and there had been no evacuation per anum since the strangulation began. Before the operation, an enema of tobacco was administered, but the reduction could not be effected. After the effects of the enema had entirely gone off, Dr. Simpson performed the operation, which the patient underwent with great fortitude. Upon opening the sac, there escaped a great quantity of fluid; and omentum was found along with the intestine, both of which appeared to be in a state of mortification. He found the stricture to be at the internal ring, which formed the mouth of the hernial sac. He passed a bistoury upon his finger, and divided the stricture, which was so tough, as to offer much resistance to the instrument. As soon as the stricture was divided, very great relief was given to the patient, who immediately felt, to use his own expression, "as if he were in heaven." The parts strangulated were omentum and intestinum ileum. There was a very great number of adhesions between the sac and its contents, some of recent formation, and some appeared to be of an older date, which led to the supposition that the hernia could not lately have been returned. Dr. Simpson

* Dr. Simpson.—Ibid.

could not draw down the intestine to examine the seat of the strangulation, on account of the numerous adhesions. He attempted to dissect them away, but found it would be an endless task. For the same reason the protruded parts could not have been returned, had they been in a healthy state; but they had all the appearance of being mortified. As the patient felt considerable relief, and as Dr. Simpson was then young in the profession and could not decidedly pronounce on the state of the intestine, he did not open it; but after applying proper dressings, he gave him an opiate, and left him. Not satisfied with what he had done, he visited Gite very early on the morning of the 2d. He found him free from pain, but restless; still had the hiccough, and from the fœtor, Dr. Simpson was satisfied of the state of the intestines. He had had no evacuation by the bowels since the removal of the stricture, and the sickness continued. Dr. Simpson made a long incision into the intestine, at the lower part, when an immense quantity of black feculent matter was discharged, with considerable relief to the patient; the vomiting subsided, and, in time, the restlessness and hiccough also. Dr. Simpson saw him the next day, and found him much better. He had slept; hiccough was gone; his countenance was much better, and great quantities of feculent matter had been discharged through the wound, but nothing per anum. Dr. Simpson removed, with the knife, the mortified parts, consisting of a large portion of omentum, and about six or seven inches of intestine. There was very little hæmorrhage. The lower part of the wound was closed, and the upper part kept clean. A pad was applied, which was removed whenever feculent matter had to be discharged. All bad symptoms disappeared, the man slept well, and took plenty of nourishment. Dr. Simpson saw him every day for a week or ten days. The wound became much contracted, but all the fæces were discharged that way, and not any per anum. When he felt uneasy, he removed the pad, to allow of the evacuation, and then replaced it, by which means he was kept clean and comfortable. He gradually became quite restored in health, but with a prospect of having an artificial anus all his life. Fortunately, however, this did not turn out to be the case; for in the course of a few weeks, the patient began to pass a great part of the fæces by the anus; and the wound in the groin quite healed in a few months. The patient was alive in 1826, and in good health, never having suffered any inconvenience from the operation.

24. *Dislocation of the Femur into the Ischiatic Notch* *.—George Hayes, a stout young man, about thirty years of age, in the act of ascending the stage of a show, fell, with his left hip to the ground; the limb was instantly useless, and he was conveyed to the hospital. Upon examination, the foot and knee were turned in, the knee slightly bent, and the limb was shortened by about an inch; in consequence of which, it was pronounced by the house surgeon to be a dislocation of the head of the femur into the ischiatic

* Gloucester Infirmary—Ibid.

notch. Mr. Fletcher was sent for, but not being at home, did not arrive till four hours after the accident, when he confirmed that opinion by an examination, the patient standing upon his sound limb. The trochanter major was behind its natural place, and as the patient stood, the heel did not reach the ground by about an inch, the toe just touching it. The knee was somewhat bent, and therefore projecting; and the whole limb turned slightly inwards. Immediately after the examination, he was bled to ℥xxx., and laid upon a low bedstead, covered with blankets, placed between two posts, to which staples were affixed; three grains of tartarized antimony were dissolved in four ounces of water, and one-fourth was administered every ten minutes, till nausea should be produced. In the meantime the patient was laid upon his right side, the pelvis was well fixed by a band between the thighs and the upper staple, another band was carried round the pelvis and under the bedstead. A very slow extension was made by the pulley, across the middle of the thigh; he took all the tartarized antimony without any nausea, and then a tobacco enema was administered, which had the desired effect. A roller towel was now passed under the upper part of the affected thigh, and around the neck of an assistant, with which an attempt was made to raise the head of the bone over the lip of the acetabulum. After an extension of half an hour, the joint having a more natural appearance, but no sound heard to indicate a return of the head of the bone into the socket; the bandages were removed, in order to examine the state of the parts, but no reduction had taken place. As the man now vomited freely, the apparatus was quickly re-adjusted, and another extension made; but the apparatus getting loose, occasioned another cessation, and the bandages, &c. were entirely removed. The patient vomiting and very low; the house surgeon was gently rotating the limb, to re-apply the circular strap above the knee, when a loud snap was heard, and the head of the bone was found to have returned into the acetabulum, without, of course, any extension, and merely from a slight rolling motion of the femur, casually given. Mr. Fletcher ascribed this unexpected event taking place without any extension, in this difficult case, to the utter loss of strength of the patient—the powerless condition of the muscles; indeed, the man was frightfully exhausted. He further remarked, that facts are perpetually occurring which put aside all rules. He had seen four cases of luxation of the femur backwards, reckoned the most difficult of all luxations of that bone to reduce, all reduced; one on the pubis, though every care was taken, was not reduced; another into the foramen ovale, not reduced, though here no attempt had been made; and nine upon the dorsum ilii, one of which was not reduced.

25. *Laceration of the Perineum, Scrotum, and Urethra* *.—A man, aged twenty-seven years, was admitted into the Gloucester Infirmary, October 8th. He had been working under a part of a house which fell in upon him. When brought into the house, he had a

* Ibid.

lacerated and gaping wound, extending from the tuber of the ischium by the anus, along the perineum, and through part of the scrotum, exposing the bulb of the urethra. Considerable bleeding had taken place, and there was an oozing of blood when he came in. The senior pupil brought carefully the wound together, by five or six sutures, and a T bandage was applied over a lint compress and some wet rags. To take immediately Tinct. Opii. gutt. xxx. Aquæ Menthæ Viridis, ℥i. Low diet. 9th. He had some sleep last night, and at present only complains of a general soreness. His urine, when he passes it, comes in a torrent from the wound about the bulb of the urethra, evidently showing that a large rent has been made in it. During the day, he took two doses of castor oil, ℥ss. each. 10th. This morning he has not much pain, except in his loins, where he was struck, probably, by the end of one of the beams. He has had a copious evacuation. Does not pass his water involuntarily. There is no extravasation of urine into the surrounding cellular substance. 11th.—An unsuccessful attempt was yesterday made to introduce a flexible catheter into the bladder, but finding its progress checked at the lacerated part, it was discontinued. This attempt was followed by a considerable flow of blood through the catheter, and from the urethra. The stitches were cut. 20th.—He has had no severe constitutional symptoms; some slight sloughs cover that part of the bulb of the urethra which was exposed, and also the wound generally, which is partially open its whole length. To-day, for the first time, he made a little water by the natural passage. 29th.—The wound has now cast off all its sloughs, and looks very healthy. He passes the greatest part of his water by the natural passage. There does not appear to be scarcely any thickening of the adjacent parts. Nov. 10.—He has been rapidly improving since the last report, and to-day, for the first time, he passed all his water the right way. The external wound heals very fast. 24th.—Had considerable difficulty in passing his urine about a week or ten days ago, for which a bougie was passed into his bladder, without much difficulty, though a stricture was formed about the rent in the canal. This operation has been repeated every other day to the present. He now passes his urine freely, and will be discharged next week, the wound being nearly healed.

Mr. Fletcher remarked "that this was a case of torn-up perinæum and urethra, cured by the simplest means. The dresser had carefully stitched up the wound, probably without knowing of the laceration of the urethra. Nature, with her adhesive process, did all, as she does in lithotomy, where the urethra is sometimes greatly injured. Art was here required only to enlarge the point of the urethra, which was contracted from the injury. Gentlemen should understand that these cases of ruptured urethra, from external violence, are very different from those which happen from disease.

26. *Lithotomy* *.—A man, aged 50, was admitted with the usual symptoms of stone in the bladder, and upon being sounded,

* Ibid.

a stone was discovered. His bladder was so exceedingly irritable that after passing the sound twice, each time he complained of great pain in the lower part of his belly, with tenderness of it, and vomited repeatedly, and his urine deposited an unusual quantity of mucus; so far did this go, that both times he was obliged to be freely leeched, put in the warm bath and purged. On account of this great irritability of bladder, Mr. Fletcher did not think it right to encourage him with much hope from an operation, but at the patient's own request he performed it. After cutting into the bladder, Mr. Fletcher discovered with his finger, that there were two very large stones in it There appeared to be no room for the forceps, and, from the size of the stones, Mr. Fletcher deemed it necessary to enlarge the opening of the bladder more than is usually done. Luckily, both the stones broke under the forceps, and were extracted by means of that instrument and the scoop, in nearly half an hour. One other circumstance may be noted in this operation; the transverse perinæal artery bled so fast, that from the size of the stream, it might have been mistaken for the pudic itself. It must have bled nearly a quart during the operation. It was tied, but being in the track of the operation, the ligature soon slipped off, and the operation was continued without regarding it. From this cause, and the length of the operation, the man became low and cold, and required some brandy. During that evening he was comfortable. Early the next morning he began to vomit high coloured, green matter, but was in no pain, except what was occasioned by straining to vomit, in the lower part of his belly and wound. His bowels not being open, he was ordered a powder of Pulv. Rhei. gr.viii. and Pulv. Zinziberis, gr.v. with an effervescing draught. On seeing him in the afternoon, it appeared that he had thrown up the powder, and could keep nothing on his stomach; he was ordered another, but that he also rejected. An enema of Magnes. Sulphas. and gruel was then administered, but it returned without any fæces; several others were given, but with the same effect. Pulse this day about 120, and feeble; tongue furred and white. In the evening, he complained of slight pain in the bottom of his belly, with slight tenderness. Twenty leeches were ordered to be applied. He was very much depressed, and said he was convinced he should not live till morning. In the morning it was discovered that the nurse had not applied the leeches, in consequence of the patient's expressing a dislike to it. He had vomited greatly during the night. The leeches were applied directly, but did not draw much blood. A Croton Oil Pill was then given him, as his bowels had not yet been opened; but that he also threw up. His pulse was uncommonly quick and very feeble; tongue brown. In the afternoon his pulse was imperceptible, so that Mr. Fletcher ordered brandy to be given him in small and repeated doses. In the evening his pulse gradually rose, and in the course of the night he had stools. He has since that been going on very well,

Mr. Fletcher considers the brandy to have saved him, "by maintaining the powers of life until the bowels acted." The weight of the stones was between five and six ounces.

27. *Dyspnœa, succeeded by Epilepsy, and cured by Counter Irritation* *.—Thomas Watmore, aged twenty-five years, a prisoner in the county gaol, under sentence of transportation for life, was brought from the tread-wheel to the hospital of the prison, on the 23d of March, 1828, with very hurried and feeble respiration, amounting to panting; a small and quick pulse, and great depression of spirits; countenance pale; tongue clean; bowels rather confined. There was neither pain, cough, nor mucous rattle, on inspiration. The inspirations were from 100 to 120 in a minute, and attended with a quick tumultous action of the abdominal muscles. He bore pressure without pain, on every part of the abdomen, which was free from fulness, hardness, or tension. He was immediately ordered to bed, and a dose of calomel, a saline purgative, and some warm gruel, were given. He passed a sleepless night; the bowels acted freely; but in the morning, there was no amendment of his respiration. Mr. Romney took some blood from his arm, but faintness ensued, when only a few ounces had been lost. He seemed rather better in the evening, but passed a restless night, from the distress and hurry of his breathing.—March 27th. On repeating the bleeding this morning, although he had no dread of the operation, he suddenly became extremely faint, and respiration being suspended, apparently from spasm of the diaphragm, he had nearly expired. Camphor and opium were now had recourse to in considerable doses, but with no good effect. A dozen leeches were applied to the epigastrium, which bled freely, and he got a warm bath, of the temperature of 90 degrees. He then appeared relieved for a few hours, but the hurried breathing returning, the leeches were repeated, followed by the warm bath, and a large blister to the epigastric region; and his bowels. which were confined, were relieved by castor oil. In spite of these and similar remedies, the hurried breathing, sleepless nights, and mental despondency, continued with very few and short intermissions till the 26th of April, on which day his respiration suddenly became more hurried than ever, and this distressing affection continued unabated for several days and nights, depriving him almost of the power of speaking, and totally of rest. This state was succeeded by the most violent epileptic fits Mr. Romney ever witnessed, requiring, with only short intervals, four men to hold him for several days and nights. These fits left him very exhausted and weak, and the respiration remained unimproved. He was in this state when Mr. Romney requested Dr. Malden to visit him, who gave it as his opinion that the peculiar dyspnœa had, in all probability, depended upon irritation of the cervical portion of the spinal chord, and that the supervention of the epilepsy might be accounted for upon the supposition of this irritation extending to the base of the encephalon. With these views, Dr. Malden recommended the whole back part of his head to be shaved, and covered with a large blister, discharge to be encouraged from it, and before the blister healed, a

* Mr. Romney—Med. and Surg. Reporter.

seton to be put in the back of his neck. These directions were strictly followed. From this time the patient had no return of epilepsy; the dyspnœa also gradually went, and he had no relapse, although he remained in the prison some months afterwards.

28. *Fracture of the Os Calcis* *.—Mrs. D., a respectable woman, aged fifty, was an outside passenger upon the Wolverhampton coach, when it was accidentally overthrown near Broadwaters, about half a mile from Kidderminster, on the 6th November, 1824. Mrs. D was thrown upon her left side, and the ridge of the top of the coach falling upon her left heel, fractured the os calcis, just below the insertion of the tendo Achillis. The fractured portion of bone was drawn up by the violent contraction of the gastrocnemii muscles, as high as five inches from its former position, to its upper edge. Mr. Doughty, a surgeon in Kidderminster, being near the spot at the time, rendered the poor woman immediate assistance, but did not then fully ascertain the precise nature of the injury. The next morning he requested Mr. Custance's attendance. After a minute examination of the foot, which exhibited a most singular appearance, partly from the swelling, and partly from the misplaced portion of the bone, they were satisfied that there was no dislocation of the joint, but that the distortion was occasioned by the fractured part of the os calcis having been drawn up to the situation described. Every attempt to replace, or even to move it, was in vain. Notwithstanding the usual antiphlogistic means were sedulously employed, an extensive inflammation of the whole leg ensued, with sphacelation of the integuments, and sloughing of that part of the tendon, which was attached to the piece of bone, and also of the cellular substance all around it, exposing it distinctly to view. It was, however, so firmly attached to the parts beneath, that it could not be moved in any direction. Messrs. Custance and Doughty expected that it would, in time, all slough out, but only its upper surface exfoliated. Granulations, by degrees, filled up the surrounding parts, and the piece of bone was completely covered with new integument, at the end of four months from the accident. It was between four and five months before Mrs. D. could attempt to walk. The limb being much shortened, she was, at first, obliged to use a high-heeled shoe, but is now able to walk as well as ever, with a flat shoe, like the other, without pain, or any apparent lameness. The present (Feb. 14th, 1829) situation of the piece of bone is four and a half inches from its lower edge to the bottom of the heel; and a tape passed round the middle of it, over the two ankle bones, measures exactly eleven inches. The heel has now a sound and natural appearance, and feels like a soft cushion; the space which the fractured portion of bone formerly occupied being filled up with cellular substance. The new integument over the bone is thin and tender, and defended by a dyachylon plaster, to prevent excoriation. When the nature of this accident was first reported in conversation, it was not believed by any one to have been

* Mr. Custance—Ibid.

correct, but several medical gentlemen soon satisfied themselves of the fact, by their own examination. Some eminent surgeons at a distance have assured Mr. Custance that no such case has occurred in their own extensive experience, and that they have never met with a similar one any where upon record.

29. *Death caused by a Foreign Body accidentally entering the Rectum* *.—On the evening of the 17th of March, a day-labourer, aged fifty, applied to Mr. Custance, and informed him that he (the patient) had been at work in the afternoon, in a field at Broadwaters, and having a call of nature, he sat down to ease himself, when the cramp seized his legs, and he fell upon the bottom of an *inverted* blacking pot, which was lying among some rubbish and manure, and that the *whole pot* was thrust up into his fundament. On examining the anus externally, Mr. Custance found the rectum a little protruding and swollen. On first introducing his fore finger, he could feel nothing of the kind, and thought the poor man had deceived himself; but passing his finger its whole length up the gut, Mr. Custance reached the inside of the *bottom* of the pot, and then, on a more minute examination, found that the whole of it was actually there, with the circular edge of its mouth behind the folding of the rectum, an inch, at least, beyond the sphincter. Having made many efforts to extract it in vain, he requested the assistance of his medical friends. Every exertion for an hour and a half, with different forceps, and by the gradual dilation of the sphincter, proving unavailing, owing to the convexity of the pot, and to its lower circular edge being entangled, they began to despair of success. The only chance that at lengh presented itself, was to break the pot into fragments to destroy its rotundity. This was accomplished in the following manner, after many other expedients had failed. Mr. Custance introduced the small end of an iron pestle, and held it firmly against the bottom af the pot, whilst one of his friends struck the other end of the pestle forcibly with a flat iron, two pounds weight. This mode, at the second blow, succeeded in breaking the pot into several pieces. The whole was extracted, piece by piece, with the forceps, or with the fingers. The operation occupied at least two hours; at the end of which the poor fellow was much exhausted, partly with the torture he underwent, and partly by the loss of blood. The sphincter was not lacerated, but, doubtless, the rectum itself was much injured, by the sharp and broken edges of the fragments of the pot. He afterwards walked, with assistance, about a mile, to his own house. Mr. Custance saw him the next morning, about ten o'clock, and found him, as might be expected, labouring under extensive intestinal inflammation. He was vomiting incessantly; his pains were excruciating through the whole abdomen; his pulse was 120, and very full. Mr. Custance immediately took, from a large orifice, between forty and fifty ounces of blood, which reduced the pulse, and brought on faintness and clammy sweat, though not complete syncope. The blood was deeply buffed and cupped. He

* Ibid.

gave him five grains of calomel, and two of opium, and left his senior pupil with him, with directions to take away more blood at the end of two hours, if the pain and pulse should require it. This bleeding was repeated to about xij or xiv ounces. Leeches were also applied to the abdomen, but the patient expired at nine o'clock the same night. Permission could not be obtained to examine the body. The pot measured 2¼ inches in depth; 2⅜ inches in diameter at its circular brim, and 1¼ inch in diameter at its circular base.

30. *Case of Amnesia, or privation of the Faculty of Language alone**.—The Rev. Mr. R., the subject of this case, is aged 48 years; he is of the sanguine temperament, ruddy complexion, light coloured hair and eyes, and has lately manifested a strong tendency to obesity; his health for many years has been excellent; he is not subject to headach or to any nervous symptoms. His intellectual faculties are of a high order, but have not been as actively employed as formerly, and he has experienced some mental anxiety: his temper is placid, with a disposition bordering on gaiety. On the 5th September last, early in the morning, he awoke with headach, after a restless night. He had the preceding evening been exposed to the night air, which had lowered in temperature, and perspiration, which was usually copious, received a sudden check. He took some castor oil, which acted freely in a short time, after which he again laid down. About eleven o'clock, the Rev. Mr. H., who resides in the same dwelling, went into his room to enquire respecting his health, and was surprised to find Mr. R. could not answer his questions. Alarmed at this circumstance, he immediately requested Dr. Jackson to visit him. Dr. Jackson found his patient in bed, evidently in the full possession of his senses, but incapable of uttering a word. He examined the tongue, and ascertained it was not paralysed, but could be moved in every direction. All his questions were perfectly comprehended, and answered by signs; and it could be plainly seen, by the smile on the countenance, after many ineffectual attempts to express his ideas, that the patient was somewhat surprised and amused at his peculiar situation. The face at this time was flushed, the pulse full, and somewhat slow, and to Dr, Jackson's inquiries, if he suffered pain in the head, he pointed to the front of his forehead as its seat. Dr. Jackson directed hot water to be brought in a bucket, for a pediluvium, and made preparations to draw blood. Mr. R. exhibited at this time, a strong desire to speak, and, after a great many ineffectual efforts, endeavoured to make Dr. Jackson comprehend his meaning by signs. Finding the doctor could not understand him, he made a sign that he would write. When furnished with pen and paper, he attempted to convey his meaning, but Dr. Jackson saw he could not recall words, and that he had written an unintelligible phrase; it was "Didoes doe the doe." Forty ounces of blood were drawn from the arm. and before the operation was completed, speech was restored,

* Dr. Jackson.—American Journ. Med. Sciences.

though a difficulty continued as to the names of things, which could not be recalled. The bleeding and pediluvium produced some faintness, and he was placed in bed. The loss of speech appearing to recur again in fifteen minutes, ten ounces more of blood were abstracted, and sinapisms applied to the arms, legs and thighs, alternately; the skin became moist, and the headach was relieved. Mr. R. now said that when he made the attempt to write, he had intended to say that he had already used a foot-bath and that the floor was still wet where the water had been spilt. The sleep that night was disturbed by uneasiness and throbbing in the head, which disappeared in the course of the 6th, and no further return of the affection has occurred. In an analysis of this case, says Dr. Jackson, we are presented with the following facts: 1st. Sudden suppression of the cutaneous transpiration, succeeded by cerebral irritation and determination of blood to the brain; 2d. frontal pain immediately over the eyes; 3d. perfect integrity of the sensations and voluntary movements; 4th. the general operations of the intellect undisturbed; ideas formed, combined, and compared; those of things, of events, of time, recalled without difficulty; 5th. loss of language, or of the faculty of conveying ideas by words, though not by signs: this defect was not confined to spoken language, but extended to written language. The inferences to be drawn from these facts, are, 1st, that as the cerebral irritation produced no general affection or disturbance of the functions of the brain, it was local or limited; and 2d, as loss of language was the only functional derangement of the intellectual faculties, that faculty must have been connected with the portion of the brain, the seat of the irritation; and 3d, that an organ of language exists in the brain. This case lends a strong confirmation to the general truth of the doctrines of Phrenology.

GENERAL MISCELLANY

OF THE ACCESSORY SCIENCES.

1. *Mr. Warburton's Bill respecting Dissections* *.—Whereas it is expedient to make some further provision for the prevention of the unlawful disinterment of human bodies; be it therefore enacted, by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual, Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, that if any person not duly authorized by law so to do, shall disinter, or aid or assist in the disinterment of any human body in any church-yard, burial ground, or vault in any church; or shall, by digging, or otherwise, disturb the ground of any grave in any church-yard or burial-ground, or break into any vault or any church for the purpose of disinterring any human body, or shall remove, or aid or assist in the removing, of any human body from any church-yard, burial-ground, or vault in any church, knowing the same to have been unlawfully disinterred, every such person shall be guilty of an offence against this Act, and shall, upon conviction thereof, be imprisoned in the common gaol or house of correction of the county or place wherein he shall be tried, with or without hard labour, at the discretion of the Court, for a term not exceeding, for the first offence *Six Months*, and for the second offence *Two Years*.

And whereas it is expedient to provide for the regulation of Schools of Anatomy, be it therefore enacted, that it shall be lawful for his Majesty's Principal Secretary of State for the time being for the Home Department, on the *First* day of *July* in every year, or within *Ten* days then next following, by an instrument under his hand and seal, to appoint not fewer than *Seven* persons to be Commissioners during the space of one year, for licensing Schools for the Dissection of Human Bodies, the majority of whom shall not be physicians, surgeons, nor apothecaries; and the said Secretary of State shall cause the names of such Commissioners to be published in the London Gazette within *Ten* days after their appointment.

And be it enacted, that as often as any of the Commissioners to be appointed as aforesaid shall die, or shall refuse or become unable to act, it shall be lawful for the said Secretary of State, by an instrument under his hand and seal, to appoint a Commissioner in the room of every Commissioner who shall die or shall refuse or become unable to act, and the name of every Commissioner so appointed shall be published in the London Gazette within *Ten* days after his appointment.

And be it Enacted, that the said Commissioners shall hold quarterly meetings on the *First Monday* in the months of *January*, *April*, *July*, and *October*, in each year, for the purpose of granting Licenses to keep Dissecting Schools to the persons applying for the same as hereinafter directed, and for executing the other powers entrusted to them by this Act; and that at all such quarterly or other meetings to be held by the said Commissioners, *Three* or more of the said Commissioners, of which number *One* at least shall not be a physician, surgeon, or apothecary, shall constitute a quorum; and if on any of the days above mentioned, a quorum of the said Commissioners shall not be present, then the quarterly meeting shall take place on the next succeeding *Monday*, and so on weekly until a quorum shall be assembled, and that such quorum at every such quarterly meeting shall have power to adjourn such meeting from time to time as they shall see fit.

And be it Enacted, that besides the said quarterly meetings it shall be lawful for the said Commissioners, as often as they shall think fit, to assemble them-

* The words printed in *Italics* are proposed to be inserted in the Committee.

selves for the purpose of executing the several matters by this Act entrusted to them, notice being in every such case given *Seven* days at least before the intended meeting, by some *Two* or more of the said Commissioners (of which number *One* at least shall not be a physician, surgeon, or apothecary), under their hands, to the clerk of the Commissioners, requiring him to convene a meeting of the said Commissioners, and thereupon the said clerk shall summon the Commissioners *Three* days at least before such intended meeting.

And be it Enacted, That all meetings of the said Commissioners, the majority of those present shall choose a Chairman, and that in deciding all questions, the decision of the majority of the Commissioners present, shall be the decision of the meeting; but that in case of an equality of votes, the Chairman shall have a second or casting vote.

And be it Enacted, That it shall be lawful for His Majesty's Principal Secretary of State for the time being for the Home Department, by an instrument under his hand and seal, to appoint, during pleasure, a fit person to be Treasurer and Clerk to the said Commissioners, and to allow such person for his trouble such salary as such Secretary of State shall think reasonable.

And be it Enacted, That every party who shall apply for a License to keep a Dissecting School, shall give notice to the Clerk for the time being of the said Commissioners, *Eight* weeks at least prior to any of the quarterly meetings of the said Commissioners; and every such notice shall set forth the christian and surname, the profession and place of abode of the applicant, and whether the applicant applies on his own behalf or on the behalf of any other person or persons, and shall accurately state the situation of the building or room intended for such Dissecting School.

And be it Enacted, That every License to be granted by the said Commissioners shall be under the hands and seals of *Three* or more of the said Commissioners, of whom *One* at least shall not be a physician, surgeon or apothecary, and shall be made out by their clerk; and every License to keep a Dissecting School shall contain the particulars hereinbefore directed to be set forth in the notice to be given by every applicant for such a License, and shall not be granted or continue in force for a longer period than *Thirteen* calendar months; and for every such License for keeping a Dissecting School, there shall be paid by the party receiving the same to the said clerk the sum of *Five Pounds*.

Provided always, and be it Enacted, That in case any party to whom a License to keep a Dissecting School shall have been granted, shall die, or become incapable of keeping such Dissecting School, if any other party shall forthwith report the same to the clerk of the said Commissioners, and shall at the same time give such notice of applying for a new License to himself in respect of such School as is hereinbefore required, then such former License shall continue in force for the protection of the applicant as keeper of such Dissecting School until the determination of the Commissioners as to such new License.

And be it Enacted, That it shall be lawful for such Secretary of State, if he shall see fit, to appoint any of the said Commissioner or Commissioners, or any other person or persons, to be Visitor or Visitors for the purpose of inspecting and inquiring into the state of any School or place of dissection licensed by virtue of this Act, and of reporting thereon to such Secretary of State, and every such Visitor shall be paid such sum of money for his trouble as to such Secretary of State shall appear reasonable.

Provided always, and be it Enacted, That no person shall be appointed a Commissioner or Visitor under this Act, who shall keep or be a teacher at any Dissecting School, and if any person after his appointment shall keep or become a teacher in any Dissecting School, his appointment shall thenceforth cease, and it shall not be lawful for him to act as such Commissioner or Visitor.

And be it Enacted, That it shall be lawful for every such Visitor, by summons, in writing, to require any person to appear before him, to give Evidence touching any matters relating to the execution of this Act, and to examine such person upon oath touching such matters, which oath such Visitor is hereby authorized to administer; and if any person shall, after tender to him of such sum as may be reasonably required to pay the expenses necessary for his appearing, neglect to appear before such Visitor pursuant to such summons, without assigning some reasonable excuse for not appearing, or if any person appearing

shall refuse to be sworn or to be examined as aforesaid, every person so offending, shall forfeit any sum not exceeding *Fifty* pounds.

And be it Enacted, That it shall be lawful for any Commissioner or Visitor to be appointed by virtue of this Act, to visit at any time any School or place for Dissection to be licensed by virtue of this Act.

And be it further Enacted, That it shall be lawful for the said Commissioners from time to time to make rules and orders for the regulation of Schools and places for Dissection licensed under this Act, a printed copy whereof shall be delivered to every person taking out a License under this Act, at the time of taking out such License; and that the said Commissioners shall cause correct minutes of such rules and orders of their proceedings to be kept by their said clerk, and that such clerk shall, on the *First Monday* in the month of *July* in each year, lay before the Commissioners a full report of all Licenses for Dissecting Schools by them in the preceding year granted, and of all applications for Licenses by them in the same year refused, and of all Licenses of which in the same year they have recommended the suspension, revocation, or non-renewal, and a transcript of such report shall be transmitted by the clerk of the said Commissioners to His Majesty's Principal Secretary of State for the Home Department.

And be it Enacted, That it shall be lawful for any party to whom a License shall have been granted by the said Commissioners, or to any person acting by authority of such party, so long as such license shall remain in force under such regulations as may be prescribed by the rules and orders of the said Commissioners, to receive from or by order of any of the persons hereinafter authorized to deliver up the same, any such human body as is hereinafter permitted to be delivered up, and to remove such body from the place of delivery to the place appointed for dissection in the license to such party granted, and there to dissect the same.

And be it further Enacted, That when any person shall die during imprisonment in any prison, or shall die in any hospital or workhouse, and the body of such person shall not be claimed as hereinafter mentioned, or the disposition of such body shall not be otherwise provided for by law, it shall be lawful for the party having the custody of the person dying in prison as aforesaid, to deliver up the body of such person to any party duly licensed under this Act, or to the authorized agent of such party: Provided always, That if within *Seventy-two* hours after the death of any such person as aforesaid, any person shall attend to remove the body, and there shall be sufficient reason to believe that such body if delivered up to such person, will be by him duly buried and not delivered up for dissection, the same shall be delivered up to the person so attending as aforesaid: And provided also, That if within the said period of *Seventy-two* hours, any person representing himself to be a relative of the deceased, shall request that such body may not be delivered up to be dissected, and there is sufficient reason to believe that the person making such request is really a relative of the deceased, and no nearer relative has made any request to the contrary, such body shall not be delivered up for dissection.

Provided always, and be it further Enacted, That nothing herein contained shall prevent the due holding of inquests by the coroners, but that in all cases where a coroner's inquest may be necessary, no body shall be delivered up by virtue of this Act, until such inquest has been held.

And be it Enacted, That if any person shall, during his life-time, by any instrument in writing, attested by two or more witnesses, declare that he is desirous that his body after death may be delivered up for dissection, it shall be lawful for the executors, administrators or next of kin of every such person, to deliver up, if they shall think fit, the body of such person for dissection; provided that *Three* days previous to such delivery, they shall have given notice to the overseers of the parish in which such person died, of their intention so to deliver up the body, and shall have sent to such overseers, together with such notice, a copy of the instrument, declaratory of the desire of the deceased, and a certificate signed by *Three* or more physicians, surgeons or apothecaries, that the deceased came fairly by his death.

And be it Enacted, That if in any case not hereinbefore provided, any party shall be desirous of delivering up, and any party of receiving, any human body for dissection, or if any party, at any other place than a licensed Dissecting School,

shall be desirous of dissecting, it shall be lawful for the said Commissioners, if they shall think fit, to grant a special License for any such purpose as aforesaid, and to charge for such License any sum not exceeding *Two Pounds*.

And be it Enacted, That every party receiving any human body for dissection, shall demand and receive, together with the body, a Certificate, stating at what hour, on what day, in what year, by whom or by whose authority, and to whom or on whose account the body was delivered up, the date and place of death, the sex, and (as far as it is known at the time) the christian and surname, parent's age, trade or occupation, and last place of abode of such person; and the party delivering up the body shall deliver and sign such certificate, and the party receiving the body shall enter, or cause to be entered, a copy of every such certificate in a book to be kept by him for that purpose; and every part licensed under this Act shall produce such book, or a copy thereof, or extract thereform, whenever required to do so by the said Commissioners.

And be it Enacted, That every party licensed under this Act shall, after dissection, at his own cost, enclose the remains of every body by him or by his authority dissected, in a separate coffin, and shall, at his own cost, within *Twenty-one* days after the receipt of such body, decently bury, or cause to be buried, the remains of the same, with the rites of christian burial, or with such other funeral rites and solemnities as accord with the religious creed of the deceased, or are customary in that part of the kingdom where such burial shall take place, and shall cause entry to be made in the parish register of the parish where such burial shall take place, of the name, age, and abode of the person buried, and of the date of the burial, and of the name of the minister officiating thereat.

And be it Enacted, That if at any time the said Commissioners shall recommend to His Majesty's Principal Secretary of State for the Home Department for the time being, that any License granted by them to any party by virtue of this Act, should, before the expiration of such License, be suspended for a time or revoked altogether, or, upon its expiration, should not be renewed, it shall be lawful for such Secretary of State, by an instrument under his hand and seal, to be transmitted to such party, to suspend for a time, or to revoke altogether such License, or to prohibit such party from having the same renewed: Provided always, That a written notice of such recommendation shall be sent by the clerk of the said Commissioners to such party *Fourteen* days at least before the transmission thereof to such Secretary of State.

And be it Enacted, That if any person after the *First day of October* in the present year, shall keep a School for the dissection of human bodies, or shall knowingly permit dissection to be taught or practised in any place to him belonging, without having obtained a License for that purpose, in the manner directed by this Act, every person so offending shall forfeit a sum not exceeding *One hundred pounds*.

And be it Enacted, That if any person shall, after the day last mentioned, knowingly receive, remove, deposit or possess any human body with a view to dissection, without a License from the said Commissioners, or without the authority of a person having such a License, every person so offending shall forfeit a sum not exceeding *Fifty pounds*.

And be it Enacted, That if any person shall, after the day last mentioned, dissect a human body at any place not set forth in any License in force, and by the said Commissioners granted, every person so offending shall forfeit a sum not exceeding *Fifty pounds*; provided, that nothing herein contained shall be understood to extend to an examination, post-mortem, of any human body required to be made by legal authority or permitted to be made by the relatives of any deceased person, or in any hospital or hospitals, such examination being made at the place where the person died.

And be it Enacted, That if any party licensed by the said Commissioners, or any person acting by authority of such party, shall, after the day last mentioned, knowingly receive remove or deliver up any human body at any other time than shall be specified in the rules and orders of the said Commissioners, or shall receive any human body from any person not authorized by virtue of this Act to deliver human bodies up, or shall remove or deliver any human body to, or receive any human body at, any other place than that set forth in the License to such party granted, or shall on any occasion wantonly expose any human

subject to public view, or shall receive any human body without such a certificate as aforesaid, every such offender shall forfeit a sum not exceeding *Fifty pounds.*

And be it Enacted, That if any party licensed by the said Commissioners shall, after the day last mentioned, on receiving any human body, neglect to register the certificate by him hereinbefore directed to be taken, or shall wilfully make any false entry in such register, or shall neglect or refuse to produce to the said Commissioners at their desire the book of registry hereinbefore directed to be kept by such party, or a copy thereof or extract therefrom, or shall, on burying the remains of any such body, wilfully neglect to register such burial in the register of the parish where such burial shall take place in the manner hereinbefore directed, or shall wilfully make or cause to be made any false entry of such burial in any parish register, every party so offending shall forfeit a sum not exceeding *Fifty pounds.*

And be it Enacted, That if any party licensed by the said Commissioners shall, after the day last mentioned, omit to bury in the manner hereinbefore directed the remains of any human body by him or by his authority received for dissection or dissected, every such offender shall forfeit a sum not exceeding *Fifty pounds.*

And be it Enacted, That from and after the day last mentioned, if any person having authority by virtue of this Act to deliver up human bodies for dissection shall deliver such up to any party not licensed to receive bodies for dissection, every such person shall forfeit a sum not exceeding *Twenty pounds.*

And be it Enacted, That if any person duly summoned to attend as a witness in any proceeding under this Act shall wilfully and without sufficient cause neglect or refuse to attend, or if he shall attend and shall refuse to be sworn to give evidence, every such person shall for every such offence forfeit a sum not exceeding *Fifty pounds.*

And be it Enacted, That it shall and may be lawful for the said Commissioners, in the name of their clerk, or for any other person or persons, to sue for the penalties and forfeitures granted by this Act.

And be it Enacted, That all monies to be received for any Licenses to be granted by this Act, shall be retained by the clerk to the said Commissioners, and from such monies any expenses that may be incurred in the execution of this Act shall, upon the order of the said Commissioners, be paid, and such clerk of the Commissioners shall keep a true account of all such receipts and disbursements, and shall at all times exhibit such account to the said Commissioners when required by them so to do, and shall make up such account to the *Thirtieth* day of *June* in each year, and such yearly account, when examined and approved by the said Commissioners, shall be signed by *Three* or more of them, and shall then be transmitted by such clerk to the Lords Commissioners of His Majesty's Treasury, who shall thereupon, if they shall think fit, direct the balance, if any, that may be in the hands of such clerk to be paid into the Exchequer to the account of the Consolidated Fund of the United Kingdom of Great Britain and Ireland; *but if there shall be a balance due to such clerk it shall be lawful for the Lords Commissioners of his Majesty's Treasury, or Three or more of them, to cause the requisite sum to be issued and paid from time to time out of any money in the Exchequer applicable to the growing produce of the Consolidated Fund.*

And be it Enacted, That all and every the penalties and forfeitures imposed by this Act, shall and may be prosecuted, sued for, and recovered in manner following: (that is to say) if such penalties and forfeitures be incurred in England, before any two or more Justices of the Peace acting in and for the city, town, county, riding or division, within which the offence shall have been committed; and such Justices are hereby authorized to summon the person complained of before them, or upon complaint on oath, to issue their warrant for the apprehension of any such person, and upon the appearance or non-appearance of such person, pursuant to such summons, or upon such person being apprehended and brought before them upon such warrant, to hear and determine such offence, and upon conviction of any person, such Justices shall adjudge such person to have forfeited and to pay any sum of money in their discretion, not exceeding the utmost penalty or forfeiture imposed by this Act, for the offence of which such party shall be found guilty, and may issue a warrant, under

their hands and seals, for levying the sum adjudged by them to have been forfeited and to be paid for such offence, together with the costs attending the information and conviction, by distress and sale of the goods and chattels of the person convicted, and the overplus, if any, after such penalties, forfeitures, and the charges upon such sale are deducted, shall be returned, upon demand, to the owner of such goods and chattels; and in case such penalties and forfeitures shall not be paid forthwith upon conviction, then it shall be lawful for such Justices to order the offender so convicted to be detained and kept in custody of any constable or other peace officer, until return can conveniently be made to such warrant of distress, unless the offender shall give sufficient security, to the satisfaction of such Justices, for his appearance before such Justices, on such day or days as shall be appointed for the return of such warrant of distress, such day or days not being more than *Seven* days from the time of taking any such security, and which security the said Justices are hereby empowered to take, by way of recognizance or otherwise; but if upon return of such warrant it shall appear that no sufficient distress can be had thereupon, and the same shall not be forthwith paid, or in case it shall appear by the confession of the offender or otherwise, that the offender hath not sufficient goods and chattels whereon such penalties and forfeitures, costs and charges may be levied, were a warrant of distress issued, then it shall be lawful for any such Justices of the peace as aforesaid, and they are hereby authorized and required, by warrant under their hands and seals, to commit such offender to the common gaol or house of correction of the city, town, county, riding or division where the offender shall be or reside, there to remain, without bail or mainprize, for any time not exceeding *Three* calendar months, unless such penalties, forfeitures and all reasonable charges attending the same, shall be sooner paid and satisfied; and all such penalties and forfeitures, when recovered, and after recovery of the costs and charges attending the information and conviction shall be paid, *One half* thereof to the clerk of the said Commissioners for defraying the expenses to be disbursed in the execution of this Act, and the other *Half* to the treasurer or proper officer of some hospital or infirmary, situate in the county or place where the conviction shall take place, or to any other hospital or infirmary, to be named by His Majesty's Principal Secretary of State for the Home Department.

And be it further Enacted, That if such penalties or forfeitures be incurred in Scotland, they shall be prosecuted for and recovered with expenses in any sheriff's court, at the instance of any person who will prosecute for the same in a summary way, without the pleadings or evidence being reduced into writing, and when recovered shall be disposed of in the same manner as is above provided with regard to such forfeitures in England.

And be it Enacted, That any person or persons thinking himself aggrieved by any order or judgment of any Justice or Justices of the Peace made in England or Wales in pursuance of this Act, may, within *Four* calendar months after such order or judgment shall be made or given, appeal to the general or quarter sessions of the peace to be held in and for the county wherein the offence shall be committed, the person or persons appealing having first given at least *Fourteen* days clear notice in writing of such appeal, stating the nature and matter thereof to the person or persons appealed against, and forthwith after such notice entering into a recognizance before some Justice of the same county, with two sufficient sureties, conditioned to try such appeal, and to abide the order and award of the said court thereupon; and the Justices assembled at such sessions, upon due proof of such notice and recognizance having been given and entered into, shall, in a summary way, hear and determine such appeal at such general or quarter sessions of the peace, or, if they think proper, adjourn the hearing thereof until the next general or quarter sessions of the peace to be held for the said county, and, if they see cause, may mitigate any forfeitures or fines, and may order any money to be returned which shall have been levied in pursuance of such order or determination; and all such determinations of the said Justices at such general or quarter sessions shall be final, binding and conclusive upon all parties, to all intents and purposes whatsoever.

And be it Enacted, That if any action or suit shall be commenced or brought against any person for any thing done in pursuance of this Act, the same shall be commenced within *Six* calendar months next after the fact committed, and shall be laid or brought in the county where the cause of action shall have

arisen, and not elsewhere; and the defendant, in every such action or suit, shall and may at his election plead specially, or the general issue, Not Guilty, and give this Act and the special matter in evidence at any trial to be had thereupon, and that the same was done in pursuance and by the authority of this Act.

And in order to remove doubts, as to the meaning of certain words in this Act, Be it Enacted, That the word "Parish" shall be deemed to include any township, hamlet, vill, tithing, extra-parochial place, or place maintaining its own poor; and that the word "Workhouse" shall be deemed to include poor-house, house of industry, charity, work-house or boarding-house for the poor; and that the word "Overseers" shall be deemed to include overseer and Kirk session; and that the word "Hospital" shall be deemed to include infirmary, asylum, house of refuge, or other institution for the reception of sick, maimed, lunatic or destitute persons, and that the words "Person and Party" shall be respectively deemed to include any number of persons; and that the meaning of the aforesaid words shall not be restricted, although the same may not be subsequently referred to in the singular number and masculine gender only.

And be it further Enacted, That nothing in this Act contained shall extend to Ireland.

And be it further Enacted, That this Act shall commence and take effect, except in the cases otherwise herein provided for, from and after the *First day of July in the present year*, and not sooner.

2. *Medicinal Plants which Flower in June.*—Allium Porrum; A Cepa; Hyosciamus Niger; Morus Nigra; Salvia Officinalis; Angelica Archangelica; Daucus Carota; Sambucus Nigra; Agrimonia Eupatoria; Althea Officinalis; Arbutus Uva Ursi; Aspidium Filix Mas; Atropa Belladonna; Cochlearia Armoracia; Conium Maculatum; Coriandrum Sativum; Linum Carthariticum; Papaver Rhæas; Rumex Acetosa; Sinapis Alba; S Nigra; Valeriana Officinalis; Vitis Vinifera; Apium Graveolens; Capsicum Annuum; Centaurea Benedicta; Delphinium Staphisagria; Ficus Carica; Gratiola Officinalis; Momordica Elaterium; Rosa Canina; R Centifolia; R Gallica: Anchusa Tinctoria; Cuminum Cyminum; Anthemis Pyrethrum.

3. *Action between Metallic Chlorides and Olefiant Gas.*—M. Wohler has remarked that when olefiant gas is sent into liquid chloride of antimony, a very large quantity is absorbed; heat is evolved, and the fluid becomes brown. On cooling, crystals of chloride of antimony are deposited, but there is now little power of producing fumes in the air, and a strong odour of chloric ether is perceived. When distilled, a liquid product is obtained, which gradually separates into two layers, the lower being pure chloric ether, and the upper a solution of the chloride of antimony in the same fluid.

The red and fluid chloride of chrome acts in a similar manner. Chloride of copper, heated in olefiant gas is decomposed, and charcoal is deposited, whilst a portion of sub-chloride is formed.—*Bull. Univ.*

4. *On the Presence of Iron in Tin.*—From M. Fischer's experiments, it would appear that even the very best tin contains small quantities of iron occasionally, which, entering into the compounds afterwards formed by the metal, cannot be easily separated. The best method to decide upon its presence, is to decompose a salt formed from the tin by ammonia, and separate the protoxide which is thrown down. This precipitate is then to be digested in cold muriatic acid; nearly all the oxide dissolves; but if the portion which last remains be removed, it will be found to contain but little oxide of tin, mixed with a large proportion of oxide of iron. This portion, acted upon by warm and strong muriatic acid, will dissolve; and then the iron may be recognized in the usual manner.—*Ib.*

5. *Supposed Presence of Mercury in Sea-water.*—Dr. Torrey, incited by the notices that at various times have appeared of the presence of mercury in sea-water, made an experiment, in which a small plate of polished gold, of known purity, was attached to the bottom of a vessel, in a situation where any great friction from the motion of the vessel was avoided. The ship sailed from New York to Liverpool, and returned to New York, when the plate of gold being examined, was found to exhibit no appearance of the presence of mercury, and to retain its original brightness.—*Silliman's Journ.*

Supposing that there is any other reason to suspect the presence of mercury in

sea-water, we hardly think the above experiment a conclusive one. A soluble compound of mercury in sea-water would have no tendency to be decomposed by gold thus situated.—*Ed. of Journ. of Science.*

BOOKS RECEIVED DURING THE MONTH.

Cours de Physiologie Général et Comparée professé a la Faculté des Sciences de Paris, par M. Ducrotay de Blainville, Membre de l'Institut ; publié par les soins de M. le Docteur Hollard, et revu par l'Auteur. Première Leçon. Paris a Londres, 1829.

*** This Lecture is an Introduction to the Course. It proves the Author to be a man of extensive views, and the master of his subject.

Further Observations on the Use of the Lancetted Stilettes in the Cure of Permanent Strictures of the Urethra : with additional Cases. By R. A. Stafford, M.R.C.S., and lately House Surgeon to St. Bartholomew's Hospital. Longman and Co., 1829.

*** In our Number for October last, may be seen a review of Mr. Stafford's method of treating Strictures. The present pamphlet contains several Cases in further proof of the utilty of that method.

On the Functions of the Fœtal Intestines and Liver. By Robert Lee. M.D. Physician to the British Lying-in Hospital. London, 1829.

*** Dr. Lee proves that the small intestines of the fœtus, in utero, contain albuminous matter, which he thinks is produced by the hepatic system, as none has been found in the stomach.

Pathological and Practical Researches on Diseases of the Stomach, the Intestinal Canal, the Liver, and other Viscera of the Abdomen. By John Abercrombie, M.D. Fellow of the Royal College of Physicians of Edinburgh, &c. and First Physician to His Majesty in Scotland, 8vo. pp. 396. Edinburgh, 1828.

*** A full Review of Dr. Abercrombie's valuable Work will be found in our Numbers for January and February last.

Medical Botany, No. 30. By John Stephenson, M.D, and J. Morss Churchill, F.L.S.

*** In this and the preceding Number are two very splendid plates of the Aloe. They are copied, one from the rare work Flora Greca, the other from Nature. We are authorised to contradict a rumour that this work has stopped. We believe that no interruption to the regular publication of the work is in the least probable, for the authors have made very extensive and laborious preparations to ensure the fulfilment of their promise to the public. The high opinion which we have given of this valuable publication we still entertain.

Magazine of Natural History, conducted by J. C. Loudon, F.L.S. No. VI. Longman and Co.

An Essay on the Mechanism of Parturition, from the German of C. F. Naegelè. By E. Rigby, M.D. Callow and Wilson. 8vo. pp. 166.

*** The description of the different kinds of presentation, and the manner in which the child passes through the pelvis are very excellent. This little work should be carefully read by every obstetric student, and the experienced practitioner may receive from it some useful hints on the important subject.

All Communications and Works for Review to be addressed to the Editors, to the care of Messrs. Underwood, 32, Fleet street.

INDEX

TO

VOLUME THE SECOND.

A.

Abdomen, Penetrating Wound of the - - 169, 358
Abdominal Aorta, Fatal Aneurism of the - - 559
Abercrombie, Dr. on Diseases of the Abdominal Viscera *(Reviewed.)* - - 3, 99
Abscess, Psoas, Dissection of a Case of - - 69
Absorption, M. Magendie on *(Reviewed.)* - - 307
———, M. Holland on *(Reviewed)* - - ib.
Abstinence, Remarkable Case of 261
Aerolite, Fall of, and Accompanying Phenomenon - 287
Aerolites contained in Hail 384
Aquatic Plants, Culture of, in China - - 286
Air, Alteration of Brass Wire in the - - 285
Alvo-Urinary Calculus, Extraction of, from the Rectum 181
Amber - - 192
Amesbury, Mr., on the Treatment of Fractures *(Reviewed)* - - 12, 113
Amnesia, or Privation of the Faculty of Speech alone, Case of - - - 569
Amputation of the Lower Jaw 375
Anatomy, Dr. Craigie on General and Pathological *(Reviewed)* - - 387, 484
Anatomy, Deputation to Mr. Peel respecting - - 95
Anatomical Preparations, Preservation of - - 91
Aneurism and its Cure, by a new Operation, Mr. Wardrop on *(Reviewed.)* - - 195
———, Spontaneous Cure of 548
———, Cases of, treated according to Brasdor's method 243
———, Carotid, Ligature on the Vessel - - 366
——— of the Aorta - 80
Angina Maligna, treated by Nitrate of Silver - - 85
——— Tonsillaris, Treatment of 250
——— Pectoris, Mr. Mantell on the Treatment of - 148
———, Case of - 261
Anus, Operation for Imperforate, &c. - - - 181
Aorta, Aneurism of the - 80
———, Case of Obliteration of the - - 257
Apoplexy of the Heart - 362
Apothecaries' Hall, an Account of an Examination at - 425
April, Medicinal Plants which Flower in - - 379
Arachnitis of the Brain and Spinal Marrow - - 273
Asclepias Tuberosa, Medicinal Properties of - 95
Artery, Pulmonary, Rupture of the - - - 183
Atherstone Self-supporting Dispensary - - 341
Atomic Weight of Bodies, Table of - - 380

B.

Bailey, Dr., Observations on the Urine in Incipient, Phthisis, by - - 532
———, Observations of the Pulse, by - - 128
Barometer, Improvement of the 283
Belladonna, Phthisis cured by Smoking - - 378
———, Remarkable Symptoms produced by - - 185
Birds, Mechanism of the Necks in - - 93
Black Cancer, Case of - 362
Bladder, Discharge of Barley-Corns from the - 464
———, On the Difference in Size of the Male and Female 291
Bleeding, in the Cold Stage of Intermittent Fever - 174
Blood, Observations on the 461
———, Experiments on the - 552
Books Received. Lists of - 98, 194, 278, 386, 482, 579
Boracic Acid, Decomposition of by Hydrogen - 192
Bowman, Mr., on the Gossamer Spider - - 92
Brain, Case of Hypertrophy of the, by Dr. Elliotson - 241
——, Case of Organic Disease of the, &c. - - 275
——, Case of Laceration of the 280
——, Remarkable Case of Injury of the - - 282
——, Cicatrix of the - 255
Brain, Case of Extensive Organic Disease of the - - 558
Brasdor's Method of Treating Aneurism - - 243
Bronchocele - 78, 262
Brown, Dr., on Fever, Inflammation, and Diseases of the Heart *(Reviewed.)* - 242
Brutes, Faculties of - 93
Bursa, Removal of an enlarged 540

C.

Calculi removed by the Urethral Forceps, Death - 537
Calculus, Large, Soft, Urinary 66
Calomel, Effects of on Children 343
Cancer, Metastasis of - 252
Cancer, Black, Case of - 362
Carotid Aneurism, Ligature on the Vessel - - 366
Cats, curious Fact respecting 481
Cervical Vertebræ, Fracture of the - - 60
———————, Subluxation, and Fracture of one of the - 272
Cervical Vertebræ, Fracture of the fourth - - 357
Chapman, Dr., on the Use of Emetics in Hemorrhage 326
Chenopodium Olidem, Mr. Houlton on the Efficacy of the 431
Chest, on the Diseases of the, by M. Laennec *(Reviewed)* 410
Children, Effects of Calomel on the Stools of - - 343
Chinese Method of Planting Branches - - 286
Chlorides, Metallic, Action between and Olefiant Gas - 517
Chlorine, Exhalation of, by Maritime Plants - - 475
———, Preparation of Grain and Seeds, by - - 383
Chorea, Fatal Case of - 533
Christenings and Burials in London, Account of - 187
Coffee of Acorns - - ib.
Colours, Injurious - 284
Colica Pictonum, Case of 353
Coma, Singular Case of - 354
Coma, Remarkable Case of 549
Compound Fracture, Severe Case of - - - 162
Constipation, Fatal Case of 79
Cooper, 's Mr. Bransby, Case of Lithotomy - - 157
———, Case of Abscess of the Spleen, by - 325
———, on the Structure of the Nervous System - 433
Coral Polypi - - 476
Copaiba, Mode of Exhibiting 60
Crabs, Land - - 476
Crabs and Lobsters, Eyes of 94
Craigie, Dr., Elements of General and Pathological Anatomy, by *(Reviewed)* - 387, 484
Cranium, Fine levied for Exhuming a - - 94
Cyanide of Potassium, Preparation of - - 385
——— of Sulphur - 480
Cyst situated under the Peritoneal Coat of the Liver - 276

D.

Davies, Mr. J. H. on the sexual Instincts of Insects - - 92
Death, Prevention of, from Poison - - - 193
———, from the prick of a Pin 374
Diamonds, Supposed Discovery of a method of Making 480
Dillon, Mr., Remarkable Case of Stone, by - - 147
Dissections, Mr. Warburton's Bill respecting - - 715

Double Uterus—Double Conception - - 259
Drunkenness, Involuntary Periodical - - 472
Duodenum, Case of Perforation of the - - 82

Dyspnœa succeeded by Epilepsy, and Cured by Counter-Irritation - - - 506
Dysentery - - 255
Dye, the Tyrian Purple - 93

E

Eggs, Preservation of - 189
Elbow-joint, Excision of the 458
Electricity, Conducting Powers of Metals for - - 285
———, Voltaic, Conducting Powers of Fluids for - ib.
Elements of General and Pathological Anatomy, by Dr. Craigie *(Reviewed.)* - 387, 484
Elliotson, Dr. Case of Hypertrophy of the Brain, by - 241
———, Dr. Blumenbach, and the Monthly Review - 88
Epidemic Scarlatina, treated by Cold Immersion - - 251
Epilepsy of Fourteen Years duration, cured - - 281
———, on the Treatment of, by Dr. Epps - - 428
———, Case of - - 352
Epps, Dr. on the Development of the Nervous System, 35, 151, 23
——, Dr. an Essay on Medical Pathology, by - - 503
——, Dr. on Critical and Periodical Epilepsy - 428
Erysipelas, Phlegmonous, of the Face and Scalp - 163
——— ——— ——, treated by Stimulants—Death - 164
Erysipelatous Inflammation, Cases of - - - 73
Erysipetal, treated by Punctures 347
Erysipelas, Fatal Case of—post mortem Examination - 62
Experiments relative to Medical Jurisprudence - - 451
Extra-Uterine Pregnancy, Case of - - - 65
Eye, Emphysema of the, Case of 432
——, Ossification of the Vitreous Humours of the - - 555
——, Insensibility of the, to certain of the Rays of Colour 370
Eye-ball, Fungus Hematodes of the - - - 356
Extremities, Spasmodic Contraction of the - - 543

F

Feline Animals, Characteristics of - - - 92
Femur, Dislocation of the Head of the, &c, - - 269
Fever, &c. Dr. Brown on *(Reviewed)* - - - 212
Fire-Guard for Nurseries - 95
Flint Glass, Preparation of - 481
Flora Virgiliana - - 476
Fœtus, Passage of, obstructed by a Stone in the Bladder - 180
Foot, Gangrene of the, caused by a Coagulum of Blood in the Popliteal Artery - - 537
Formulary of the Hôtel-Dieu, 96, 101
Fracture of the Skull—Death Inspection - - - 67
——— of the Cervical Vertebræ - - - 60
——— of the Dorsal Vertebræ, with Dislocation of the Fermur - - - 316
——— of the Leg, Humerus, and Tibia - - - 269
——— of the Fourth Cervical Vertebræ - - - 357
———, Ununited, Treatment of *(Reviewed.)* - - 113
———, Severe Compound—Amputation - - 162
Fractured Limbs, Arabian Mode of Curing - - - 259
Fractures, on the Treatment of, by Mr. Amesbury *(Reviewed.)* 12, 113
Fruits, Slates for hastening the Maturation of - - 475
Fungus Hematodes of the Mamma, Removal of—Gangrene of the Leg - - 513
——— of the Eyeball - - 356

G

Gelatinous Substances supposed to fall from the Atmosphere, Nature of the - - 91
Gaskell, Mr., on the Employment of Secale Cornutum - 239
Gossamer Spider - - 92
Gangrene of the Nose - - 535
——— consequent to Typhus Fever - - - 537
Ganglion - - - 78
Genitals, Singular Effects of Iodine on the - - 262
Glottis, Œdema of the 250, 365
Gnat, the Stinging of a - - 477

Goldfinch, Change of Colour in the Plumage of the - - ib.
Gonorrhœa, Remedy for - 238
Gout treated with Iodine - 82
Grain and Seeds, Preparation of by Chlorine - - 383
Grainger's, Mr., Exculpatory Letter - - - 97

H

Hare-lip, hereditary - - 160
Head, Injuries of the, Application of the Trephine - - 262
——, Apoplexy of the - - 362
Heart, Hypertrophy of the 168
Heat, Conduction of, by Wood 479
Herr, Mr., on the Use of Animal Jellies in Pulmonic Affections - - - 238
Hemiplegia, Treatment of by Cupping-glasses - - 186
Hemorrhage, on the Use of Emetics in, by Dr. Chapman 326
————, Uterine, stopped by the Injection of Water into the Umbilical Veins - - 75
————, Mode of Arresting from Leech-bites - 75, 148
Hernia, on Obstructed and Inflamed, by Mr. Stephens (*Reviewed.*) - - - 291
——, Strangulated, Fatal Case of - - - - 349
——, Scrotal, irreducible - 160
——, Cases of Strangulated 265
Hernia, Obscure Case of - 556
Hernia, Strangulated, Removal of Six Inches of the Intestines 561
Hibner, Esther, Examination of the Brain of - - 539
Higginbottom, Mr., on the Use of the Nitrate of Silver (*Reviewed*) - - - 496
Hip-joint, Injury of the—Extensive Abscess - - 270
Holland, Mr., on the Nature of Absorption - - 307
Hospital Gangrene - - 272
Hospital Reports, 60—67; 157—170; 250—255; 262—267; 346—366; 467—471.
Hotel-Dieu, Formulary of the 96, 191
Houlton, Mr., on the Efficacy of Chenopodium Olidem 431
Human Life, Duration of in Russia - - - 188
Hydrocele of the Spermatic Chord - - - 267
Hydriodic Acid, Preparation of 381
Hypertrophy of the Heart - 168

Ice, Crystallization of - - 478
——, On the Evaporation of ib.
Ignition of Wire, by Voltaic Electricity - - 479
Incubation, on Artificial, by means of Hot Mineral Water 193
Indigestion, Case illustrating a remote consequence of - 530
Infants, on Blistering - 188
———————— and Leeching, by Dr. Kennedy 289
Inflammation supervening on Venesection—Death, &c. - 64
Inflammation, Cases of Erysipelatous - - - 73
————, Microscopic Experiments on (*Reviewed.*) 121
Injurious Colours - - 284
Insanity, caused by a Mole in the Uterus - - 471
——, singular Case of - 184
Instinct, Curious Instance of - 477
Intermittent Fever, Bleeding in the Cold Stage of - - 174
Intestines, Gangrene of the Mucous Membrane of the large 278
————, Gangrene of the - 255
Involuntary Periodical Drunkenness, Case of - - 472
Iodine, Preparation of - - 286
——, Singular Effects on the Genitals - - 282
Iodine Ointment in a Case of enlarged Scrotum - - 59
Ischiatic Notch, Dislocation of Femur into the - - 562
Irreducible Scrotal Hernia - 160

Jet, Origin of - - 93
June, Medicinal Plants which Flower in - - - 577

K

Kennedy, Dr., on the Leeching and Blistering of Infants - 289
Knee, Enlargement of the, with Relaxation of the Ligaments 271

L

Laennec, M., on Diseases of the Chest (*Reviewed.*) - 410
Land Crabs - - - 476
Laryngotomy, for the Extraction of a Needle - - 84
Lead, Solubility of Sulphate of 286
Leaves, Change of Colour in 192
Leech-bites, Mode of Arresting Hemorrhage from - 75, 148

Leg, Compound Fracture of the, followed by Gangrene - 165
Lepra Vulgaris, Case of, Cured by Iodine - - - 241
Letters on the Study of Medicine and Surgery *(Reviewed.)* - - - 416
Leuret, M., Microscopic Experiments on Inflammation, by *(Reviewed.)* - - 112
Light, Chemical Action of - 479
——, Intense - - - 190
Laceration of the Perineum, Scrotum, and Urethra - 563
Lightning-stroke at Sea - 384
Literary Intelligence 98, 290, 481
Lithotomy, Mr. Bransby Cooper's Case of - - - - 157
——, Case of, attended with difficulty - - 170
——, Cases of - - 268
——, Difficult Case of - 351
——, attended with Hemorrhage - - - 467
Lithotomy - - - 564
Lithotrity, Attempt at,—Lithotomy, attended with Hemorrhage - - - - ib.
——, Discharge of Barley-corns from the Bladder - 464
Liver, Cyst situated under the Peritoneal Coat of the - 276
Liver, Remarkable Case of Softening of the - - - 277
Loss of Sensation unattended with loss of Motion - 462
Lower Jaw, Amputation of the 375
Luminous Animalculæ - - 188

M

Magendie, M., on Absorption *(Reviewed.)* - - 307
Magnetism, Chemical Powers of 380
Mamma, Removal of Fungus Hæmatodes of the - - 543
Man in the North of France - 383
Manganese, two Sulphates of - 382
——, Borax and Soda, as tests for - - - 94
Mantell, Mr., on the Treament of Angina Pectoris - - 148
Mantell, Mr., Report of Midwifery - - - 94
——, on Anomalous Affection, connected with Intermittent Fever - - 430
March, Medicinal Plants which Flower in - - - 283
Marmot - - - 287
May, Medicinal Plants which Flower in - - - 481
Medical Jurisprudence, Cases in 443
Medical Jurisprudence, Experiments illustrating certain points in - - - 451
Medical Pathology, on, by Dr. Epps - - - 503
Medicinal Plants which Flower in April - - - 379
——— Plants which Fower in May - - - 481
——— Plants which Flower in March - - - 283
Menyanthes Trifoliata, as a substitute for Hops - - 188
Menstruation, Case of Premature - - - 467
Metals, Conducting Power of, for Eleetricity - - - 285
Metritis, Puerperal, treated by Mercury - - - 470
Midwifery, on the Art of, by M. Velpeau, *(Reviewed.)* - 400
——, Mr. Mantell's Report of - - - - 94
Mind and the Brain, on the Connexion between, *(Reviewed.)* 119
Monday, Mr., on the Remote consequence of Indigestion - 530
Monomania, Singular Cases of 473
Mud of the Nile, Composition of the - - - - 383

N

Nasal Cavity, Calculous Concretions in the - - - 369
National Distinctions - - 93
Nervous Affection, Remarkable Case of - - - 465
Nervous System, An Essay on the Structure of the, by Mr. Cooper - - - 433
Nervous System, on the Development of the, by Dr. Epps 35, 151, 231
Neuralgia Facialis, Cured by the Wine of Colchicum - - 258
New Vegeto-Alkalies - - 382
Nile, Composition of the Mud of the - - - 383
Nitrate of Silver, on the Use of, in Inflammation, Wounds, Ulcers, &c. *(Reviewed.)* - 496
Nitrous Oxyde, Combinations of, with Salifiable bases - - 189
Nævi, Removal of - - 361
Nose, Spontaneous Gangrene of the - - - 535
Nursery Fire Guard - - 95

O

Œdema of the Glottis - - 250
Os Calcis, Fracture of the - 657
Osteo-Sarcoma, Case of - 348

Oxygen, Tests of the Presence of - - - - 191

P

Palates, Artificial, Mr. Snell on the Construction of, *(Reviewed.)* - - - - 28
Paralysis, Remarkable Case of 363
Peripneumony, Fatal, Caused by the Sulphur Bath - - 546
Phlebitis, Cases of - - 541
Phlegmonous Erysipelas, treated by Punctures - - 347
———, of the Face and Scalp - - 163
———, treated by Stimulants, Death - 164
Phosphoric Acid in Potass - 385
Phosphori, New Solar - - 284
Phrenology, Remarks on Mr. Stone's Evidences against 46, 130, 507
Phthisis, Observations on the Urine in, by Dr. Bailey - 532
———, Cured by Smoking Belladonna - - - - - 378
Pin, Death from the Prick of a 374
Piperine, Preparation of - 286
Placenta, Expulsion of the, three months after Abortion - 281
———, Case of Inflammation of the - - - 87
Pleuritis, Case of, treated with Mercury - - - 533
Pluranium, a new Metal - 385
Poison, Prevention of Death from - - - - 193
Poisons, Absorbed from Wounds, Treatment of - - - 86
Polypi, Coral - - - 476
Potass, Phosphoric Acid in - 385
Potass, Crystallization of Sulphate of - - - 285
Potassium, Preparation of Cyanide of - - - 385
Prunes and Senna, Formula for 94
Pregnancy, Case of Extra-uterine - - - 65
Psoas Abscess, Dissection of a Case of - - - 69
Puerperal Metritis - - 470
———— Fever - - - 176
Pulmonic Affections, on the Use of Animal Jellies in - - 238
Pulmonary Artery, Rupture of the - - - - 183
Pulse, Observations on the, by Dr. Bailey - - - 128
Punch, Remarks on the History of - - - - - 190
Pyrothonide, Preparation and Use of - - - 187

R

Rabies, Case of in a Wolf - 85
Rectum, Death caused by a Foreign Body accidentally entering the - - - - 568
Reports, Hospital 60-67; 157-170; 250-255; 262-267; 346-366; 467-471; 533
Retention of Urine, Death from 864
Rheum Australe - - 94
Rock Crystal, Alteration of weight in, by pulverization between Agates - - 190

S

Salad, on a New Kind of - 189
Salt Water, Maximum Density of - - - - - 379
Salt, on the Coast of Chili - 287
Salts, Absorbent Powers of, for Water - - - 382
Scarlatina, Epidemic, treated by Cold immersion - - 251
Scirrhus of the Stomach - 76
Scrotum, Case of enlarged, treated by Iodine Ointment - 59
Sea-air, Influence of on Animals and Vegetables - - 93
Sea-Water, supposed Presence of Mercury in - - - 577
Secale Cornutum, on the Employment of - - - 239
Seeds, Method of Preserving, fit for Vegetation - - 192
Self-Supporting Dispensary - 311
Sensation, Loss of, unattended with Loss of Motion - - 462
Sexual Instinct of Insects, Mr. Davies on the - - 92
Silica and Potassa, New Compound of - - - 192
Silver, on the Use of the Nitrate of, in Inflammation, Wounds, Ulcers, &c. *(Reviewed)* - 495
Skull, Fracture of the—Death, Inspection - - - 67
Snell, Mr., on the Construction, &c. of Artificial Palates, *(Reviewed)* - - - 28
Soda and Acid, Vending without a Stamp, Illegal - - 95
Softening of the Liver, Remarkable Case of - - 277
Solar Phosphori, New - 284
Solar and Lunar Compasses - 97
Solidago Virgaunea, Medicinal Properties of - - 283
Somnambulism - - 540
Sound, Experimental Velocity of - - - 190
Spasmodic Contraction of the Extremities - - 543
Spermatic Chord, Hydrocele of the - - - - 267

Spermatic Arteries, Ligature on the, for Varicocele - - 370
Spinal Marrow, Inflammation of the - - - 248
Spinning Slugs - - 477
Spleen, Case of Abscess of, by Mr. Cooper - - 325
———————, Suppuration of the - - - 74
———, Suppuration of the 279
Spermatic Arteries, Ligatures of the, in a Case of Varioccele 554
Stachys Palustris, Virtues attributed to - - 188
Stephens, Mr., on Obstructed and Inflamed Hernia *(Reviewed)* 3, 99
Stomach, Liver, &c. Dr. Abercrombie on the Diseases of *(Reviewed)* - - 398
———, Scirrhus of the - 76
———, Ulcer of the, fatal by Hemorrhage - 70
———, Ulceration of the, fatal by perforation - ib.
———, perforation of the, with Peritoneal Inflammation 71
———, Perforating Ulcer of the, communicating with the Arch of the Colon - 72
Stone, Mr., Remarks on the Evidences of, against Phrenology - 46, 130, 507
——, Remarkable Case of, by Mr. Dillon - - 147
Storer, Mr., Account of an Exaamination at Apothecaries' Hall, by - - 425
———on the Method of Stopping Bleeding from Leech-Bites - - - 148
Strangulated Hernia, Fatal Case of, - - - 349
———, Cases of - 265
Sugar, Method of Preparing, in the Ganjam District - 385

T.

Table of Atomic Weight of Bodies - - - 380
Taliacotian Operation - 264
Tallow, on the Fusion of 283
Tetanus, Case of, successfully treated - - - 77
——, Case of Spontaneous 352
Thigh, Fracture of the, mistaken for Contusion of the Knee - - - 64
Thomas's, Dr., New Theory of Temperament, A View of 507
Tin, the Presenbe of Iron in 577
Thorax, Emphysema of the 280
Transfusion, Case of - 172
Trismus, caused by Immersion in Cold Water - - 252
Truffle, Organization and Reproduction of the - 288
Truman, Mr., Cases of Emphysema of the Eye, by - 432
Tyrian Purple Dye - - 93

U.

Ulceration of the Stomach, Cases of - - 70, 72
Umbilical Vein, Injection of Vi-
Umbilical Vein, Inflammation of the, with Infantile Erysipelas 557
negar and Water into, in Uterine Hemorrhage - 75
Urine, Death from Retention of 364
Urinary Calcalus, large, soft - 66
Uterus, Inflammation of the, and of the Iliac, Cava, and Ovarian Veins - - 468
——, Prolapsus and Rupture of the, during Delivery - 368
——, Case of Double - 259

V.

Vaccine Establishment, Report of the National - - 475
Vaccination, and Variolous Inoculation, Criteria of Security after - - - 91
Vegeto-Alkalies, New - 382
Vegetation, Experiments on 287
Velpeau, M., on the Art of Midwifery *(Reviewed)* - - 400
Venous System, Remarkable Case of Disease of the - 253
Venesection, Inflammation supervening on—Death, Dissection 64
Vertebræ, Cervical, Fracture of the - - - - 60
———, Dorsal, Fracture of the, with Dislocation of the Femur 349
Violet, Diffusion of the Seeds of the - - - - 288
Viper, Effects of the Bite of a 260

W.

Wallace, Mr., Letters on the Study of Medicine, by *(Reviewed)* - - 416
Watt's, Mr., Solar and Lunar Compasses - - 97
Wardrop, Mr., on Aneurism and its Cure, by a new Operation *(Reviewed)* - - 195
Water, on the Compression of in different Vessels - 379
Westminster Medical Society, Resolutions of the, relative to Anatomy - - 187
White Swelling cured by Iodine Ointment - - 87
Wildsmith, Mr., on the Connexion between Mind and the Brain *(Reviewed)* - - 119
Wolf, Case of Rabies in a 85
Wright, Dr., on the Re-union of Fractured Bones *(Reviewed)* 11

C. SMITH, PRINTER, ONE BELL YARD, STRAND.

COMPARATIVE Tedulla Oblongata, Cerebellum, Optic Thalami, periods of his existence.

Age.	SP	OPTIC THALAMI.		STRIATED BODIES.	
	Inferior Column.	Longi-tudinal Diameter.	Transverse Diameter.	Longi-tudinal Diameter.	Transverse Diameter.
	Metre.	Metre.	Metre.	Metre.	Metre.
Intro-uterine.					
Second month .	0,00075	0,00200	0,00150	0,00300	0,00175
Third do. .	0,00133	0,00500	0,00275	0,00500	0,00300
Fourth do. .	0,00233	0,00600	0,00375	0,00833	0,00425
Fifth do. .	0,00325	0,00750	0,00500	0,01100	0,00600
Sixth do. .	0,00375	0,00833	0,00650	0,01600	0,00800
Seventh do. .	0,00500	0,01200	0,00766	0,02525	0,01175
Eighth do. .	0,00575	0,01500	0,00900	0,03100	0,01500
Ninth do. .	0,00675	0,02000	0,01200	0,03400	0,01900
Extra-uterine.					
First year .	0,00725				
Second do. .	0,00900	0,02800	0,01600	0,04100	0,02000
Fourth do. .		0,03100	0,01900	0,04500	0,02200
Sixth do. .					
Seventh do. .	0,01300				
Eighth do. .		0,04000	0,02400	0,06000	0,02400
Tenth do. .					
Fifteenth do. .	0,01600				
Twentieth do. .		0,04100	0,02400	0,06300	0,02500
Twenty-fifth do.					
Thirtieth do. .	0,01900	0,04200	0,02600	0,06500	0,02700
Fortieth do. .					
Sixtieth do. .					
Seventieth do. .	0,01100	0,03700	0,02200	0,06400	0,02100
Eightieth do. .					
Hundredth do. .	0,01000	0,03200	0,02000	0,06100	0,02000

TABLE exhibelative Weight, of the Brainiods of life*.

Age.		RELATIVE WEIGHT.			
		e.	Weight of the Entire Brain.	Weight of the Cerebrum.	Weight of the Cerebellum.
Before Birth.		*Birth.*			
	Months.	Inch Months.	Grains.	Grains.	Grains.
Male	III. .	. .	720	683	37
Female	VI.—VII.	I. .	2310	2160	150
M.	VII. .	II. .	4960	4610	350
F.	VIII. .				
After Birth.		*Birth.*			
	Months.	ew born.	6150	5700	450
M.	New born	Years.			
	Another .	I. . .	15240	13380	1860
M.	IX. . .	I. . .	13050	11490	1560
M.	XVIII. .	. .	20250	17760	2490
	Years.	V. . .	24420	21720	2700
M.	III.—IV.	VIII. .	20940	18474	2466
M.	VI. . .	XII. .	21820	19040	2760
M.	VII. . .	XV. .	22200	19500	2700
F.	X.—XI. .	XXI. .	24120	21480	2640
M.	XIV. .	LVI. .	20490	18060	2430
F.	XXI. .	V. .	20580	18270	2310
M.	XXV. .	VI. .	22590	20070	2520
M.	XXVI. .	XIII. .	22500	19780	2720
M.	XXX. .	XXII. .	22620	20200	2420
F.	XXXIV. .	XXX. .	19080	16500	2580
M.	XL. .	XXXVIII.	23970	21210	2760
F.	L. . .				
M.	LVII. .				
M.	LXIV. .				
M.	LXX. .				
M.	LXXX. .				
F.	CVII. .				

* Extracted from the 'Penitiori Structurâ Cerebri Hominis et Brutorum." Folio, Tubingis Table's importance. Like all their other published works, it dustrious dissectors, were at best but indifferent philosophers. Wain the size of the brain, which is a

*spk*ely to *plane* surfaces, it may be sufficient to state, that, instead of ᵹ, as they have done, a spirit moderately enlightened by science wosections, *for each year*, a mean proportion, or average, as the soltion, to approximate the truth. As it is, however, their Table mareadth of the brain, for *each* of the specified ages; but, with refeing "*the most easily observed*" indication of mental power, it maless, had its defect of scientific principle not been so absolute, sorht be elicited from the aggregate of its elements. Thus, for ins, in five cases out of fourteen, is greater, one of them by an inone only; the same in five; and greater, one by an inch, and anerebellum, its *length* and *breadth* are greater in all the subjects, exsed in this way of "the Wenzels," however, cannot determine throcess is defective, inasmuch as it defines *two* only of the brain's ge, that, in all the cases but one, the brain, with the advance of lifate increase of extensive surface, or of density from structural inganic "*perfectionnement*," maturity, and power of executing its nals, we have found the result of their observations advanced as *de*in size at the age of *seven* years;" and the authority for this "illo anno cerebrum hominis et quoad totum et quoad singulas pal mass, this "absolutum," *complete, perfect, exquisite*, ascribes toistent with the experience of nurses, hatters, and wigmakers! M*f seven* years, this organ must possess the principal and secondary eluence, that the same organ, at the same period, also, must *have* aoutes, in the manifestation of *all* its functional powers. In other wnust then have acquired *all* the requisites of its nature and kind: be the "emporium of thought," and the organ, according to the Wion" of the mental faculties must be as exquisite in an Esquimaux ofve been matured and dignified by the exalting influences of good soStone was prowling over the XXVIIth and XXVIIIth Chapters ofe would instinctively, and with characteristic prudence, forego allent, since "the authors came impartially to their conclusions:" 1. partui maturum est, in cerebro ejus omnes, quas in provectissima ejnova pars nulla accedit; et illæ partes, quas modo diximus in ho nobis examinatis omnino desiderantur." 2. "Cerebrum post ho videre licet, magni sanè momenti est, partes hasce eas ipsas es3. "Incrementum et perfectio animæ facultatum hominis cum im ad illarum exercitium necessariò pertinent, pari passu procedant neore mancas et imperfectas esse consequens est, quod *longo* post nanus agere videtur." 4. "Facultates animæ superiores hominis exia, quæ illis inserviunt, seu quibus nituntur, anatomico nonnisi *se*tatibus destituantur; sive facultates illæ animalia deficiunt, quod ea56, "ex nostris cum mortui cerebri tum viventis operantisque hoes, *quarum organon cerebrum est*, inde à septimo anno non amplius esse." 6. "Cerebrum non ab intellectu est," p. 257, "sed ubi intam in illo, acrior, præstantior, exercitatior esse potest; ita et vassentialia sunt, semper præditum esse oportet, quæ tamen jam pesumed, are not very "much at variance with the phrenological de

COMPARATIVE TABLE OF THE SIZE OF THE SPINAL CHORD, CEREBELLUM, AND BRAIN, IN MAN AND THE LOWER ANIMALS*.

Coluber [illegible]	0,00300	[illegible]	0,00200	0,00300	0,00175	0,00200	[illegible]	0,03450	0,04500
" Vipère							[illegible]	0,02600	0,04200
Camelus	0,00275	0,00400	0,00200	0,00233	0,00200	0,00233	0,00550	0,00200	
Hyrax C	0,00700	0,01400	0,00700	0,01800	0,01700	[illegible]	0,00400	0,00400	
Sus Taja	0,00600	0,00900	0,00600	0,01075	0,01500	0,01700	0,01100	0,00300	
Dasypu	0,00650	0,00925	0,00600	0,00900	0,01350	0,02100	0,01350	[illegible]	
Cav	0,00900	0,01800	0,00900	0,01500	0,03400	0,02500	0,01500	0,00700	
Sciu	0,00600	0,01600	0,00800	0,01900	0,02000	0,03500	0,01650	0,01300	
	0,00400	0,00850	0,00350	0,00650	0,01300	0,01600	0,00600	0,01300	
Mus T	0,00600	0,00900	0,00575	0,00800	0,00600	0,00633	0,00700	0,00550	
Casto	0,00200	0,00600	0,00700	0,00900	0,00675	0,00800	0,00600	0,00550	
Phas	0,00300	0,00550	0,00400	0,00600	0,00500	0,00550	0,00400	0,00500	
Ma	0,00575	0,01000	0,00800	0,00800	0,01350	0,01700	0,00725	0,00500	
Pl	0,00500	0,00650	0,00600	0,00900	0,00800	0,01000	0,00100	0,00800	
	0,00300	0,00600	0,00433	0,00575	0,00600	0,00625	0,00500	0,00100	
	0,00500	0,00800	0,00433	0,00675	0,00750	0,00900	0,00600	0,00400	
	0,00250	0,00600	0,00350	0,00300	0,00600	0,00450	0,00400	0,00450	
	0,00700	0,01100	0,00600	0,00650	0,01075	0,00900	0,00750	0,00300	
	0,00400	0,00700	0,00800	0,00850	0,00900	0,00633	0,00600	0,00600	
	0,00400	0,00800	0,00500	0,00600	0,00700	0,00400	0,00400	0,00500	
								0,00300	

nstructed from the Twenty Comparative Tables given by Dr. Serres, in his work entitled "Anatomie Comparée du des Animaux Vertébrés, appliquée à la Physiologie et à la Pathologie du Système Nerveux. Paris, 1827. Tome II.

Bulbe Rachidien" in the Mammiferous Animals, by Dr. Serres, p. 247.
d the English foot at 62°, the former is equal to 39,37100 = 1 yard 3,37 inches.