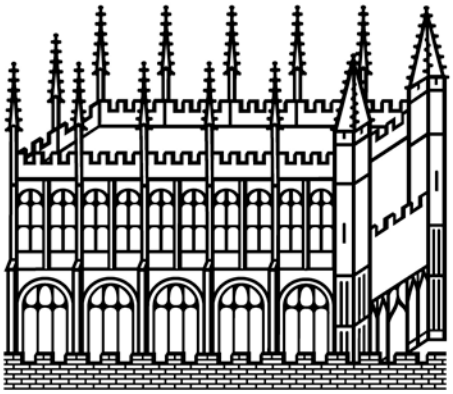

THE

MEDICAL AND PHYSICAL

JOURNAL.

CONDUCTED BY

SAMUEL FOTHERGILL, M.D.

AND

WILLIAM ROYSTON, ESQ.

VOL. XXVI.

FROM JULY TO DECEMBER, 1811.

Et quoniam variant morbi, variabimus artes;
Mille mali species, mille salutis erunt.

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HISTORICAL SKETCH OF THE PROGRESS OF MEDICINE FOR THE YEAR 1810, AND FROM JANUARY TO JUNE 1811.

(No. 5.)

[*To be continued Half-yearly.*]

"A thousand writers, perhaps for a thousand years, have been improving this Art and Profession; and he that industriously studies those authors will, in a short period of time, find out as much as if he had lived a thousand years himself, or employed those thousand years in the study of Physic." FREIND.

"Floriferis ut Apes in saltibus omnia limant." LUCRETIUS.

FOR four years, an historical view has annually been given in this JOURNAL of such circumstances in the science of Medicine, that were of importance sufficient to arrest the attention of the medical Faculty: to flatter into hope, or to depress with apprehension. In the conduct of this detail it was always the object of the writer to give due honour to the science, rather than to encourage the art: to record sound and rational principles, whenever or wherever they were found: to select and arrange interesting facts and ingenious observations; to excite a steady attention to the laws and operations of Nature, and to advise, the student at least, neither to disdain nor to neglect the collateral and auxiliary sciences.

The change which has taken place in the management and œconomy of the *Medical and Physical Journal*, will in no wise alter the principles or objects of this Report, or affect its usual detail, except, that instead of being published annually, it will, in future, be given every six months, and necessarily become a species of *prolegommena* to each volume.

IT has been thought a propriety to begin a view of the Progress of Medical Science, with an account of the efforts which occasionally are made for improving the respectability of that science, and the consequent good of mankind: to shew the progress of these efforts: to point out the obstacles

they have met with, and the objections to their principles, or their operative detail.

During the period under consideration, the persevering spirit of Dr. Harrison, still pursuing its object against the coldness of neglect, the hostility of interest, the argument of knowledge, and the jest of wit, contends for a specific mode of amending the condition of the medical profession, and for giving to it a CODE, to be rendered permanent by an act of the legislature; which shall, in future, determine the essential qualifications required in those who enter on the exercise of the medical art; which shall distinctly point out certain regulations applying to those who may be deemed qualified for this important office, and detailing other circumstances calculated, more or less, to alter the condition, legal or social, of persons employed in every branch of the science of healing. The advance so far, of Dr. Harrison's project, as to indicate an immediate application to the Commons House of Parliament, was not beheld by the Faculty without sensations of a very opposite and contradictory nature. These sensations drew their character from circumstances in the classes of medical persons among whom they arose. When Dr. Harrison published the outlines of his intended Bill, much was said, and it was proper that much should be said upon it; and that the operation of its principles, and their final effects, should be deeply investigated, and fully ascertained. Of the mass of heterogeneous opinions, which were either whispered in the seclusion of private society, or boldly claimed the public ear, a solution might be offered. It was obvious to remark, that those who were in possession of exclusive privileges thought this Bill was not called for, or that its clauses went too far. Those who actually were, or thought themselves inequitably kept out of certain rights, held, or as they said, usurped by some privileged orders, though they approved of a change, pronounced Dr. Harrison's Bill to be imbecile and inefficient: in short, for them, it did not go far enough. Another class, enjoying no corporate privileges, and expecting none, may be considered as neutrals. If this Bill gave them nothing, it took nothing from them, for its principle was to leave the present race of medical men undisturbed: and they were content, whether the project was fated to success or to defeat. It would argue a want of candour to deny, or not to state, that there were to be found among the Faculty many individuals who were warmly solicitous to meliorate the science of medicine, to improve the condition of those properly employed in it, to suppress cheats and impostors, to protect honest merit, and to reward talent. To see the healing art rescued from the mean and degrading circumstances

cumstances in which it was often found, was the laudable object of these individuals; to place it in a station which its importance demanded, and to protect it by wholesome and rational laws which its usefulness deserved. To them it was not important from whence the desired reform came; and though they might not assent to every iota in Dr. Harrison's Bill, they could not withhold their approbation of his public spirited perseverance, and did not object to him because he resided in the fens of Lincolnshire, or was not a fellow of the Royal College. Whatever may have been said about the inherent desire for change in the human mind, it seems a proposition equally defendable, that an attachment to old customs and long established habits affords more than a counterpoize to the principle of mutability. It is not certain that this attachment to customs consecrated by ancient usage, did not influence the opinions and feelings of many well-meaning members of the medical faculty, and lead them to resist the purposed improvment, upon the principle that the change of established forms is always dangerous.

> "Omnia Fata laborant
> Si qnidquam mutare velis; unoque sub ictu
> Stat Genus Medicum."

Those who held privileges, and those who held none; those who believed themselves deprived of their rights, and those who feared a change upon the ground that all change was dangerous, united into a phalanx compact, formidable, and impenetrable. Against this host, drawn together by various motives and feelings, but all looking to particular interests, fearing the loss of some good already possessed, or apprehending the demolition of some expectancy, it would have been unwise to contend; and Dr. Harrison, judiciously perhaps, suspended his projected plan of reform, to resume it however, if the past is to predict the future, at some more auspicious period.

It will be right to state the principle, and the prominent features of this Bill, which had penetrated into every rank and degree of the children of Esculapius; and spread alarm from the college chief to the lowest medicaster, the pro bono distributer of salutiferous pills and antibilious bolusses.

Under the operation of various irritations, it is creditable to the understanding and to the temper of Dr. Harrison, that he has proceeded with coolness and moderation; that he has replied to suspicion, to wit, and to argument, with temperate explanation, and a professed desire to profit by observations of every quality and tendency. Under these dispositions, and assisted by persons learned in the law, it appears that the principle of the projected Bill was devised, and its

progress of this branch of science from the most distant periods of time, before the rise of letters and philosophy in Greece, from the primeval Chersonese through the traditionary and heroic ages of the Grecian history, to Egypt and India. In this ingenious work, a part of which seems now only to appear, in addition to the curious research of the text, is found a body of annotation, comprehending an extensive mass of materials, illustrative, not only of the history of medicine, but of man.

In Anatomy, though the foundation of all medical and chirurgical knowledge, no novelty has occurred within the last eighteen months. Perhaps the minutiæ of this art being pushed near to its acmé, has left little to be discovered. Consisting altogether of facts, it has its limits. When every fibre has been separated, examined, and explained, the Anatomist, like Alexander, may weep for new worlds of animal existence. To the Physiologist this state of exhaustion will never happen. The stores of the imagination are perennial: if one series of opinions or suppositions are overthrown or exhausted, others arise. The Physiologist resembles that great poet, who, "exhausted worlds and then imagined new." And his science, on many occasions so nearly allied to invention, will seldom permit any period to pass totally barren of incident, fact, or hypothesis, intended to explain some action or train of actions belonging to animal or vegetable life; forms of being which mutually illustrate each other.

For many ages, the doctrine of generation, still perhaps the most abstruse of physiological speculations, turned on a circumstance so contrary to all truth, and so opposed to all analogy, though with the appearance of being founded upon observation, that in this age of philosophical illumi-

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these learned bodies, a nearly regular system of physic had been erected, at a very remote era in the East, yet to commemorate its details, or appreciate its merits, has never become the task of any historian of medicine. In this new field of medical archæology Dr. Millar has ventured to labour. By what is now published, an attempt is made to supply the chasm, as far as Egypt is concerned: in a subsequent volume it is intended to investigate the condition of the healing art, such as it may be found to have flourished in the other two oriental Monarchies, no less distinguished for their early proficiency in arts and science, namely, Hindustan and Iran. To this it is intended to subjoin in an Appendix, a Treatise on the Physic of the antient Jews. We congratulate the medical profession, on the prospect of an interesting portion of the history of the art being supplied by a person apparently so well qualified for the task as Dr. Millar: and we trust no appearance of neglect will occur to prevent the completion of what we consider to be an historical desideratum.

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nation, the only feeling that remains respecting it, is astonishment. The hypothesis of equivocal generation, which existed so long and was to pertinaciously adhered to, could not be supported against even the dawn of experimental philosophy. The investigations of Harvey, Malpighi, Swammerdam, Valisneiri, Ray, &c. extinguished this absurdity; and the aphorism *omnia ex ovo* is as fully established as any precept in Physiology. To support this proposition, founded as it is on sound reason and unwearied inquiry, an infinite multitude of experiments have been made and numerous observations recorded, which lie dispersed in a vast number of volumes. It chances to be the fortunate lot of but few to explore the source, or follow the current of this flood of laborious and learned investigation: the naturalist and the physician are therefore indebted to Dr. Paris for a "Memoir on the Physiology of the Egg," which has been read before the Linnean Society of London; and which seems to have condensed into an historical and philosophical essay, the whole of the facts and deductions of the ovarian Physiology. To this detail Dr. Paris has added, it is understood, several new facts, which not yet being fully before the public, cannot, without improper anticipation of their author, be particularly stated.

The *prima stamina* of many ingenious works, which have subsequently been matured into standard productions, first appeared in this Journal. It cannot be necessary to enumerate these, but it is proper to notice a most ingenious physiological inquiry by Mr. Smith of Bristol, under the denomination of a "Theory of Sensation." (Jour. 25. 467.) This speculation, when it has received the finishing touches of its author, promises, from the ability with which it commences, to rival in precision and practical facility the theory of Darwin. It affords a peculiar gratification to the Editors of the Medical and Physical Journal, to observe how frequently it has been the arena where native talent has first manifested itself, and where genius has ventured its earliest flights.

The illustration that general nature receives from analogies that the study of parts develope, has never been more fully admitted than in the present day. The similarities and coincidences observed to take place among forms of being, apparently, far removed from each other, explain, very fully, that the whole of animated nature is governed by a system of laws as uniform in their operation as their influence is extensive. This fact has received a striking exemplification by Mr. Knight, in observations on the progress of life and the approach of old age and final decay in trees. "Whatever

difference exists between the functions of animal and vegetable life, there is," says Mr. Knight, "an obvious analogy between some of the organs of plants, and those of animals; and it does not appear very improbable that the correspondent organ, in each, may first fail to execute its office." The analogy between the leaves of plants and the lungs of animals is considered to be very close, and that in both, the inability in this organ, whether leaves or lungs, to make that change in the circulating fluid which is essential to health, occasions decay and final destruction to the individual in which the respiring organ fails to perform its office. Experiments satisfied Mr. Knight that the debility and diseases of some old varieties of fruit trees, did not originate in any defective action of the bark or alburnum, either of the root or of the stem and branches, but in the leaves and succulent annual shoot. He observed also, that grafted trees, of old and debilitated varieties of fruit, became most diseased in rich soils, and when grafted on stocks of the most vigorous growth; and he was induced to conclude, that in such cases more food is collected, and carried up into the plant, than its leaves can prepare and assimilate, and that the matter thus collected, which would have promoted the health and growth in a vigorous variety, accumulates, and generates disease in the extremities of the branches and annual shoots of the old and debilitated; and that the diseases and weakness of old age in trees, arises from the want of power to produce leaves which can efficiently execute their natural office; and to some consequsnt imperfection in their circulating fluid. If these opinions be well founded, and the leaves of trees be analogous to the lungs of animals, is it not probable that the natural debility of old age in trees and animals may originate from a similar source? If it is a fact, that not only man, but those domestic animals, as well as others, longest retain their health and strength, and best bear excessive labour and insufficient food, in which the chest is most deep and capacious, in proportion to the length of current the circulating fluid has to run; and that those trees longest retain health and vigour whose foliage longest continues in the perfect exercise of this pulmonic function, an additional analogy is established between animal and vegetable life.

If the medical student desires to possess the enlarged views that constitute the accomplished and philosophic physician, he must study nature, in all her departments, with unceasing diligence. There is not a fact in the whole circle of her history, which may not be found valuable, on some occasion, in the practice of his art. The analogies that exist among all beings, the influences that reciprocally operate upon each, the

the explanation that is given to some by the peculiarities of others, the resemblance and the diversity of their diseases, the remedies they afford or the poisons they inflict, all are objects of interest and importance. Not a leaf nor a blade of grass, a stone or a metal; not an animated being from the acarus to the elephant, but may afford instruction. Not an individual among all these but tends in some degree or mode to illustrate some other creature, or to explain some law in nature; but presents a study for man, and gives the means of enlarging his views, and refining his understanding. Yet where is the mind of capacity to comprehend the laws that govern, or the peculiarities that distinguish these miriads? If those who pursue the study of nature despair, let them remember the toils as well as the talents of those who have gone before to direct them. The comprehensive mind of Bacon, the minute exactness of Spallanzani, and the systematic genius of Linneus, have so far unfolded these intricacies, and pointed out the road to natural truths so clearly, as to leave, comparatively, but little of mystery. And since the time of Linneus, in the particular department to which he almost gave birth, certainly direction, much, by a thousand others, has been discovered, explained, and accomplished. The daring enterprize, the correct observation, and the skill which was seen in the pupils of the Swedish naturalist, in Kalm, Osbeck, Hasselquist, Sparmann, Solander, and many others*, who were employed to visit remote countries, have been revived in Humboldt, whose travels in some parts of South America rival, if they do not surpass, the most illustrious of the Linnean school. This person, a Prussian gentleman of fortune, under every favourable circumstance resulting from his own acquirements in all the branches of knowledge which could be useful in such an undertaking, having for his companion M. Bonpland, and countenanced, or even authorized by the Spanish government, began in 1799 an expedition to Spanish America, in which he was engaged

* It must not be forgotten that Peter Löfling, the favourite pupil of Linné, was selected to travel through the different provinces and settlements of the Spanish government in South America. But scarcely twelve months had he been in America before he was seized with a tertian intermittent, from the consequences of which he died in 1756. The substance of his travels was published by Linneus, at Stockholm, in 1758, with title of Iter Hispanidum, eller Resa til Spanska Länderna uti Europa och America, &c. &c. But this did not, in any degree, anticipate the exploration of Humboldt. Among them who have encouraged by their example, and patronised by their liberality, those who have sought to explore nature in savage lands and remote regions, the President of the Royal Society is pre-eminent.

till 1804. The facts and the final result of this interesting expedition are intended to be given to the public in a work of great scientific splendor. The part of this which is already published presents many new and curious facts in the history of man, in the lower orders of the animal scale, and of vegetables and minerals, as well as in geology and philosophical geography.

The effect of climate on the human frame has always been an object of solicitude. The details of Humboldt furnish some interesting facts on this subject. It appears from authentic documents, that there is a rapid increase of population in New Spain. The proportion of births to deaths throughout the kingdom of Mexico is as 170 to 100: and in some parts of the table land (a district of land among the mountains of Mexico elevated from 6000 to 8000 feet above the sea) the proportion was as high as 250 to 100: but at Panuco, on the coast of the North Sea, it was as low as 123 to 100. This difference arises from the greater salubrity of the table land in the centre of New Spain, compared with the low marshy lands on the coast. The salubrity of the tropical climates depends more on the dryness of the air, than on any of its other sensible qualities. The burning province of Cumana, the coast of Coro, and the plains of the Caraccas prove, Mr. Humboldt observes, that excessive heat alone is not unfavourable to human life, and that in very hot and dry countries mankind attain to a greater age than in the temperate zones. At Lima a Peruvian Indian died at the age of 147, having been married for 90 years to the same woman, who had lived to the age of 117. Wherever the air is moist as well as hot, the climate is exceedingly unwholesome. It is so upon the north coast of Mexico, from the mouth of the river Alvarado to the river Tampico, and the plains of New Santandon. The south coast is equally unhealthy, from San Blas to Acapulco. The combination of heat and moisture in the atmosphere, in like manner, renders the coast of the Caraccas unwholesome, from Barcelona to Puerto Caballo. This is in direct opposition to the influence of the atmosphere in the temperate and cold countries; in them a cold and dry atmosphere is most destructive to life. The table land, the salubrity of which Mr. Humboldt states to be so remarkable, rising, it was before observed, from 6000 to 8000 English feet above the sea, forms a continuous plain, comprised between 18° and 40° of latitude, and extending in a straight line from Mexico to Santa Fé, a distance of about 500 leagues. The slight ridges which interrupt the absolute uniformity of this plain are seldom more than from 600 to 800 feet above the valleys which they separate. Some of the mountains, indeed,

indeed, which rise from its surface, are of colossal magnitude; but the tops of four only are covered with perpetual snow. The highest, called *Popocalepetl*, is 17,000 feet above the sea. The table land of Mexico gradually declines in elevation toward the north, but with so gentle a descent that a carriage may pass from Mexico to Santa Fé in New Mexico. At Santa Fé de Bogota, Quito, Caxamoria, and various other parts of South America, the table land is of the same elevation as in Mexico; but it is no where of the same extent. Forty square leagues form the longest surface that any where presents itself united. These portions of elevated land are insulated and divided from each other by transverse valleys, some of which are 4600 feet in depth; and they have, consequently, the appearance of islands, surrounded and separated by a sea of air. These insulated spots enjoy a salubrious climate and fertile soil; but they are cut off, in a great measure, from all intercourse with one another, or with the rest of the world. The descent from them is painful and fatiguing; and their inhabitants, accustomed to the pure and cool air of the mountains, become sickly and faint, when exposed to the suffocating heat of the valleys. The more elevated plains of the table land are arid, barren, destitute of trees, and covered with a saline efflorescence: but a great part of it is extremely fertile. The nature of its productions varies with its elevation above the sea. Sugar, cotton, cocoa and indigo, do not succeed at a greater height than 2000 or 2800 feet above the sea. European wheat begins to be raised at 4800 feet, and ceases at about 9000. The banana tree gives hardly any fruit at a greater height than 5000 feet. The Mexican oak grows from 2400 to 9500, and pines from 5500 to 15,000 feet above the sea.

This general and enormous elevation of the soil, is one of the most important features of the American continent. In Europe the highest tracts of cultivated land seldom rise more than 2000 feet above the sea. But in the Peruvian territory extensive plains occur at an altitude of 9000 feet; and three fifths of the viceroyalty of Mexico presents a surface of half a million of square miles, at an elevation from 6000 to 8000 feet, equal to that of the celebrated passages of Mount Cenis, of St. Gothard, or of the Great St. Bernard. The mountains themselves tower to most enormous and sublime heights. The extreme top of Chimborazo was ascertained to be 21,340 feet above the sea. Mr. Humboldt and his adventurous companions reached the height of 19,300 feet, the highest spot ever trod by man. At this elevation the air was reduced to half its usual density; blood oozed from their eyes, their lips and their gums.

The equatorial regions of America, possessing, in consequence of their vast range of elevation, every possible degree of temperature, concentrate all the diversity of the vegetable tribes. From the shores of the Atlantic to the heights of the Andes, the different kinds of plants follow each other in almost regular succession. Ascending these mountains from the lower valleys, chesnuts, beeches, oaks, and pines successively appear; and the last advance, till they become stunted, and gradually disappear, not far from the verge of perpetual snow. To trace the geography of plants in the low grounds of Europe, is rendered impossible by the activity of cultivation; but in these boundless deserts, each species still occupies its own territory.

To follow M. Humboldt throughout his interesting details, and it is difficult to forbear, would require a volume. The observations on the genus Cinchona must not, however, be omitted. The trees which furnish the Peruvian Bark are scattered along the chain of the Andes, over an extent of two thousand miles, at an elevation from 2,300 to 9,500 feet. The *lancifolia* and *cordifolia* prefer the plains; the *oblongifolia* and *longiflora* occur somewhat higher; but the noted *quinquina* of Loxa, and which Mr. H. proposes to call *Cinchona condaminea*, grows at a height of from 6,250 to 8,300 feet, where the mean temperature varies between 59 and 62, on a bottom of micaceous schist in the woods of Caxanuma and Uritucinga. This shrub forms one continued forest on the eastern declivity of the Andes, as far as the province of Jaen, and the hills above the river Amazons. Bark of a similar quality is obtained from very distinct kinds of the cinchona, in the same manner as the *caoutchouc* is procured from the inspissated juice of a variety of vegetables, from the *ficus*, the *hevea*, the *lobelia*, the *castilloa*, and several species of the *euphorbium*. The station and climate of many other plants which exist on the vast sides of the Andes, are marked with scientific precision. Some occur, as the *wintera* and the *escallonia*, at the altitude of 9,200, to 10,800 feet, and form scrubby bushes in the cold and moist climate of the *Panamas*. Above the height of 10,500 feet, the arborescent vegetables disappear. The alpine plants occupy an elevation from 6,500 to 13,000 feet: there grow the *gentians*, the *stælina*, &c. The grasses appear at a height from 13,500 to 15,100 feet. In this zone, where snow falls at times, the *jarava*, and a multitude of new species of *panicum*, *agrostos*, *avena*, and *dactylis*, cover the soil with a yellow carpet, which the inhabitants call pajonal. From about 15,000 feet, to the boundary of perpetual congelation, the only plants visible

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are the lichens, which cover the face of the rocks, and seem to penetrate under the snow.

Of the animal kingdom many circumstances are related of importance and interest. Man, here, as in every other region, presents the primary object of attention and regard. His form, his colour, his moral and social character as appears in these surprizing regions, are delineated with spirited exactness. The Mexican Indian is grave, melancholy, and silent, unless when under the influence of intoxicating liquors. He affects an air of mystery in the most unimportant transactions; and no expression is to be seen in his countenance, of the most violent passions that agitate him. Like all enslaved nations, he is obstinately attached to his antient customs, manners, and opinions; and, though converted to christianity, his change of religion is more apparent than real. He seems to be destitute of imagination. and to have little feeling; but, when properly educated, he shews an aptitude for learning, a clear head, a logical and acute understanding. He has a particular turn for painting and carving in wood and stone; but even in these arts, he displays rather a talent for imitation, than genius for invention. His national music is mournful and melancholy; and in his national dances the men only are performers. Among the various nations, tribes, and names, that range over this vast continent, the *Guaranis* presents a new picture in the history of man. It would be a want of taste and feeling not to admit, into the pages of this Report, the exquisite picture of these people and the accompanying scenery, as drawn by an admirable journalist. "As the summer advances, the low plains on the coast of America become parched with excessive heat. The grass withers to the roots, and the soil turns hard and baked. The cattle, enveloped during the day in dust, run panting with oppressive thirst. The more sagacious mule, with his hoof cautiously thrusting aside the prickles of the water-melon, sucks a refreshing beverage. But the cries and frightful shrieks of the larger apes at last announce the approaching rains. Incessant torrents descend. The crocodile and the boa, long concealed in a torpid state under the hardened mud, now raising their horrid fronts, burst, with sudden and tremendous noise, from their tombs. The rivers soon overflow their banks, and sweep the surface with wide inundation. One sheet of water covers the whole delta of the Orinocco. In the midst of this aquatic scene, lives in peace the unconquered nation of the *Guaranis*, who nestle among the tops of the *mauritias*, or fan-leaved palm, in extended hammocks, which they construct with netting made from the fibres of the leaves, and line partly with

with mud. On such humid and pencile floors, the women light their fires and cook their vegetable diet. The tree to which each family is attached furnishes its whole subsistence. The pith of the *mauritia*, resembling sago, is formed into thin cakes; and its scaly fruits, in the different stages of their progress, afford some variety of wholesome food. Palm-wine supplies an agreeable and refreshing drink, and may even procure that state of intoxication which is the elysium of the savage."

The influence of climate on the colour of the human race has been the subject of great discordance of opinion, and of both religious and philosophical controversy. The permanent or the accidental source of this quality, was a point on which it had been attempted to decide whether the whole of the human race came from one stock, or had arisen from a diversity of parents. The facts stated by Humboldt are of a nature, perhaps, to raise doubts on very serious questions. The facts themselves, however, are all that can be touched here. Climate, this traveller observes, which has such influence on the European race, has little or no effect on the complexion of the Indians. Some tribes are darker than others; but the difference is quite independent of climate. Those who live on the Rio Negro are darker than those who inhabit the banks of the lower Orinocco, though they live in a much cooler temperature. Near the sources of the Orinocco, there are tribes of a light complexion, surrounded by others of a much more swarthy colour. The Indians who live in Chili and on the tops of the Andes, are as dark as the inhabitants of the plains, though the former are cloathed and the latter go almost naked; and those parts of their body which are constantly covered, are not lighter than those which are continually exposed to the sun and air. The Mexican Indians, though they inhabit the same climate with the natives of Quito, are of a darker colour; and those who live as far north as the river Gila, are swarthier than the inhabitants of Goatemala. Contrary to the information obtained by M. Volney concerning the North American Indians, Mr. Humboldt has observed, that in Mexico, Peru, Quito, Caraccas, and other provinces of Spanish America, the children of the Indians are copper-coloured from the moment of their birth; and the Caciques, who are commonly clothed, have all parts of their body of the same copper-colour, except the palms of their hands, and the soles of their feet. It appears, therefore, that the copper-colour of the Aborigines of America is independent of climate; and the same is probably true with respect to the darker complexion of the Negroes and Hindoos.

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Of the inferior orders of the animal creation, this ingenious traveller relates numerous facts as curious as they are important. But while he brings us acquainted with many new and surprizing circumstances, he corrects the fabulous tales related by the credulous and ill-informed. It has generally been believed that there existed among the dreary wastes and wide solitudes of the Andes, a fierce and powerful bird of prey, of a size never seen in the old continent, and which with singular incongruity, had been confounded with the Gryphon of the antients.* The touchstone of truth has, however, reduced the *Condor* to the size of the Alpine vulture of Europe: its extreme length being only three feet and a half, and its breadth across the wings nine feet. If truth has diminished its size, it has also determined some of its properties, certainly not so distinctly known before Humboldt's expedition. Its fierceness, cruelty, and voracity, are established, and its wonderful power of wing ascertained. Estimating from very probable data, this bird skims whole hours at the height of four miles; and in an instant it can dart from the chill region of mid-air to the sultry shores of the ocean. Among the extraordinary forms and qualities of animal life, nothing in the discoveries of Mr. Humboldt strikes with more astonishment than the *Gymnotus electricus*. But for a detail of this, though with reluctance, the *Tableau Physique* must be referred to.†

In addition to the preceding curious facts, M. Humboldt has given a view of the diseases of Mexico, (Med. and Phys. Jour. vol. 25. 239.) and a statement of the peculiarities of its atmosphere, as developed by the thermometer and barometer, with general meteorological details.

The vast unexplored continent of Africa probably contains, within its extensive wilds and forests, facts in the history of nature no less surprizing than those which have been related, by Humboldt, of the new world. During the last year a peculiarity in the human form, connected with this continent, and which was thought to have been an invention of Vaillant's, has been verified. That lively traveller described a race of people under the name of Houzoanas, who lived remote from the Cape near to Caffraria, the females of

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* It is remarkable that the Gryphon of the antient world should have been made the guardian of gold mines, and that the Condor of the new, its conjectured prototype, should exist where this precious metal is most abundant. The Spaniard has been as eager as the Arimaspian to "purloin the guarded gold," and has more successfully eluded the winged centinel.

† This report is much indebted to a masterly sketch of Humboldt's travels inserted in the Edinburgh Review.

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which had the extraordinary and uncouth peculiarity of *nates* extended to a most enormous and unnatural size. That M. Vaillant was correct in his relation has been proved by one of these females being brought, in 1810, to London. (Med. and Phys. Jour. 24, 385.) To the account of this woman in the place referred to, the following peculiarities are added from the information of a gentleman well known to science and literature. The bony structure of the pelvis has no part in producing the protuberance of the *nates*, for the sacrum has no greater degree of projection than in the European female: the protuberance itself is not muscular fibre, but adipose substance. The arch of the pubis is singularly flattened or depressed; there is little or no mons veneris, but that part which answers to this elevation in the females of other countries, has scattered over it small tufts of woolly hair. The external labia are very thin, and entirely without adipose substance. The nymphæ are much elongated, extending more than four inches, and seem to be a continuation of the external labia. The præputium clitoridis is much longer and thinner than in the European female, and from the defective state of the labia pudendi, appeared to project like a large mass of fleshy substance. The vagina is remarkably short; and the breasts are large and pendulous. A very dark areola covers nearly half the mamma, giving it a most disgusting appearance. The profile of the abdomen resembles, very nearly, that of the ourang outang: it is compressed at the scrobiculus cordis, but from the umbilicus downward, forms an ugly pendant projection. From the absence of mons veneris, and from the projection of the abdomen, the pudendum is perfectly concealed from view. The face of this female has a specific character. Though it has the flattened nose and projecting maxilla of the negro, it is not the face of the negro. A part of its character is derived from the uncommon distance at which the eyes are placed from each other.

The taste and enterprize of an individual has added considerably, from the beginning of 1810, to the stock of Natural History in this country. The museum of Mr. Bullock is a valuable depository of the rarest specimens in this science; preserving with characteristic truth, quadrupeds, birds, fishes, reptiles, and insects. The *Camelopardus giraffa*, within the period above mentioned, has been added to this collection: it is in a fine state of preservation, and measures seventeen feet nine inches in height. So little is now known in Europe of this extraordinary animal, that some persons of education and high station in life have doubted if this specimen be not factitious. The animal has, however, been often seen alive, stalking across the forest glades of the African

African wilderness; and a living one was lately shewn at the Cape.* The Giraffe was not such a stranger to the Romans. In the collection of animals prepared by the younger Gordian for his triumph there were ten Camelopards. The sacred Ibis, the *Buceros Africanus*, almost an hundred species of *Trochilus*, (Humming-bird), the whole of the known individuals of the genus *Paridisea*, (bird of Paradise) adorn this museum by the singular elegance of their plumage, or illustrate by their rareness the page of natural history. This collection is not confined to the beings which now inhabit this earth: there are in it many specimens of the remains of creatures, which at some unknown period had existence here. Among these there is part of the foot and a claw of an animal of the order *Feræ*, of tremendous size. Imagination recoils from a tiger whose paw, when expanded on its prey, covered a superficies of twelve feet. To correspond with the parts here deposited, such indeed must have been the size of the foot of this animal. This extraordinary fossil bone was discovered near the banks of one of the American rivers, where such remains are not uncommon. But a few years since there was discovered near the Missouri, a space of a quarter of a mile in extent, wholly covered with these enormous bones, to the depth of six feet. A person employed there in searching for mines, engaged to complete a skeleton of the mammoth, fifty-four feet in length, and twenty-two feet high. The pages of this Journal (vol. 25. p. 97.) have recorded an instance, illustrated by the scientific observations of Mr. Brooks, the Anatomist, of the fossil remains of a large animal of the Lacerta genus; so perfect as to prove that it could not belong to any individual of that genus now known to exist. Of all the objects which nature presents to the observation of man, the fossil remains of animals now extinct are the most extraordinary and incomprehensible. The existence of races of beings of enormous size, and which are now no where to be found alive, rests on evidence so demonstrable and positive, that M. Cuvier, from the facts which prove that they once lived on this earth, has been able to distinguish twenty-three species of these incognitæ.†

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* The Giraffe in Mr. Bullock's Museum, was shot in the interior of the territory of the Cape, by the Rev. Mr. Evans, an African Missionary.

† The species enumerated by M. Cuvier, are, 1. The Siberian animal which affords fossil ivory. 2. The mammoth, differing from the former chiefly in the size and points of its grinders. 3. The long-headed rhinoceros. 4. The megatherium. 5. An extinct species of large bear. 6. Another species of bear. 7. A carnivorous animal be-

The practice of philosophical chemistry makes a conspicuous part of modern science. The comprehensive views, and the ardent research of the chemist; his discoveries and his explanations of the mysterious operations of nature, place him very high among those who are devoted to intellectual pursuits. It is to be lamented, however, that still his art is involved and uncertain; and, notwithstanding the advances of the preceding twenty years, data are yet wanting wherewith to form a permanent system. But the labour of experimental investigation, and the fortune of discovery, goes on, to terminate, perhaps, in that developement of principles, which may furnish a sure basis for a perfect theory. Mr. Davy is pursuing his interesting inquiries on the application of electricity to chemistry. The principal part of his late Bakerian Lecture consists of new experiments on the metals of the fixed Alkalies. When Mr. Davy published his brilliant discovery of *Potassium* and *Sodium*, an epitome of the facts and results was inserted in a former number of this Report. These discoveries were of a nature to impress the philosophical chemist; and it could not be doubted but various opinions would arise upon them. "The generality of enlightened chemists," says Mr. Davy, "have expressed themselves satisfied with the experiments, and the conclusions drawn from them: but as usually happens in a state of activity in Science, and when the objects of enquiry are new, and removed from the common order of facts, hypothetical explanations of the phenomena have been given, different from those I adopted." M. M. Gay-Lussac and Thenard suppose potassium and sodium to be compounds of potass and soda with hydrogen; a similar

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tween the wolf and hyæna. 8. A creature akin to the mouse, whose horns measure 14 feet from tip to tip. 9. The great fossil tortoise. 10. The Maestricht crocodile. 11. A sort of dragon. 12. An unknown kind of reptile, or cetaceous animal. 13. That animal, the teeth of which when impregnated with copper, form the occidental turquoise. 14. A tapir. 15. Another tapir of gigantic size. 16. A species of hippopotamus, about the size of a hog. 17 to 22. Fossil skeletons of unknown species, between the rhinoceros and tapir, from the plaister quarries in the neighbourhood of Paris. 23. A species of crocodile, resembling that of the Ganges. Beside these the earth contains many more parts of skeletons of which M. Cuvier speaks with less certainty. Some of these resemble the bones of the tyger, the hyæna, and the fallow deer. Others of more uncertain character have been found near Verona, in the rock of Gibraltar, in the vicinity of Dax, near Orleans, near Aix and Cette, in the islands of Dalmatia, and in the peat mosses of all Europe and Asia. The third volume of Mr. Parkinson's "Organic Remains" about to be published, may be expected further to illustrate this interesting, but obscure subject.

opinion

opinion seems to be entertained by M. Ritter. M. Curadau affects to consider them as combinations of charcoal and hydrogen with the alkalies; and an enquirer in Nicholson's Journal regards them as composed of oxygen and hydrogen. In substantiating his claim to opinions on the nature of potassium and sodium, which had been formed on the basis of experiment, Mr. Davy examines the preceding conclusions as far only as they are connected with and arise out of experiments, and leaves untouched those which are merely hypothetical. After an elaborate criticism, and a course of ingenious experiments, Mr. Davy comes to the conclusion that his former opinions concerning the metals of the fixed alkalies are accurate, and that potassium and sodium can with no more propriety be considered as compounds than any of the common metallic substances.

In the progress of chemical science surprise and pleasure often arise from extraordinary results, and the apparent elucidation of obscure and involved principles; but a more direct utility is found in the facilities it gives to arts, manufactures, and science. In a course of experiments made by Mr. Davy on nitrogen, ammonia, &c., though he was disappointed in the chief design, two practical facts turned up. It appeared from one that the passage of steam over heated manganese, may be applied to the manufacture of nitrous acid: from the other, that the ignition of charcoal and potass, and their exposure to water, may be advantageously applied to the production of volatile alkali, where fuel is cheap. These details may be deemed beneath the dignity of philosophy; but let the philosopher reflect, that from discoveries like these, the comfort, the influence, and the ease of mankind results. An elaborate analytical enquiry into the several varieties of British and foreign salt (muriate of soda,) with a view to explain their fitness for different œconomical purposes, has been instituted by Dr. Henry. In many points this is an interesting enquiry. To the medical philosopher it cannot be indifferent. The quantities of muriate of soda, daily and hourly consumed in the preparation of food, and much of which is taken into the system with that food, cannot but be believed to operate on the actions of the animal structure, and affect its stamina. To the political œconomist's it is not of less importance. An opinion has very generally prevailed both in this and other countries, that British salt is not so perfect a preserver of animal substances as that procured from France, Spain, Portugal, and other warm climates, where it is prepared by the spontaneous evaporation of sea water. The object of Dr. Henry is to ascertain, whether this preference of foreign salt be founded on actual experience, or be

merely matter of prejudice. The enquiry has led to a demonstration that the British salt has a greater degree of chemical purity than the foreign salt; and the opinion of its being less applicable to œconomical purposes than that of France, Spain, &c. is a prejudice unsupported by chemical investigation or by experience.

Though it does not appear that chemistry has discovered any substance that approaches to a cure for calculus of the human bladder, yet as this science has explained the component parts of human calculi, and shewn that where certain materials predominate in the urine calculus is formed, or that the urine will, in the *diathesis calculosa*, evolve some principles that constitute calculus, it may still be hoped that a prophylactic, if not a cure, may be found. An assumption by Mr. Home, that he had discovered that liquids pass from the cardiac portion of the stomach into the circulation, led him to consider that the greater number of nephritic complaints might possibly be prevented by introducing into the stomach such substances as are capable of preventing the formation of uric acid. If the concatenation is not clearly seen between Mr. Home's opinion, that fluids pass into the circulation from the cardiac portion of the stomach, and the formation of uric acid; it must be allowed, that if by any invisible chain, this opinion has led to the discovery of a prophylactic for calculus, it has performed in 1810, what in 1808 it could not have been supposed to be capable. The substance employed to subdue the formation of this acid was Magnesia; which was found to diminish the uric acid in a much greater degree, than the alkalies when even liberally used. Taken in the quantity of a dram in the day in water, it not only diminished the quantity of uric acid, but relieved the patient of unpleasant sensations; and in one instance seems to have suspended the attacks of gout. The muriatic and nitrous acid have been likewise used with much effect as lithontriptics. These completely relieved the symptoms, and the urine deposited a sediment, in 100 grains of which was found 80 of uric acid.

The publication of the Pharmacopœia of the Royal College of Physicians in London, in 1809, had induced attention to the science of pharmacy and to the Materia Medica in an unusual manner. Numerous observations, remarks, and critiques both friendly and hostile to that production, have appeared. To examine, or even to give a descriptive catalogue of the whole of them, whether detached essays, cursory observations, laboured criticisms in Reviews, or volumes expressly published on the subject, would occupy more time and space than this Report can allow. The Essay

say by Dr. Bostock, and the elaborate examination of the College publication, in the London Medical Review, are of sufficient importance, however, to be distinguished from the mere productions of the day. The nomenclature of the Pharmacopœia Londinensis has excited more observation, than its compositions, or the improvement of its Materia Medica. But with what propriety so much labour and time have been bestowed upon this part of the subject may be questioned. Precision in language, though a point of no mean importance, is secondary to the collecting and selecting substances for the cure of diseases. However energetic, terse, and perspicuous the diction of our Pharmacopœias, unless they possess the best and least exceptionable materials for the relief of the sick, they "become as sounding brass." In addition to the productions expressly professing to examine, correct and amend, numerous translations of this work have appeared under the denomination of Conspectuses, Synopses, &c. &c. &c. These have, necessarily, various degrees of merit. That published by Dr. Powell, with the concurrence and almost under the sanction and authority of the College, was not without considerable defects, which have been criticized with much severity. The conspectuses of Dr. Greaves and Mr. Todd Thompson, combining with the London, the Dublin, and Edinburgh Pharmacopœias, afford compact and useful compendia of Materia Medica and Pharmacy. Among the works which treat generally or systematically on this subject, a system of "Materia Medica and Pharmacy," by Murray, claims particular notice, both from the reputation of its author, and its own intrinsic properties. In its present enlarged and improved form, it has but little resemblance to its original state.

The introduction of new substances into the Materia Medica, or the discovery of new properties in substances heretofore employed, create an interest which must not be looked for in novel arrangements, the remodelling of language, or the melioration of technology. The period comprehended in this Report has furnished facts of this kind. A narcotic plant of the genus DATURA has been long known to possess properties of extraordinary potency. Under the popular term Thorn-apple, or the more scientific, if not classical word, *Stramonium*, it had been frequently employed both for nefarious and medical purposes. Various nervous affections had been attacked with it, and the adventurous *Storck* attempted with it to remove epilepsy and mania. The empiric found in it a ready instrument, and curious relations are given of its effects when in the hands of common thieves and

and robbers.* Under suspicion or neglect, it remained, as far as regards the regular physician, an incumbrance or a disgrace to the Materia Medica. When stigmatized or forgotten as a remedy, it arose into fame suddenly, like the phœnix from its ashes. Accident, or some obscure tradition, early in the year 1810, induced some persons afflicted with disordered respiration connected, as frequently happens, with much distressing morbid sensibility, to employ this plant as tobacco is smoked. In some instances the result was sudden and almost magical. The morbid sensibility was appeased, and the nervous patient, if he was not cured, had drank oblivion of his cares, and fell into a quiet somnolency. As the charm dissolved the magic calumet was at hand to renew it. And thus from time to time the sick man smoked and was relieved: and thus from time to time his remaining energies were benumbed, until fatal coma released him radically from his sufferings; or nature, struggling with epilepsy, shook off the insidious remedy.

This history of the effects of Stramonium is here inserted, not to forbid the use of this powerful and valuable substance, but to caution the invalid against its indiscriminate and empirical employment. If instances of its injurious and even fatal effect, when smoked in some idiosyncrasies are on record; there are others where its benefit has been marked and incontestible. It becomes then the duty of the physician, from a close and attentive observation of facts as they arise, to ascertain the exact accompanying phenomena when it has either been useful or injurious, and to lay down the *ratio symptomata* that indicate or forbid its use; so that it may be known by induction when it may safely be employed, and when it should be rejected. This, as it regards the public, has become the more requisite, as empirics, availing themselves of the soothing qualities of this plant, have used many artifices to force it upon those who are suffering from difficulties of breathing, under the general term of asthma; and are

* The seeds of the *Datura metel* are still employed in India for the same licentious purposes, that they were in the time of Acosta and Rumphius. The records of the native courts of justice establish this fact. Dr. Sims has stated, that the root of the *Datura ferox*, prepared by drying and beating it into fibres resembling coarse hemp, is smoked as a specific for asthma at Madras. This account the Doctor received from General Gent, who presented to him some of the prepared root. If Dr. Sims is rightly informed as to the plant, it seems that two species of *Datura* are employed in India. General Gent is lately dead, and there are some circumstances connected with the last period of his life, that should induce caution in the employment of Stramonium.

labouring

labouring to create a belief of its safety and infallibility. Though the *Datura stramonium* does not in any degree possess specific properties, never going further, as it has hitherto been used, than to relieve a symptom; yet its powers are evident enough to entitle it to an unprejudiced trial.*

It is remarkable that two diseases, which have been so difficult of cure as to be denominated *opprobia medicinæ*, should both have been conquered by specifics, say their patrons, which were discovered or brought into notice in 1810. Asthma has had its Stramonium, and gout its Eau Medicinale. Long ago, in some remote province of France, an officer whom nobody knew had the good fortune to discover properties in a plant, before unknown to all botanists and pharmacopolists; these properties manufactured with all the skill in pharmacy a military officer in the service of the King of France could possess, turned up, in the chapter of medical accidents, a specific for the gout. In the land of its nativity, this wonderful Eau Medicinale d'Husson, was discovered to be a dangerous remedy nearly related to a poison, and the sense and discretion of the government prohibited its use. Thus cut off, as was supposed, soon after its discovery, it remained long in obscurity; nor until the preux Chevalier d'Husson, in conjunction with some eleve of the charlatanic fraternity of France, had employed many expedients, was it again brought into notice. But England, not France, has been the stage of its golden triumphs. John Bull, who has much money and much gout, was the object of the benevolent d'Husson, or the equally benevolent proprietor of his secret, M. Chardron. To ease him of his pains, and—of his money, was believed by many simpletons, to be the only motives for establishing a depot of the Eau Medicinale in London. So useful, however, was it found to be to the

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* In forming an estimate of the degree of hazard or safety connected with the use of this plant, it will be an essential precaution to determine the power of every individual parcel of it. It is certain the plants differ exceedingly in the degree of medicinal power they possess: perhaps ten times more can be used of one plant than of another. The preceding volume (the 25th) of this Journal contains an Essay on Stramonium, claiming particular regard both for its research and practical observation. Since the preceding part of this note was written we have seen a pamphlet on Stramonium by the editor of the Monthly Magazine, which collects into one point of view the evidence in favour of smoking that plant. We can readily admit the benevolent intention of the author, but we would moderate expectation raised too high. The history of medicine presents many instances of specifics falling into disuse, not from caprice, but from their want of efficacy.

British

British arthritics, that counterfeits were soon abroad; and a person, from the purest motives, advertised the public that his was the true warehouse, and he the true *Sosia*. But this is an abstruse point of speculation best settled between M. le docteur Desgenette and the Chevalier d'Husson. Notwithstanding the equivocal circumstances accompanying the first appearance of the Eau Medicinale in this land of promise, and the direct or indirect charlatanism of all its panegyrists, it well deserves the serious attention of the regular faculty. The effects produced by it on the human system are strongly characterized. In some idiosyncrasies it is inert as water, in others it proves a drastic evacuant, inducing extreme prostration of strength even to the verge of dissolution, and more than once has been destructive of life; while in another class it slowly and silently destroyed the tone and energies of the stomach and digesting organs. In the first and the last it either left the arthritic paroxysm untouched, or the diathesis remained with its train of distressing sensations, unable, under the induced debility, to appear in its accustomed active form. But there are to be added to these many cases in which it evidently relieved the disease, if it did not perform a radical cure. In these relieved, or as some have flattered themselves, cured cases, it is a desideratum to know with the most minute precision, what where the appearances consequent on the exhibition of the Eau Medicinale. Was the painful stadium of the disease removed by it without any visible operation? In the cases of its success, was there a quick and active emptying of the system by the stomach, the bowels, or the skin; or by each of these emunctories in succession? Did it act like opium and other narcotics? Or had it a peculiar, specific, and undefined operation, "miraculous," as one of its panegyrists determine it, "alleviating the torments of the gout as if by enchantment?" It is the interest of d'Husson, or the persons who have purchased the secret of the Eau Medicinale, to hide its composition in "clouds and darkness." The *auri sacra fames* is the only feeling that touches these men. But why does a member of the Royal College of Physicians of London, who has written a pamphlet, ambiguously panegyrical, on this Eau Medicinale, conceal the secret so profoundly? Because he does not himself know that secret: but his negative catalogue is very complete. It contains no metallic or mineral substance; it is not an infusion of gratiola; it is not a preparation of euphorbium, veratrum, hyoscyamus, belladonna, digitalis, elaterium, &c. &c. (p. 9.) In short, it is not made from any material hitherto known to possess properties, medicinal when employed by intelligent persons, but deleterious

rious when in the hands of quacks. More has been said of this nostrum, possibly, than it deserves. But as it is made, incontestibly, from a substance of great but uncertain activity, has relieved some cases of gout, and been fatal in others, these remarks did not seem improper, both on the principle of precaution, and with the hope of inducing varied trials with substances producing similar effects on the animal system. As far as experimental enquiry and conjecture have yet gone, the evidence seems most in favour of the Eau Medicinale being a preparation from some of the species of *Nicotiana.*

The fatal termination of Cancer, and the difficulty with which diseases of the skin are managed, especially in the form of Elephantiasis and Lepra, renders every medicine of importance which promises to relieve them. Some years ago, the public was amused with an account of a disgusting remedy employed in South America, with good effect, it was said, in these diseases. Dr. Gourlay has brought this remedy again into notice. In an account of the island of Madeira, and its diseases, written by this gentleman, it is asserted that the common Lizard *(Lacerta agilis Lin.)* is given with success, even in Cancer; and he speaks of instances of its successful employment within his own knowledge. So much has been promised, and so little has been performed upon most occasions where extraordinary and singular remedies have been proposed, that they are received, properly, with hesitation and doubt. With regard, however, to the efficacy of some individuals of the genus *Lacerta,* the testimonies of various times, collected in distant parts of the world, afford some confidence. The Greeks, the Romans, and the Arabians, had an high opinion of the medicinal properties of the Lizard, and many absurd and superstitious instances of its effects are related by the authors of those nations. Various parts of this animal were employed for different purposes, and different portions were appropriated to the cure of opposite diseases. But there seems to have been a prevailing notion with regard to the efficacy of the Lizard generally in Scrophula, and complaints of the skin; and its blood was employed as a cosmetic. Serenus Samonicus, a physician in the time of Caracalla, in a poem on medicine, observes,

"Verrucam poterit sanguis curare Lacertæ."

There is, however, nothing in the ancients on the genus Lacerta that applies to the present subject, unless their general and confused notion of some of the species being efficacious in Struma, and cutaneous defœdations, can be connected with it by a loose analogy. The moderns have exami-

ned the subject with more precision. About the year 1781 Dr. *Joseph Flores*, a Spanish physician in South America, and a member of the university of Guatimala, published a memoir at that place, and again at Madrid in 1782, in which he asserts that a specific for Cancer had been discovered in the kingdom of Guatimala. This specific was a kind of Lizard, called by the inhabitants *Lagartija*. The Indians, or aborigines of the province, were the physicians who used this remedy. Their method of cure consisted in making the patient eat, during three days, or longer if the virulence of the cancer required, the *Lagartija* prepared in the following manner. The head and tail of the reptile were cut off, the skin and entrails separated from the body, which was then eaten raw and while quivering with life. But it does not appear to be essential to give the remedy in this disgusting form*. The animal being prepared in the manner before stated, may be made into pills. Each *Lagartija* will form two pills about the size of musket balls, which are taken daily. The mode in which this remedy operates is as singular as the remedy itself. The excretions of sweat and urine are much increased, and ptyalism is excited, the saliva discharged being thick and yellow. When neither diaphoresis nor salivation occur, the defect is supplied by an ample excretion of acrid and fetid urine. When the memoir by Dr. Flores appeared in Europe it made a very general impression. The Royal Society of Medicine at Paris directed M. Carrere to examine it, and his report on the subject appeared in the 4th volume of the Histoire de la Société Royale de Medecine, with the title of Rapports sur les Virtues medicale des Lézards du Royaume de Guatimala. To this is joined another Report by Messrs. D'Aubenton and Mauduyt, on the same subject. The Spanish physicians of Europe substituted the Lizard of Spain for the *Lagartija* of Guatimala, and it was said considerable advantages had been derived from its employment. Upon this it was that the Count de Vergennes procured a

* In the St Cristopher's gazette, about 1782 or 3, it was stated that in the Leeward Islands the wood Lizard was used as a remedy for Cancer, syphilitic eruptions, &c. The Lizard is directed to be taken almost alive, the legs, tail, and head cut off, the bowels taken out, and the skin removed: or, after being thus prepared, the body being minced small, may be made into pills. These pills are given fasting, every morning about sun rise, keeping within for two or three hours after. This medicine is stated to operate by salivation, sweat, and urine, and is reported to have effected astonishing cures. The pills taken for a dose though not specified, may be conjectured to be those made from the body of one Lizard.

number

number of Spanish Lizards to be brought into France, and distributed to the academicians who had furnished the preceding Reports. From the succeeding silence on the subject and the gradual subsidence of this mode of attacking Cancer, it is obvious that the remedy did not succeed with them. In Italy and Germany this new remedy did not escape the notice of medical practitioners. Dr. Flores had asserted in very positive language, that the Lizard cured cancer, syphilis, hydrophobia, and all the varieties of cutaneous disease. Fillipo Baldini, physician to the Sicilian Court, in "*Observazione sul' uso Medico de Rammari*" coincides with Dr. Flores in recommending the Lizard in all these formidable diseases. And another Italian physician Sig. Bassiani Carminate, (in *Opuscula Therapeutica)* though he does not go so far as Baldini, speaks in decided terms of its extraordinary efficacy in Scrophula. In Germany similar opinions prevailed, and Dr. Roëmer in 1788 strongly recommended the use of the green Lizard: about the same time I. P. Grass published at Helmstadt a Thesis *de Lacertæ agili Linnei.* It is not a little remarkable, however, that during all this period, from 1781 to 1788, it was not distinctly known what species of the genus Lacerta it was that possessed these extraordinary medicinal properties, or what affinity the *Lagartija* of Guatimala held with the Lizard of Spain, France and Italy. But it has since been ascertained that the *Lagartija*, the Lizard gres, the Lacerta terrestris, the Langrola, and the wood Lizard, are the same with the *Lacerta agilis.** From the period here mentioned, to the time of Dr. Gourlay's publication, the medical use of the genus Lacerta was overlooked, if not forgotten. His observations are so pointed, and his assertions so direct, that it will, probably, again be brought into notice; and the use of the Lacerta may now be either established or finally rejected.

No article of the Materia Medica has occasioned more enquiry than Mercury. In its crude state, quicksilver was once the subject of a keen controversy in this country. Its advocates pronounced it to be an universal remedy: and many

* The trivial name *Agilis* is happily applied to this species of Lacerta. It springs upon the minute animals on which it feeds with the quickness of thought; and on the appearance of danger, it seeks a secure retreat with equal rapidity. Far from flying from the approach of man, it seems to eye him with satisfaction, but on the smallest noise, even the falling of a single leaf, it suddenly shoots away and disappears, returns again, seems agitated, conceals itself again, returns, describes several circuitous contortions so rapidly as hardly to be followed by the clearest eye. This wonderful rapidity of motion is chiefly to be seen in warm climates, for in temperate regions its evolutions are more languid.

hundreds in London swallowed a certain portion of it daily, for a long time together. The effects produced by this practice are not detailed with distinctness, but the probability is, that it was often inert, though, in some instances, the contrary was observed; and the celebrated Barton Booth was declared to have died from its use. The exhibition of the various preparations of this excellent remedy must have produced sometimes untoward effects; but it had not been observed, until lately, that certain morbid states, distinctly characterized by specific phenomena, arise from its employment. About the year 1782, or 1783, these effects had been so far observed as to become the subject of remark, in the public lectures delivered by a very ingenious Surgeon. In 1805 and 1806 several publications appeared on the subject of an eruptive disease consequent on the use of this mineral. The disease thus produced seems to have been most frequent at Dublin, where it sometimes was fatal. Sir George Alley, a physician of Ireland, was among the first who gave his opinion on this subject to the public. The disease which Sir George Alley describes as being produced by mercury, and to which he gives the name of *hydrargyria*, is characterized by an eruption which is very variable in its appearances. In some instances there is merely a light rose-coloured efflorescence; in others, the skin presents an almost uniformly dark red tint, approaching, in a few cases, to a purple. But for the most part, the eruption appears in semi-distinct spots of a dusky red hue, which, diffusing themselves over the surface, leave but a few interstices of the natural colour. This eruption consists of a multitude of scarcely perceptible vesicles, and is accompanied with a febrile irritation, proportionate to the severity of the external appearances. The symptom which soonest produces distress, is an affection of the lungs. In some instances there is a disturbance in the respiration alone; but in others, a hard, harassing cough, and a fixed pain in the chest are superadded: and sometimes bloody expectoration. In these cases the pulse was hard as in pneumonia. Pain in the head, or violent delirium were seldom observed. Soreness of the throat and fauces was often a distressing symptom, and continued many days; hoarseness and extensive sloughing of these parts also occurred. The tongue, early in the disease, has an extraordinary degree of whiteness, but toward the close becomes parched, and black in the centre. The different degrees of *hydrargyria* are distinguished by the terms *mitis*, *simplex febrilis*, and *maligna*. Formidable this disease must have been in Dublin, for nearly one in five died. Beside this vesicular disease, under the denomination *hydrargyria*, other morbid effects have been produced

produced by Mercury. These, from their resemblance to Syphilis, have been called *pseudo-syphilis*, and *cachexia syphiloidea*. These differ much from the *hydrargyria*. That is an acute febrile affection, these are chronic; and though their characterizing marks are well known, Hunter, Pearson, and Abernethy hesitate to pronounce them mercurial. Mr. Andrew Mathias, in an express treatise on the subject, has described their symptoms with more clearness and precision than had before been done; but he has not satisfactorily explained their cause, though he looks for that cause to Mercury. In the history of this mineral a fact of more importance has not occurred, than one which accidentally arose in the spring of 1810. In the month of April of that year, the Triumph man of war, took on board 30 tons of quicksilver, contained in leathern bags of 50 pounds each. These bags were picked up on the shore of Cadiz, from the wreck of two Spanish line of battle ships, lost in the storm immediately preceding the above date. The collected bags were stowed below, in the bread room, after hold, and store rooms forward; they were saturated with sea water, and in about a fortnight many of them decayed and burst, and the mercury escaped into the recesses of the ship. At this period, bilge-water had collected, the stench of which was considerable; and the carpenter's mate, in the act of sounding the well, was nearly suffocated. The effect of gas escaping from *bilge-water* is manifested, by its changing every metallic substance in the ship black. But in this instance metals of every kind were coated with quicksilver; and an affection of the mouth took place, very generally, among the men and officers to a severe degree of ptyalism, in upwards of two hundred persons. This history having been submitted to Dr. George Pearson, so well known for his chemical acquirements, he observed upon it, that "from well established principles, as well as analogies, a very reasonable explanation may be given of the effects attributed to 30 tons of quicksilver, exposed on board the Triumph in bilge-water, in a hot climate, in the beginning of Summer. The stinking gas, which was sulphuretted and perhaps phosphuretted hydrogen gas, mixed with carbonic acid, and, possibly, other gases compounded by the putrefaction of animal and vegetable matter. The deadly suffocating effects of which gases are fully ascertained; tarnishing of metals, especially silver, at a great distance, even when mixed with a large proportion of fresh air, is a well known effect of sulphuretted hydrogen. These last mentioned effects are attributable to the gases of putrefaction independently of quicksilver. But when the influence of so large a body of this metal is considered, it will be easy to account

count for the whitening of metals, and the salivation of many persons in the ship. The quicksilver would rise, united or suspended by the above gases, or be even evaporated by the heat of the ship, in the common fresh air. This metal, thus suspended or dissolved, is very likely to penetrate the human body, and act upon it like the fumigation with mercury; but sulphuretted hydrogen dissolves the metal, and of course would carry it wherever the gas was transmitted."*

The Materia Medica has received important additions from a valuable catalogue of Indian medicinal plants and drugs, by Dr. Fleming. Many of these articles are yet only known in India; but the information now given will, probably, bring them into the European practice. A few only can be here noticed. In running over the alphabetic arrangement, the *Asclepias asthmatica*, a plant growing in the northern Circars, but not in Bengal, first deserves regard, as affording, possibly, a substitute for ipecacuanha; and possessing, perhaps, some properties different from that plant. It is employed in dysentery and asthma with great success, by the Hindu physicians. This species, of a very numerous genus, was discovered in the woods of Ceylon, by the late Dr Kœnig (Linn. suppl.), and to him is the public indebted for all that is at present known concerning it. In the examination of the properties of the asthmatic swallow-wort, it would be unwise to overlook its thirty-three known brethren, among whom may perhaps be found individuals possessed of similar virtues. The *Boswellia thurifera* furnishes the gum-resin olibanum, which is yet given (Phar. Lond. Edit. 1809) to the *Juniperus lycia*. *Cæsalpina bonducella*, a native shrub of both Indias, but known as a medicine only in the East, produces seeds intensely bitter, and possessing tonic powers in a very high degree. The Hindu physicians employ these seeds as a general tonic; and particularly in intermittent fevers, for which they are considered as an almost infallible remedy. The *Calcaranja*, the Hindoo name of this plant, is most efficacious when used with a decoction of the *Gentiana chirayita*, another valuable plant, indigenous in the mountainous countries north of the Ganges. *Carica papaya*, (a native of South America, but

* As opinions are much at variance on the rationale of this occurrence on board the Triumph, it is hoped that a further investigation will take place. We know that Dr. Baird, to whom the public is indebted for the above statement, and who pursues, with an indefatigable spirit, every object calculated to benefit physical science and improve our medical naval œconomy, is endeavouring to effect a full and satisfactory explanation of a phenomenon so interesting to philosophy as well as to medical science.

which

which has rapidly spread, from the Phillippines and Moluccas to which it was brought by the Spaniards, over all the countries of India,) gives a milky juice from its fruit on incision, which the inhabitants of Bourbon and the Isle of France consider as the most powerful vermifuge yet known. The seed of the *Osimum pilosum*, the *Rihan* of the Hindoos, has the property of furnishing a mucilage, when infused in cold water, which is used by the natives as a demulcent in catarrh; and is also a favorite medicine with the Hindoo women, for relieving the after pains of parturition. The seed of the *Betoneia officinalis* of our woods has the same quality. When a short time infused in cold water, every individual seed of the *Betony* is surrounded with a thick coating of mucilage. The bark of the *Punica granatum*, was found effectual in dislodging the tænia. The extraordinary property which the seed of the *Strychnos potatorum* possesses of clearing muddy water, and rendering it palatable, has claimed a place for it in this catalogue. This property is so well known to belong to this seed, that it is called by the English in India, clearing-nut, and is sold in every market for this purpose. The clearing-nut is constantly carried about by our more provident soldiers in time of war, to enable them to purify their water. The leaves of the *Vitex trifolia* are employed by the native Hindoos as a discutient. Their efficacy in dispelling inflammatory swellings of the joints from acute rheumatism, and of the testicle from supressed gonorrhœa, has often, says Dr. Fleming, excited my surprise. In the *Meloe cichorei*, which abounds in every part of Bengal, Bahar, and Oude, has been discovered a substitute for the Cantharis. It has been found to produce effects precisely similar to the officinal blistering fly: Lytta vesicatoria, P. L. 1809.

Among the newly discovered properties in medicinal substances, the almost specific one in the *Oleum Terebinthinæ*, against the Tape-worm, deserves particular regard. It has now been given in a great number of cases with much success, and is apparently so free from all hazard, that its character in this complaint may be considered as established.

The white oxyde of Arsenic, which is now admitted into the London College Pharmacopœia, has had its operation on organized bodies critically examined in an inaugural dissertation, *de Effectibus Asenici*, &c. by Dr. Jaeger. This potent mineral appears to be a certain and quick poison to plants at every period of their growth, and that it destroys them by a chemical action which exhausts the irritability of vegetable life. The irritability of the *Mimosa sensativa* was exhausted before the plant itself was destroyed. When applied

plied in a destructive quantity to animals, their death was preceded, in every instance, from the infusory animalculæ up to the man, by inordinate motions, and a most remarkably increased secretion of lymph from the mucous membranes. Frequent fluid stools took place in all classes of animals; the respiration of those animals which breathe by lungs, became difficult and laborious, and warm blooded animals experienced extraordinary thirst. In birds and mamalia, frequent violent vomiting took place, and commonly was the commencement of the scene to which convulsions put an end. Rabbits, which ruminate, did not vomit; dogs and cats gave the first indication of their uneasiness by a change in their voice. The appearances that arise from a poisonous dose of this mineral, both during life and after death, are minutely examined and detailed. And from a very full view of the subject it is concluded that Arsenic does not act mechanically by the sharpness of its particles, nor by its local action on the stomach, nor in the manner of acrid poisons or dephlogisticating substances, nor upon the nervous system; but is analogous to the poison of the viper and ticunas, which act primarily upon the blood. In these very minute inquiries into the action and operation of Arsenic as a poison, it does not seem that Dr. Jaeger has made the report of this mineral being the efficient material in the *Acqua tofana* at all the subject of his investigation. The proofs of poisoning by Arsenic are of two kinds: pathological, derived from the symptoms which precede death, and the appearances of the body after death: chemical, derived from the properties of the mineral. While this dissertation examines, arranges, and analyses the phenomena that accompany the operation of this virulent substance, a French physician, M. Casimir Renault, has presented the faculty with *Nouvelles Expériences sur les Contre-Poisons de l'Arsenic.* This writer considers vomiting the surest remedy for poisons taken into the stomach, and which can act only by bringing away the deleterious material. He has, however, an ingenious substitute. He proposes, with a syringe, to which is affixed a pipe long enough to pass into the stomach, to wash that organ completely. A quantity of any fluid may be thrown into the stomach with this syringe, and again drawn out with the same instrument. The repetition of this as frequently as may be required, will dilute, dissolve, and extract the poison. How far this *Lotura ventriculi* will answer in practice remains to be determined.

Of the three branches into which the profession of medicine is practically divided, after the ground gone over, not much remains to be said. Neither Midwifery, Surgery, nor the

the practice of Physic, have, however, been without improvement or innovation, during the year 1810. The pages of this Journal, in that period, have given some discussions on the practical parts of Midwifery, particularly respecting the management of twin cases. But Dr. Merriman's Dissertation on Retroverted Uterus and extra Uterine Fœtation, affords the principal novelty in this department of the healing art. The ingenuity of that Dissertation has been fully admitted, notwithstanding the impossibility of some of the writer's conclusions being true.

The rapid progress which the operative part of Surgery is making toward perfection, excites a double sentiment in the reflecting mind: admiration at the excellence to which the operative part is reaching, and apprehension lest this excellence should, at times, lead to its employment when milder methods might succeed. It is not to be disbelieved that as Surgeons become assured of the facility and certainty of their operations, these operations have sometimes been needlessly resorted to; and that mutilations have occasionally taken place as much for the honour of the Surgeon as for the benefit of the patient. While operations were more difficult, and their results more precarious, the Surgeon hesitated and the patient recovered. The per-contra of this, however, preponderates in the scale of good. Diseases which once were fatal, whether left to their natural course or operated for, are now cured, with great certainty, by new operations, or by those previously known. Aneurism presents an instance. For some forms or localities of this disease, Surgery, a few years since, had no remedy. Aneurism of the femoral artery, when seated high up on the vessel, was irremediable. Aneurism of the subclavian or carotid arteries, was considered as beyond the reach of art. But these are now operated for with success.

If mechanical surgery is thus highly improved, can it be allowed that the reasoning part has been equally progressive? In this age of philosophic deduction, strange would it have been if this spirit had in no degree reached the Surgeon. Satisfied, however, with the precision and dexterity of his mechanical acquirements, the Surgeon has fallen, less frequently, into the *deliramenta doctrinæ* than the other branches of the medical profession. But it must not be forgotten that Mr. Abernethy, learnedly expert in the mechanical part, has gone deeply into the rationale of the science; and, though influenced by a shade of hypothesis, has preserved to modern surgery that decided character for investigation, which was imparted to it by John Hunter. A republication of Mr. Abernethy's works, treatises by Messrs. Whately, Copland,

Ramsden, Geohagan, Wadd, Bell, &c. &c. have improved the practice in some instances; in others have either described new diseases, or placed in a new point what has before been investigated. Mr. Whately's disease in the Tibia, as the sequela of Fever, must be believed, until this ingenious Surgeon farther elucidates the subject, to be a form or variety of *Necrosis*. The history and treatment of diseases of the Rectum and Anus, have been explained with precision by Mr. Copland; who has combined erudite illustration, and practical facts, with a close observance of nature. The distress and irritation which hæmorrhoidal excrescences communicate to the whole frame, has induced surgeons to extirpate them, either by incision or ligature. Both these methods have been accompanied or followed by untoward terminations. Dangerous hæmorrhage, or fatal inflammation resembling that which occurs in incarcerated hernia, are always possible events, and have been the consequence of those remedial attempts. To avoid the hazards of either of these, it is proposed to bruise the stem of the hæmorrhoid, in a manner similar to that which animals employ on the funis umbilicalis; and thus prevent hæmorrhage, or that inflammation which has extended to the intestinal canal. To effect this with certainty a correspondent advises the use of a forceps, sharply (perhaps prominently) dentated. Mr. Ramsden has referred many of the diseases of the Testicle and its tunics, to a peculiar state of the Urethra, as their cause; and has described, as he conceives for the first time, some circumstances in that canal, operating very powerfully, to excite or to exasperate almost the whole of the morbid states of that gland. By a proper application of the bougie to the urethra, he states, from actual observation, that many disorders of the Testicle may be speedily removed, which under every other kind of management are either tedious or dangerous. A branch of Surgery, almost new to this country, and which but a few years since was wholly in the hands of foreigners, is now applied to with a degree of attention which assures to the English Surgeon an equality, at least, with those of the continent. The delicate structure of the organ of vision, the numerous diseases to which it is liable, resulting, perhaps, from this delicacy of structure, and the increasing catalogue of these diseases, combine to make this branch of Surgery of great importance. The establishment of institutions for treating the diseases of this organ, the numerous publications, and the success with which operations, once unknown or thought impracticable, are performed, shew distinctly the progress of knowledge on this interesting subject.

There is nothing connected with medical science that involves,

volves, more seriously, the interest of society and the credit of the faculty, than Vaccination. It has had to encounter, very fully, the difficulties that all new modes of treating diseases, and all projects for securing the health of mankind, undergo. From a variety of motives and feelings its progress has been obstructed. A few persons have had a conviction of its insecurity as a preservative from small-pox: some have been prejudiced against the discovery itself, or against the promoters of the practice: but more have resisted with the view of raising themselves from obscurity, or to insure a lucrative employment by spreading variola. Under all these disadvantages Vaccination is establishing on the firm basis of experience. Its clamorous and injudicious friends are tired into silence, and leave the defence of the practice to its own merit, as displayed in a numerical logic, of all eloquence the most persuasive. It has been seen, in authentic documents, that every method of encouragement has been taken by the government of France to promulgate this discovery, and the infant heir to the monarchy has undergone Vaccination. In the island of Ceylon 25,697 were vaccinated in 1809, making a total of 128,732 persons vaccinated there from the period of its introduction; and the small-pox is said to be exterminated. The Report of the National Vaccine Establishment in London, made to the House of Commons in last March, states, that no failure in any of its stations has occurred in any case of Vaccination. In the Royal Military Asylum, containing 1,100 children, where Vaccination has been employed since 1803, but one child has been lost by small-pox, and that was not vaccinated, on the presumption that it had previously passed through *variola*. In the Foundling Hospital no death by small-pox has occurred since 1801, when Vaccination was introduced. From Manchester and Glasgow similar successful returns are made. In Dublin and Edinburgh the Report states that Vaccination is becoming general, and with a success equal to its extension. It is the duty of the Historian to record the strong prejudices still existing against Vaccination; and that a few unfortunate cases keep alive and increase these prejudices. But though it would be unfair to deny that cases of small-pox after Vaccination have sometimes happened; yet the proportion that these unfortunate cases hold with the secure ones is so small, as hardly to furnish an objection to the practice.

In the theory or institutes of Medicine, the character of the favourite hypothesis has been so frequently drawn from the peculiar habits or pursuits of its projector, as completely to justify the observation of M. d'Alembert. "La philosophie prend la teinture des esprits ou elle se trouve. Chez un métaphysicien,

taphysicien, elle est ordinairement toute systematique; chez un géomètre, elle est souvent toute de calcul." It is not, abstractedly, of much importance that the medical theory of the chemist be chemical, or of the mathematician mathematical. But the general principle so frequently and so far influences practice as to lead to the most dangerous errors. At one period stimulants and tonics were to be employed in all cases, at another evacuants; now an acid was to be encountered, now an alkali. All these hypothetical opinions have been acted upon as earnestly as if they had been erected on the foundation of immutable truth. When it was observed in the view of the progress of medical science in 1808, that the tide of opinion was strongly setting against the stimulating therapeutica of the Brunonian School, it was not expected that occasion would soon be given for lamenting the opposite and more dangerous extreme. John Brown reckoned the pure sthenic diseases to be few in number; and even these were pronounced prone to run into indirect debility, and then to fall into his great class, asthenia. Thus were his scholars taught to fear the sud denfailure of the *vis vitæ*, and to guard, even whilst the inordinate action continued, against the impending debility. It is, indeed, surprizing that this hypothesis, especially as indirect debility was a term in constant use and defined with accuracy, did not lead to different practice. It might have been presumed, as the pupils of this school were taught that the subsequent debility was proportioned to the previous increase of action, some means would always be taken to moderate that increased action: or, at least, that stimulants would seldom be employed, while it continued, to obviate the dreaded debility. But it was left to the practitioners of the present time to see the force of this inference and its application to practice. If any individual were to be fixed on as having been most instrumental in effecting this change, Dr. Hamilton, the author of the treatise on the use of purgatives, would be the man. That treatise, full of practical knowledge, and of clear deductions, spoke conviction. Many other practitioners may, however, claim a share in this important change. *Scarlatina*, long thought to have a close affinity with the asthenia, had, for many years, when it assumed what has been called a malignant aspect, been treated with cinchona, wine, opium, alcohol, æther, &c. &c. Under this method its fatality was most serious. Families of children were swept away. In these instances the practice correctly quadrated with the principle: but the principle was, probably, erroneous. In the 25th volume of this Journal a history of the progress of *Angina maligna* in an eastern district of the kingdom has been recorded.

There

There it is shewn, on respectable authority, that nearly the whole of those who were treated with tonics and stimulants died; while those who were blooded, purged, and had other means employed to restrain excessive action, with few exceptions, recovered. If the facts stated are not sufficiently distinct, as to the phenomena and characteristic marks of the disease, or are not enough explicit as to the successful method of treatment, the practitioners of Ipswich, and other parts of the county of Suffolk, who have given the detail, are imperiously called upon to shew, beyond equivocation, what the disease was in which the stimulant treatment was so generally fatal, and where the contrary was so successful.

While a cautious and rational deviation from the stimulating system of Brown claims the fullest approbation, it cannot pass without remark, that many have employed the opposite method to an enormous extreme. Dr. Robert Jackson, an army physician of great experience and observation, but influenced, possibly, by some hypothesis, has, in the fevers of camps and military hospitals, employed the depleting fashion to a most extraordinary, if not extravagant extent. Under his immediate direction the bold abstraction of blood may have sometimes preserved life; but the employment of this remedy by a herd of imitators, who, without selection, subject their patients, *en masse*, to the lancet, must create alarm. It is against all reason and observation that every soldier, suffering by fever, whatever his age or temperament, whatever the period of his disease, or whatever peculiarity there may be in the symptoms, either as to degree or quality, should equally bear the loss of 20 or 40 ounces of blood at a time, and often with quick repetition. In cases of topical inflammation this may be right; but even then it will require a nice estimation of the forces of the system, to ascertain who can bear the loss of 200 or 300 ounces of blood in four days, or who would be destroyed by such an evacuation. But in cases of fever, without local inflammation, generally either typhus, or approaching to that type, such practice must be considered as hazardous, and, possibly, will often be fatal. If this practice should ever have been resorted to in the last stadium of these fevers, or should have gone into the period of convalescence, it will appear more rash, wild, and fatally extravagant.

Professing to give an "abstract and brief chronicle" of the progress of the healing art, to have passed over unnoticed, even a report of a practice which reduces science to the rude efforts of uninstructed barbarians, would have been a dereliction of principle. If, in our naval and military hospitals, this extraordinary practice has prevailed, it cannot long continue.

tinue. The majority of army and navy surgeons are known to be humane and scientific; to add a perfect knowledge of the structure, and a profound acquaintance with the functions of the frame, to cautious practice. If, for a period, many of these should have fallen into this irrational proceding from the influence of superiors, or from the imperfection of human nature, they will soon return to methods more consonant to common sense, and the true principles of medical science.

In the walks of private life the most absurd hypothesis has its poison confined within narrow bounds; its objects are, comparatively, few, and it is restrained by public opinion: but in fleets and armies, and in military hospitals, uncontrouled by fear of the world's censure, and even concealing, very generally, the rotine of practice, theory may be carried to the most destructive length. Then will human life be sacrificed in a ratio agreeing with the error of the hypothesis, and the extent of its application; and the physician must forego his claim to the sentiment of *Cicero*. HOMINES AD DEOS NULLA RES PROPIUS ACCEDUNT, QUAM SALUTEM HOMINIBUS DANDO.

Princes Street, Cavendish Square, June 30th, 1811.

To the Editors of the Medical and Physical Journal.

Case of Polypus Vaginæ.

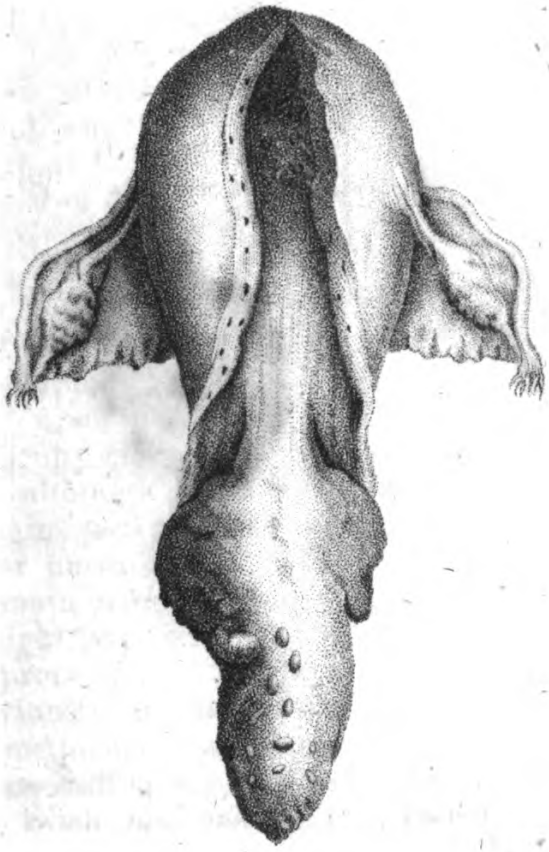
(With an Engraving.)

GENTLEMEN,

THE following very singular case of Polypus, in part attached to the posterior part of the vagina and os uteri, having lately occurred, I have taken the earliest opportunity of transmitting it to you, accompanied with a drawing from the preparation itself, now in the possession of Dr. Clough, taken by his very ingenious pupil Mr. Andrews.

On Wednesday, the 17th of April, I was requested to attend Lydia Hendy, about thirty-five years of age, residing at the three compasses, Mount Street, Grosvenor Square, who, I was informed, had been in lingering labor from the Saturday previous to my being sent for. After waiting a short time, she had several very strong bearing down pains, and, upon an examination *per vaginam*, I discovered a large tumour of the sarcomatous kind, pending by a stem without the os externum, which, on making a strict enquiry, she informed

Polypus Vaginæ. *page 38.*



Indrews del.

Published July 1.1822.

formed me she had been troubled with for the period of twenty years; at first it was the size of a walnut, and afterwards gradually increased to its present bulk, so that it must have originated at a very early period of life. After her labor had gone on in a regular way, she was delivered of a dead fœtus. Being rather a singular case I requested Dr. Clough might be called in, who immediately attended. Upon his arrival I informed him, although the fœtus and secundines had been for some time extruded, yet she had very powerful and strong uterine contractions as if there was something more to be expelled, and requested him to make an accurate examination *per vaginam*, which he did, and discovered a polypus of very large dimensions, attached by a pedicle of considerable thickness, and which was then pushed up into the uterine cavity. This she had done herself in my absence, as she had always been accustomed to do on former occasions either during her labors or afterward, or in the act of walking, without the smallest pain or inconvenience: even upon going the shortest distance it protruded, and by stepping aside she immediately replaced it, without paying any further attention to it. As she did not complain of any pain when it was compressed, we determined upon passing a ligature, which Dr. Clough with some difficulty effected, and passed it completely round its stem, and, although drawn tight, and unavoidably a portion of the vagina was included in the ligature, it gave her no sort of pain or uneasiness, or produced vomiting. It was suffered to remain with the hope that by a successful operation, she might have been released of the Polypus, by the putrefactive process, in a few days, as she had not been indisposed previously to the commencement of labour, excepting in consequence of a constant leucorrhœa, which had reduced her exceedingly. She had several loose stools on the morning when first taken, unattended with the least griping; she lingered till the following day, and about six in the evening expired. I made all the enquiries I possibly could from her relatives respecting the state of her general health for years past, and was informed that she had been married ten years, and during that period had four children, all still born, and that the Polypus always protruded at every labour; that she never experienced any considerable degree of inconvenience, except a dragging pain in her back, occasioned, without doubt, by the gravity of the Polypus, and it is not a little worthy of remark that no steps should have been taken during so long a period by her medical attendants for its early extirpation, when in all probability her life might have been saved. Permission to open

open the body being obtained, it was performed by Mr. Chevalier in the presence of Dr. Clough, Mr. Kitching, and myself. The polypus was found, as before described, in the posterior part of the vagina; no particular disease existing in the uterus or its appendages: there was a slight degree of inflammation in the colon and larger intestines. The uterus and appendages with the polypus were dissected out, and an incision made into the latter, in order to discover its true texture. In addition to the above particular, I beg leave to state, I feel much indebted to my friend, Dr. Clough, for his promptitude on this occasion, and much pleasure in having an opportunity of putting him in possession of so valuable a morbid preparation, in addition to his extensive collection. Dr. Clough considered the Polypus to be the largest he ever saw, excepting two, which were in the late Dr. W. Hunter's Museum; observing that its appearance was very similar to that of the excrescence from the fundus uteri, with an inversion, of which Dr. Denman has given a delineation in his series of engravings on this subject. It measured from the beginning of the stem to the apex eight inches, seven inches and a half in circumference, three inches in the thickest part, and in weight was one pound four ounces.

I remain, Gentlemen,

Your most obedient Servant,

E. P. FORDHAM.

South Audley Street, May 7, 1811.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

AN extraordinary case of Exomphalocele having occurred (about twelve months since) to a new born male infant, I embrace this opportunity of communicating the same to you, that you may give it a place in your periodical work, should it meet your approbation.

April 15, 1810.—John Brown, residing at 2, Upper Charlton Street, Fitzroy Square, was admitted as a patient on the medical list of the Endeavour Society. I first visited this child about a fortnight after its birth, and found a rupture, measuring in diameter four inches, and in height at the centre one inch and a half, covered by the omentum and peritoneum; on which surface there was an uniform unctuous exudation; this rupture was surrounded by the umbilicus

licus bearing the funis on the left, the edges were in a state of inflammation. I requested Mr. Clough, of Norton Street, Surgeon of the Establishment, might be sent for, and we agreed in opinion that it would be more secure to bring the parts together by the first intention; which plan we adopted, covering the softer parts with dossils of lint. About a week after very high inflammation arose, and we were under the necessity of leaving off the adhesive pressure, and had recourse to a weak solution of the superacetate of lead, with a moderate bandage round the body. This plan was pursued until the 26th of May, when the part was reduced to about the size of a sixpence, and the child was sent into the country, with every prospect of doing well.

I am, Gentlemen,
Your humble Servant,
H. G. CLOUGH, M. D.

Berner's Street, 11th May, 1811.

To the Editors of the Medical and Physical Journal.

On the Origin of the Term Man-midwife.

GENTLEMEN,

I SHOULD be much obliged to any of your Correspondents for information when the compound word *Man-midwife* was first used, and by whom?

It is inserted in Ainsworth's dictionary, 1736, immediately below the word *Midwife*, and is explained, *Medicus parturientibus opem ferens.* It is likewise inserted in Boyer's French dictionary, 1742, but it is not in Johnson's English dictionary.

Sir Fielding Ould, in 1742, writes himself *Man-midwife;* Smellie has a chapter on the Qualifications of an *Accoucheur*, thus rejecting the term *Man-midwife.*

In 1705 was published "Portal's complete Practice of *Men* and *Women Midwifes.*"

In "The compleat Midwife's Practice," published in 1656, this expression is not to be found, though the ladies are censured "for making election of men to bring them to bed," which is said to be "a great piece of impudence, unless it be in a case of very great danger:" the word *chirurgeon* is throughout this book used to designate the *accoucheur.*

Dr. Hugh Chamberlain, who translated "Maurican's

Diseases of Women with Child and in Child-bed," 1672, employs the term " *Artist in Midwifery.*"

From this it may be supposed that the word Man-midwife began to be used between 1672 and 1705; but for the express time I must refer to some other correspondent.

OBSTETRICUS.

May 10, 1811.

To the Editors of the Medical and Physical Journal.

Inquiry for a Remedy in cases of Ringworm.

GENTLEMEN,

THE complaint known by the name of Ring-worm, which infests the schools in the neighbourhood of the metropolis, may truly be deemed an *opprobrium medicorum*, from the difficulty with which it is kept under, and its being scarcely ever cured, however various the practice of the different medical men in this metropolis; whilst Tinea capitis, a complaint almost equally common, is more easily mastered. I venture, therefore, to ask any of your intelligent correspondents, if they have ever been able to discover a remedy producing permanently good effects in cases of Ring-worm? The communication of it to the public would relieve many families and practitioners from much disquietude. Though an old practitioner, I am free to confess that I am unacquainted with the history and description of that peculiar affection, in any nosological work.

I am, Gentlemen,
Your humble Servant,
PHILANTHROPOS.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IF you think the following obstinate and long continued case of Colica Pictonum of sufficient interest, have the goodness to insert it in the next number of the Medical and Physical Journal.

I am, Gentlemen,
Your obedient humble Servant,
ROBERT HARRUP.

Chobham, March 8, 1811.

William

William Drew, a labourer in husbandry, about thirty years of age, of a slender make, but generally healthy, applied to me for a pain of his bowels, on the 9th of June, 1810, for which he took a purge of jalap and calomel. Three days after he again applied, said the physic had operated well, but he felt his stomach rather disordered.

Considering this last complaint to arise from acidity, he took a mixture composed of natron, magnesia, and mint water. A few days afterwards, I was sent for to him; he complained much of the pain in the umbilical region, such as was felt when he first applied, but now more severe, and which, he now acknowledged, he had experienced, more or less, for two months past. Tongue furred, pulse 100 and feeble, urine high coloured and passed with difficulty, considerable thirst, no appetite, frequent retching, sometimes bringing up from the stomach a green acid fluid, bowels obstinately constipated, and the stools, when procured, very dark coloured. To these symptoms may be added, giddiness when in an erect posture, great restlessness, no sleep, and the skin of a light yellow colour, which increased in a slight degree as the disease advanced, without any yellow tinge of the eye.

The bowels were attempted to be kept open with the infus. sennæ and magnes. sulphat., glysters, and an occasional pill of a few grains of calomel. Stools were, however, procured with much difficulty, and relieved him in a very trifling degree.

Blisters applied to the scrobiculus cordis and abdomen afforded a temporary relief, much in the same manner as fomentations of warm water which had been previously employed.

Various other remedies were used, but without effect. Opiates afforded but little ease and increased the constipation. Natron and kali were repeatedly had recourse to without deriving any advantage from them. The sulphuric acid was also taken, which at first appeared to mitigate the violence of the symptoms, but soon lost that effect. The patient was now rapidly sinking under the violence of the disease. I therefore, as a last resource, determined to affect the mouth by mercury, particularly as I had experienced so much advantage from this plan in various other diseases. The disorder had now continued with unabated violence upwards of four weeks, and as the patient was reduced to extreme debility, it was necessary to proceed with great caution lest the mouth might be too much affected.

He began by taking two grains of calomel night and morning. On the fourth day after, he complained of a brassy taste inhis mouth, and his teeth were somewhat loose. Next

day the fœtor of his breath was very evident, and some soreness of his mouth was perceptible. He felt himself easier and had some hours rest in the night. The morning pill was now omitted, and that in the evening taken as usual. His mouth continued to be slightly affected for some days, and all the symptoms rapidly declining, when suddenly the mercurial affection disappeared, and the disease returned with more violence than before.

The quantity of calomel was now increased, and the mouth became again affected, to the great relief of the patient, which unfortunately was but of short duration, as the mercurial action again suddenly subsided, and the original disease returned as before. This alternation of two diseased actions occurred no less than six times, although he was taking 12 grains of calomel daily. So sensible was he of the affection of his mouth relieving him from his other distressing complaint, that he earnestly begged something more might be done to keep his mouth sore. In order to prevent another relapse, and to keep up a steady mercurial action, a drachm of the ung. hydrarg. fort. was rubbed into the legs every night and morning, and six grains of calomel taken in the course of the day. In a few days the tongue and inside of the mouth became ulcerated, but not to that degree as to prove the least impediment to his speech, and a considerable flow of saliva took place.

From this time the symptoms disappeared entirely; his bowels acted regularly without assistance, and his stools became of a natural colour. The affection from the medicine was kept up for three weeks, when he could sit up and considered himself as recovering his strength, although he could not indulge a craving appetite for food, an effect which is very common from the mercurial disease.*

His convalescence proceeded satisfactorily till the 14th of August, when being much disturbed by a domestic quarrel, he went out during a heavy shower of rain, and afterwards remained several hours in his wet clothes. Next day he complained of great stiffness of his joints, with shooting pains in various parts, which soon increased to a most excruciating degree; particularly in the extremities and larger joints, accompanied with much soreness but no tumefaction. His case now became particularly distressing. He had no sleep, and from a perpetual restlessness he required to be frequently

* In all cases in which I have had recourse to this mode of cure, the specific effects of the remedy have been pushed till the symptoms of the disease disappeared, *but no farther;* and the mouth kept in this state from one week to three according to the exigency of the case.

moved,

moved, which tended to aggravate his sufferings on account of the extreme tenderness of every part. Various remedies were employed with little or no advantage. When immersed to the neck in warm water he became easy, but a few minutes after the pains returned more violent than before. At one time he lay several hours apparently in a dying state; the whole body was covered with a cold clammy sweat, the eyes half closed, the pulse gone at the wrist, and respiration scarcely to be perceived. He entirely lost the use of his limbs, and the little aliment he took was put into his mouth by those about him. That his pains would cease upon reproducing the mercurial disease, I had not a doubt, but at the same time it seemed not improbable that, in his exhausted state, a second salivation would prove fatal. He, however, took a considerable quantity of the medicine without any effect whatever being produced. At last I was induced to make trial of the nitric acid, and lay aside every other medicine. Accordingly, in the latter end of October, he began taking a drachm of the acid, properly diluted, in the course of the day. His pains began to abate, and he had some sleep at intervals, and before he had taken the medicine eight days he was nearly free from pain, and had a tolerable appetite.

The acid, in the same doses, was continued regularly, without inconvenience, upwards of a month, when he was again in a state of convalescence. His pains had ceased entirely for some time; he had recovered the use of his limbs, and enjoyed sound sleep with an excellent appetite. I now entertained a hope of his complete recovery, but in a very short space of time had the mortification to see all the symptoms of his original disorder again stealing gradually upon him. Every endeavour was used to arrest its progress, but in vain; the disease daily gained ground, and at last exceeded in violence the former attack. In this hopeless situation I considered the patient as fast approaching the end of all his sufferings; yet unwilling to leave him entirely to his fate, I thought of making trial of allum in repeated doses, though with very little hope of success. On the 10th of January last he began taking fifteen grains of common allum, with three grains of nutmeg, in a little mint tea, every six hours. After taking four doses his pains had increased, and on the supposition that the powders were the cause, he was unwilling to persevere. With some persuasion he again began their use, and in the course of twelve hours the pains were much relieved. The bowels now began to act without assistance, and the fœces, which heretofore had been of a dark colour,

had

had now a reddish hue, an appearance which I have always observed when allum is taken in any quantity.

The powders were regularly taken every six hours for fourteen days, and after that period twice a day for a fortnight longer. As he was then free from complaint, they were omitted.

Since that time he has had no occasion for any medicine whatever. He has now much recovered his strength, his appetite is good, he sleeps well, and is about to return to his usual employment.

REMARKS.

Although there is nothing remarkable in the symptoms of this case, yet it affords an instance of the long continuance of diseased action, where neither fever nor inflammation are present, without producing organic affection.

The Editors of the Medical Journal favoured me with the insertion of a letter in the 21st Vol. on the Hunterian doctrine, that "no two actions can take place in the same constitution nor in the same part at one and the same time." Besides the facts there adduced, nine cases are recorded illustrative of this doctrine, the present case is, however, a much stronger proof of its being founded in truth: In it we see the artificial diseased action, at first, only suspend the original, and the latter, as if having acquired additional strength, by suspension, over-power the former and cause it to disappear. Again, when the ptyalism is renewed, the former disease is suspended a second time, but returns, and the other disappears; and thus continue to alternate for six times. In what way can these phenomena be accounted for, if not on the principle of Mr. Hunter?

Drs. Warren and Biss relate their success in the cure of Colica Pictonum by means of a salivation, and observe *that as soon as the ptyalism was perceived the pain abated and returned no more.* Since that time the power of mercury in subduing the disease has been repeatedly noticed. If mercury possessed any other power over this disorder than that of simply producing a contrary action, why was it not evident, in some degree, in the present case? Although the system was constantly charged with it, yet the instant its effect on the mouth disappeared, the disease returned; or, in other words, the mercurial action proved repeatedly too feeble to resist that of the disease. This mode of curing one disease by inducing another, which we, in the generality of cases, can command, is by no means confined to colica pictonum, or any other disease individually, but has been extended to a great variety with success; a few instances of which may be seen in the cases already alluded to, in the twenty-first volume, and many more might be added.

Mr.

Mr. Hunter's principle has been long generally known; yet, if we may judge from the writings of practical authors, it is seldom acted upon in the cure of diseases.

In many late publications, and in several numbers of the Medical Journal, we find cases where a ptyalism has *unintentionally* been brought on while using some preparation of mercury, and in which the authors mention the fact in a manner that plainly shows they were not prepared to expect the cure of the disease from such an effect.

As this is not the proper place to enlarge on a subject so comprehensive, I shall only recommend to practitioners from my own experience, to keep in view the Hunterian principle, whether they direct their efforts by the use of mercury or by any other means.

With respect to the pains experienced by this patient from which he suffered so severely, it may be supposed they were the natural consequence of the disease, similar to those pains and paralytic affection in which such disorders generally terminate. This was certainly not the fact, his complaint at this time bore no resemblance to those affections, and are to be attributed entirely to his exposure to wet, before the mercurial influence had subsided. It is well known that in such circumstances the only remedy which has been found effectual, is reproducing the ptyalism. In the present case, however, the use of the nitric acid was productive of the best and most speedy effects, and it is not to be doubted but it may, in similar cases, supersede the disagreeable necessity of again subjecting the patient to a salivation.

The last attack of the disorder was very unexpected after so long an interval: it probably would have returned sooner had not the painful affection of the muscles and articulations been present, as it made its appearance after only four days convalescence. To have subjected him to a second salivation in the debilitated state he then was, would have been in all probability attended with fatal consequences. The exhibition of the allum, however, happily superseded the necessity of having recourse to that or any other hazardous means. This remedy seems not to be so generally employed in practice as it deserves. In Drew's case it was productive of the best effects, and in many others which have come under my observation, when it could be retained on the stomach, which is not always the case Dr. Grashuis commends it as a specific in this disorder, and Dr. Percival relates the success which has attended its use in various painful disorders of the bowels.

What is the modus operandi of allum, in such cases?—

Does

Does this drug, and the cuprum vitriolatum, so successfully employed in the West Indies, prove effectual by their astringent powers?

For the Medical and Physical Journal.

On Stramonium.

(Concluded from P. 507. Vol. 25.)

"So well the fashionable med'cine thrives,
That now 'tis practis'd ev'n by country wives;
Pois'ning without regard of fame or fear."

HAVING recorded the effects of the internal administration of Stramonium upon the human system in health and in disease, I shall conclude with some observations upon the practice of Smoking the herb, of late recommended for the cure of Asthma, and other pulmonic affections.

Since the first part of this paper was written, Dr. Sims, whose attention to botanical research, amidst the engagements of extensive practice, is highly creditable, has, in a letter to the Editor of the Monthly Magazine, given the following account of the introduction of Smoking Stramonium in this country,

"Some time in the year 1802 I received from general Gent a remedy that he had not long before brought from Madras, which, the General informed me, was used there as a specific for relieving the paroxysms of asthma, and that it was prepared from the roots of the wild purple-flowered thorn-apple, *datura ferox*. The roots had been cut into slips as soon as gathered, dried in the shade, and then beat into fibres resembling coarse hemp. The mode of using it was by smoking it in a pipe at the time of the paroxysm, either by itself or mixed with tobacco, according as the patients were previously addicted to smoking or not. General Gent procured this remedy from Dr. Anderson, physician general at Madras, who both recommended it, and, I believe, used it himself.

"I happened at this time," continues Dr. Sims, "to be attending the daughter of an eminent physician, labouring under phthisis pulmonalis, combined with asthma, as appeared to me from the frequent paroxysms of difficulty of breathing, not usual in pure phthisis, at least in so early a stage of the disorder. With a view of alleviating these distressing paroxysms, I recommended a trial of this remedy, which to me was at that time perfectly new. The relief obtained was far beyond expectation; and, although gradually sinking

sinking under an incurable disease, this amiable lady continued to experience great satisfaction from its use, almost to the fatal termination."

Soon afterwards Dr. Sims recommended this remedy to Mr. Toulmin of Hackney, who had for several years suffered frequent paroxysms of asthma. He received much benefit from its use, and having soon exhausted the original stock given him by Dr. Sims; at the doctor's suggestion, he had recourse to the common thorn-apple, *(datura Stramonium.)* From this he experienced nearly the same relief as from the East Indian plant. Mr. Toulmin communicated the knowledge of the remedy to the correspondent in the Monthly Magazine with the signature of Verax*.

Dr. Sims concludes his letter by observing that he has two purposes to answer by it. "In the first place it will serve to point out the history of the introduction of a remedy which promises to become an important addition to the Materia Medica," and it will prove "that the original remedy, as used in the East Indies, is not exactly the same as what is used here. It is, indeed, highly probable that both species have nearly similar virtues, but the one may, perhaps, be more efficacious than the other."

This account of the remedy is certainly favourable, and from Dr. Sims's authority, many practitioners will, probably, be induced to give it a trial. We must not forget, however, that the doctor has only cited two cases in which benefit has been derived from its use, evidence is still wanting to enable us to decide upon the merits of the plant, to determine in what cases its use may be profitable, and in what cases it may be hurtful.

The following lamentable history of the fate of a gentleman†, who was instrumental in introducing the practice of smoking Stramonium, is probably not known by many who are industriously encouraging the use of this composing smoke.

Dr. Gibbes of Bath being called in to attend this gentleman, found him sitting up with his head reclined on a sofa in a state of stupor. His recollection was impaired, and he seemed stunned and comatose. His pulse was scarcely to be

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* This writer has since avowed himself to be John Sills, esq. Guildford Street.

† The particulars of this case were communicated to Dr. Bree by Dr. Gibbes. Delicacy to the parties alone prevents the patient's name from appearing, but the authenticity of the account may be relied upon; and the opinion of Dr. G. that smoking Stramonium was the cause of death is confirmed by the testimony of Dr. Parry.

felt, and there was no great force in the carotid artery. Upon inquiring into his case, Dr. G. found that on the preceding evening the gentleman had been very much affected with shortness of breath, and that he had smoked Stramonium, the effect of which was, that his breath became perfectly easy, but at the same time he had shewn symptoms of stupor. He went to bed, passed a quiet night, and arose the next morning in the heavy comatose state in which Dr. Gibbes found him on his arrival at the house. A large blister was applied to the back, purgative medicines were administered; and the urine being deficient in quantity, a draught with squills and camphor mixture was ordered.

On the second day the blister had acted, the bowels had been open, and the urine in proper quantity and of a clear good colour. The mental faculties were somewhat recovered. The treatment was continued, and he was directed to take nourishment, having previously reduced himself very much with the view of alleviating the distress in his breathing. On the third day his recollection was much better, his pulse perceptible, and some return of shortness of breath had occurred. From this symptom Dr. Gibbes drew a favourable opinion, as he observed that as this came on, the mental faculties seemed to improve; nor could he perceive any fulness of vessels to denote apoplexy; nor any evidence of effusion since the urine had returned to its natural quantity and colour. On the fourth day he was so much recovered that he was preparing to go to Clifton; but suddenly expired after dinner, either whilst sleeping, or immediately upon awaking; Dr. Parry, who was then sent for, as being nearer than the attending physician, finding him dead when he arrived.

The patient was of a full habit, and about twelve months previous to this attack, had been affected with a cough and wheezing, from which he recovered under the care of Dr. Gibbes with ordinary expectorants. At the commencement of his last illness he smoked largely of Stramonium, three or four times, without consulting any one; when the serious symptoms above related supervened, and Dr. Gibbes was called in.

My own experience of the effects of this remedy has not been encouraging; I have given it in asthma, in chronic cough attended with severe dyspnœa, and copious expectoration; and in phthisis pulmonalis. Some of the patients, whose complaints were far advanced, died, as they must have done had they not taken the medicine, which, however, I did not think hastened the catastrophe. In two or three instances of dyspnœa, slight and temporary benefit was obtained, but in no one instance was the disorder materially altered in character, and the patients soon abandoned a remedy from which

which they derived no relief. Desirous that the properties of Stramonium should be properly estimated, and to prevent any suspicion that my judgment might be influenced by my own want of success, I applied for information to some of my medical friends, whom I knew were especially conversant in the disorders in which this remedy has been said to prove beneficial. Dr. Bree, with great liberality and promptitude, has allowed me to publish the following letter containing the result of his observation on the effects of smoking Stramonium in asthmatical complaints.

DEAR SIR, *May* 10, 1811.

I very willingly comply with your request that I should report the result of my observations on the efficacy or influence of Stramonium in cases of asthma that have fallen under my view.

In certain cases I tried the extract of Stramonium many years ago, but I was not encouraged by my experience at that time to pursue the practice of giving it in general cases of asthma.

In the last year the public were informed, by writers in journals and newspapers, that the smoking of this herb produced ease, and even effected cures in convulsive asthma. The authorities for such success were of a mixed character, some of them being satisfactory, as far as they reported benefit in the fits of asthma; but others, more numerous, were very suspicious, as they were not sanctioned by names, and most of them asserted *cures* after the use of the remedy for a very short time in this disease, of which the access of the paroxysm is both periodical and uncertain.

The evidence of advantage from smoking Stramonium had a doubtful aspect to a considerate physician, and this character was not rendered more clear by the appearance of a "Familiar Treatise" on the subject, pretended to be published by Mr. Surgeon Fisher. Much of the matter in that treatise I knew to be wholly false, whilst the chief object of it was clearly displayed by the recommendation of Stramonium in a *secret* composition, after the manner of other empirical nostrums.

Mr. Toulmin of Hackney gave the only testimony that deserved attention respecting the use of Stramonium in asthma; but this gentleman, with the power of confuting the pretensions of others, did not offer himself to the public notice; and the same reserve, which distinguishes the professional man of science, seems to have restrained him from publishing hasty conclusions from particular facts, that are too often generalized and made subservient to unworthy purposes. I was

acquainted, in a private manner, with Mr. Toulmin's use of Stramonium by inhaling it, and the success which some sufferers had experienced in fits of asthma from following his practice, induced me to mention it as a possible means of obtaining relief, when other antispasmodics had been tried without effect.

From the beginning of the present year I have been more attentive to the effects of this practice.

The number of cases which I have had occasion to examine between that period, and the end of April, was 82. The patients were all disturbed in their breathing, but only a proportion of them was truly affected with convulsive asthma. To the whole number the remedy had been either useless, as regarded the removal of the disease, or it had produced injurious or fatal effects. If any signal advantage from the use of Stramonium had been experienced, I should probably not have been consulted, and my report is therefore not intended to deny the success that may be asserted to have taken place in cases I have not seen. You will consider it as a faithful report respecting 82 cases of patients who had smoked this herb under various diseases, which were supposed to be asthmatic.

Those who had smoked Stramonium without any permanent good effect amounted to 58. The remaining 24 had all of them been more or less injured, and some of them destroyed by the practice. I shall only mention cases which were brought to a certain state, admitting of safe inferences as to their further progress, at the end of April. They had been all of them observed with sufficient attention to enable me to ascertain, how far Stramonium was capable of mitigating or removing asthma.

The first list of 58 included 11 cases of obstructed liver; these patients had lost their time in relying upon Stramonium; but I do not place this inconvenience amongst the injuries derived from the practice of smoking this herb, because the constitutions of the patients were yet so vigorous, as to be capable of bearing the necessary evacuations. All of them had constant dyspnœa, and most of them had experienced paroxysms of convulsive breathing at intervals. Three were in an advanced state of the disease, having hard bellies, and swelled legs. Seven gradually recovered by the treatment that was applied for the removal of congestion in the liver, their dyspnœa leaving them, as the disease of this organ gave way. Thesse 11 cases shew the effect of advice which people, ignorant of the distinction of diseases, give with confidence to their friends without any authority excepting that of the advertisements of their newspapers.

The

The remainder of the 58 patients had the usual signs of the asthmatic constitution. They were generally satisfied with a plan, less miraculous in the promise of immediate cure, but more likely to restore tone to their habits, and with the assurance that relieving the convulsive paroxysm of asthma is not removing the disease. I had seen many of them before, and some of these did not refrain from complaining of the assent I had given in the winter to their trials of Stramonium in the difficulty they experienced of appeasing the fit.

The 24 patients who have been stated to have suffered injury from the smoking of Stramonium were all disordered in their breathing, and their dyspnœa, at intervals, assumed the form of convulsive asthma.

Of this number I shall first mention seven patients, whose symptoms indicated phthisis, and whose lungs were weak, and had been long subject to inflammatory attacks on changes of weather, and the taking of colds. The oldest of these was 35 years of age. Their habits were thin, irritable, and weak; and the pulses of all of them in their best state of a dangerous quickness. In their former attacks of difficult respiration, small bleedings, with blisters and febrifuge draughts, that gently promoted expectoration, had always afforded relief. They came under my care in March and April, and all without exception, attributed the aggravation of their complaints to the smoking of Stramonium, or to the use internally of an oxymel of Stramonium. Some of these patients were relieved by the same means, as had been before repeatedly applied to their cases, but three of them spat blood, after violent heat and stricture under the sternum had continued for many days. They now expectorate pus, and are greatly wasted with hectic fever and night sweats, and give no prospect of a fortunate result from any mode of treatment.

Three persons, who had passed the meridian of life, and had suffered asthmatic affections, and coughs, for many years, with great debility and emaciation of the system, experienced paralytic tremblings from smoking Stramonium. Their original complaints were also generally aggravated, excepting their cough, which subsided as their weakness increased. The pulse in each of these patients was so lowered, that it became difficult to feel the beating of the artery. After abandoning their practice of smoking, which two of them had pursued every evening for two weeks, and one twice a day, for ten days; they took strengthening draughts with gentle expectorants. The cough then returned to each patient, and they all recovered their former degree of health.

A lady advanced in life, of weak constitution, and particularly feeble nerves, had been long subject to coughs and asthma.

She

She had smoked the Stramonium a few times only, and it affected her head with pain and confusion, and her stomach with sickness. She was next seized with an epileptic fit, the first she had ever experienced. This attack was followed by three more fits of the same kind, at intervals of a few hours, and she became nearly insensible. The cough left her, the pulse became scarcely perceptible, and her mind was no longer capable of any exertion. She was not wholly unconscious of her state, but stupor and somnolency overpowered the little energy she possessed, and her stools and urine passed involuntarily. At first it appeared necessary to remove congestion from the head by cupping, leeches, and blisters. Strengthening medicines were then employed in consultation with Dr. Latham. The patient slowly recovered from this critical state, and attributed her epileptic fits, and preceding confusion of head, to the smoking of Stramonium.

Four persons, all of full habits, and two of them, strictly speaking, apoplectic in their forms, smoked Stramonium for the cure of dyspnœa, which they called asthma. After some days experience of this practice, one of them was still capable of coughing, but with so much pain of his head, as to indicate immediate danger. He was sixty years of age, and the other three were more than fifty. They so convincingly required depletion, that I was surprised it had not been advised by the most superficial of their friends Evacuations by bleeding and purging, removed the difficulty of breathing, and probably preserved the lives of more than one.

The smoking of Stramonium has been practised by many female patients. I saw two patients, of the ages of forty-five and forty-nine, of very plethoric habits, and each of them had experienced the inconvenience which so often follows the cessation of the menses. They wheezed much, and their breathing was oppressed upon every motion of their bodies. Without taking any measure pointed out by the actual condition of their habits, and from being informed only that they had asthma, they adopted the practice of smoking Stramonium, and became rapidly worse. Pneumonic inflammation affected one, and intolerable head-aches with dimness of sight attacked the other. They however obtained relief by the active application of the necessary treatment.

An elderly man, whose complicated disorders had began with obstructed liver three years before, was icteric, and anasarcous, with a hard belly, and irregular pulse, and had not lain horizontally for several weeks. His respiration was laborious, and he could not leave his bed without much increased agitation. I had seen him once two weeks before; and I was called to him again in the present state. I found

that

that he had been smoking Stramonium for the last two days, and he died the night after I saw him without taking medicine.

Instances of patients in hydrothorax who had applied to the fumes of Stramonium, must have occurred very often to practitioners in this town during the last three months. I have seen six cases of this kind, and I am confident that at least half of them were so quieted by the practice, the force of the circulation through the lungs was so reduced, and the irritability of the frame so far exhausted, that they died prematurely as regarded the state of the disease.

The patients who suffer injurious or fatal consequences from smoking Stramonium, are chiefly those who have apoplectic or paralytic habits; young persons, affected with insidious spasmodic breathing, but who are actually consumptive; and elderly persons whose protracted complaints had ended in hydropic effusion in the chest. The effects of Stramonium must be referred, as Cullen has remarked, to its narcotic power; and if it be considered how universally the practice of smoking this herb has been diffused by the exertions of selfish interest, or of ignorant enthusiasm; the mischief that health and life have suffered from its use may be conceived, but cannot be very readily estimated.

I have had reported to me many deaths from smoking Stramonium, and I have verified many facts of this kind, without attending to doubtful effects in cases that might have been lost without its influence. I do not go into these cases, but have spoken only of what I have seen.

I am, dear Sir,
With great esteem,
Your most faithful
R. Bree.

Dr. Gooch, of Croydon, has kindly communicated the following cases, in three of which smoking the Stramonium appears to have effected present relief.

Mr. L. 22 years old, for the last four years has had a violent difficulty of breathing, attended by wheezing and cough, which attack him suddenly when in bed, or at meals, disables him from business, and sometimes continues more than a week. It occasionally seizes him so violently that he is unable to speak, and appears to be threatened with instant suffocation. He has had much medical advice without receiving material benefit. He now smoked the thorn-apple, swallowing the saliva and smoke; by these means the fit terminates in a few minutes. He smokes every day, even when the fit does not

not occur. Sometimes it attacks him whilst dining in company, in which case, he retires, smokes a pipe-full, and returns to his friends breathing freely.

Mr. I. a short, fat, puffy man, about thirty-six years old, has been subject to a difficulty of breathing for twenty years. It comes on suddenly, sometimes after any strong exercise, and sometimes whilst in bed, continues several hours or days, and not unfrequently with a degree of severity that disables him for business. He has used various remedies by the advice of various practitioners, with little or no relief. For the last few months he has smoked the stem of the Thorn-apple, which generally removes the difficulty of breathing within half an hour, without producing giddiness or any other unpleasant effect.

A young gentleman, about fifteen years old, came to my house to day, Sunday, March 3, breathing with great difficulty. He has been subject to asthma as long as he can remember, and formerly scarcely passed a month without having a fit, which lasted him from two or three days to a week. For the last two years he has been free from the complaint, until about a fortnight ago, when he had a fit which continued about a day. Half an hour ago he was seized with another, which was severe. I made him sit down and smoke a pipe full of Stramonium; he soon began to breath with greater freedom, and in about half an hour walked home quite well. He had never in his life been relieved so soon.

The complaint recurred in about a month with its former violence, and was again removed by smoking the Stramonium.

A poor boy, about fifteen years old, has been subject to asthma for the last eight years. He is seldom free from it longer than a fortnight. It almost always attacks him in the night, waking him with cough and wheezing, which generally last four or five days. It is sometimes produced by going into a barn, from the fine dust which is raised by threshing corn. When I first saw him he was wheezing and breathing with much difficulty. The next morning he procured some Stramonium, smoked a pipe full, and remained free from complaint for several days. His mother was doubtful whether the relief was to be attributed to the remedy, as the difficulty of breathing was diminishing before it was used.

A few days afterwards, he awoke about four o'clock in the morning with violent cough and wheezing. He said that "his father got up, struck a light, and brought up stairs a pipe full of the herb; he sat up in bed and smoked it. As the spittle and smoke went down it cleared his stomach, and he laid down and slept quietly till seven o'clock, when he awoke quite well." Smoking always makes him giddy.

I saw

I saw him about a week afterwards; he had had another attack this morning and smoked a pipe full, but with less relief than before. In the evening of the same day I met him accidentally, breathing with much labour. He tried a pipe when he arrived home, but without any benefit. He has tried it several times since without any relief.

Comparing this evidence of impartial medical characters, interested in upholding the dignity of their profession, and zealous in extending its utility, with the statements of cases by patients, and individuals only *commercially* interested in the sale of the remedy, we cannot hesitate in deciding against the practice of smoking Stramonium in the more severe and urgent forms of asthma, and phthisical complaints. It is not attempted to deny that relief has in some instances followed its use, but the preceding facts prove that relief to be trifling indeed, when balanced with the mischief which has been effected. Ranking the herb, as we must do, amongst the narcotic poisons, we might, *a priori*, suppose that its essential qualities being copiously applied in the diffusible form of smoke to a very large surface minutely supplied with nerves, the paroxysms of a convulsive cough might be quieted, but at the same time, fatal injury might be induced on the sensorium. That this is the case is fearfully demonstrated by the somnolency, epilepsy, mania, and apoplexy, which have been evidently occasioned by the remedy. Again, it is proved by experiments that respiration is influenced by the brain, and ceases altogether when the functions of that organ are destroyed. Now if Stramonium does not always disturb or destroy these vital and essential functions, it is only when it is not applied in sufficient quantity, when the quality is impaired, or from some peculiar idiosyncracy of the patient.

The limits of this paper necessarily forbid a minute inquiry into the various causes of asthma; but the most narrow experience suffices to inform us, that unless these are removed, the disease will recur, however its symptoms may for a time be palliated. Asthma frequently depends upon effusion of serum or mucus in the cavities of the chest, and of the pericardium, in the bronchial tubes and air cells; upon the mal-formation of the chest; upon a diseased state of lungs; upon plethora occasioning pressure and thus impeding respiration; upon extraneous substances interrupting the natural action of the lungs, &c. all of which are most clearly and scientifically investigated and described in Dr. Bree's well known treatise on the subject. When any of these causes operate, can we rationally hope to obtain relief by destroying a series of actions induced in the system, to remove such noxious and offending agents?

Some people indeed are so tenacious of life that they seem to survive the effects of any sort of practice: in some habits nature is so indulgent, that they will recover although the treatment pursued is directly opposite to that which is dictated by reason or sanctioned by experience. Thus in fevers of a similar form and type, we see some patients recover, who have sustained the diffusible stimuli of John Brown; and others the large bleeding and drastic purgatives recommended by certain practitioners, even in the most advanced stage of the disorder.

Let then those worthy gentlemen who, from motives of mistaken humanity, have published their cases, and circulated their boasted cures throughout the empire, be cautious how they persevere in the practice which they so fearlessly recommend. If learned and skilful professional men are slow to admit dubious and dangerous remedies into their practice, surely those who have no pretensions to medical knowledge should be on their guard, not to deceive themselves, by imagining that because they have escaped with impunity, they may at all times be so favoured, or that their friends may be equally fortunate.

On some Physiological Researches, respecting the Influence of the Brain on the Action of the Heart, and on the Generation of Animal Heat. By Mr. B. C. Brodie, F.R.S.

(Phil. Trans.)

Read before the Royal Society, Dec. 20, 1810.

HAVING had the honour of being appointed, by the President of the Royal Society, to give the Croonian Lecture, I trust that the following facts and observations will be considered as tending sufficiently to promote the objects, for which the Lecture was instituted. They appear to throw some light on the mode in which the influence of the brain is necessary to the continuance of the action of the heart; and on the effect which the changes produced on the blood in respiration have on the heat of the animal body.

In making experiments on animals to ascertain how far the influence of the brain is necessary to the action of the heart, I found, that when an animal was pithed by dividing the spinal marrow in the upper part of the neck, respiration was immediately destroyed, but the heart still continued to contract circulating dark-coloured blood, and, that in some instances, from ten to fifteen minutes elapsed before its action had

had entirely ceased. I further found that when the head was removed, the divided blood vessels being secured by a ligature, the circulation still continued, apparently unaffected by the entire separation of the brain. These experiments confirmed the observations of Mr. Cruikshank* and M. Bichat,† that the brain is not directly necessary to the action of the heart, and that when the functions of the brain are destroyed, the circulation ceases only in consequence of the suspension of respiration. This led me to conclude, that, if respiration was produced artificially, the heart would continue to contract for a still longer period of time after the removal of the brain. The truth of this conclusion was ascertained by the following experiment.

Experiment 1.

I divided the spinal marrow of a rabbit in the space between the occiput and atlas, and having made an opening into the trachea, fitted into it a tube of elastic gum, to which was connected a small pair of bellows, so constructed that the lungs might be inflated, and then allowed to empty themselves. By repeating this process once in five seconds, the lungs being each time fully inflated with fresh atmospheric air, an artificial respiration was kept up. I then secured the blood-vessels in the neck, and removed the head by cutting through the soft part above the ligature, and separating the occiput from the atlas. The heart continued to contract, apparently with as much strength and frequency as in a living animal. I examined the blood in the different sets of vessels, and found it dark-coloured in the venæ cavæ and pulmonary artery, and of the usual florid red colour in the pulmonary veins and aorta. At the end of twenty-five minutes from the time of the spinal marrow being divided, the action of the heart became fainter, and the experiment was put an end to.

With a view to promote the inquiry instituted by the Society for promoting the knowledge of animal chemistry respecting the influence of the nerves on the secretions‡, I endeavoured to ascertain whether they continued after the influence of the brain was removed. In the commencement of the experiment I emptied the bladder of its contents by pressure; at the end of the experiment the bladder continued empty.

This experiment led me to conclude, that the action of the heart might be made to continue after the brain was removed,

* Philosophical Transactions 1795.

† Récherches Physiologiques sur la Vie et la Mort.

‡ Philosophical Transactions for 1809.

by means of artificial respiration, but that under these circumstances the secretion of urine did not take place. It appeared, however, desirable to repeat the experiment on a larger and less delicate animal, and that, in doing so, it would be right to ascertain, whether under these circumstances, the animal heat was kept up to the natural standard.

Experiment 2.

I repeated the experiment on a middle sized dog. The temperature of the room was 63° of Fahrenheit's thermometer. By having previously secured the carotid and vertebral arteries, I was enabled to remove the head with little or no hæmorrhage. The artificial respirations were made about twenty-four times in a minute. The heart acted with regularity and strength.

At the end of 30 minutes from the time of the spinal marrow being divided, the heart was felt through the ribs contracting 76 times in a minute.

At 35 minutes the pulse had risen to 84 in a minute.

At one hour and 30 minutes the pulse had risen to 88 in a minute.

At the end of two hours it had fallen to 70, and at the end of two hours and a half to 35 in a minute, and the artificial respiration was no longer continued.

By means of a small thermometer with an exposed bulb, I measured the animal heat at different periods.

At the end of an hour the thermometer in the rectum had fallen from 100° to 94°.

At the end of two hours, a small opening being made in the parietes of the thorax, and the ball of the thermometer placed in contact with the heart, the mercury fell to 86°, and half an hour afterwards in the same situation it fell to 78°.

In the beginning of the experiment I made an opening into the abdomen, and having passed a ligature round each ureter about two inches below the kidney, brought the edges of the wound in the abdomen together by means of sutures. At the end of the experiment no urine was collected in the ureters above the ligatures.

On examining the blood in the different vessels, it was found of a florid red colour in the arteries, and of a dark colour in the veins, as under ordinary circumstances.

During the first hour and a half of the experiment, there were constant and powerful contractions of the muscles of the trunk and extremities, so that the body of the animal was moved

moved in a very remarkable manner, on the table on which it lay, and twice there was a copious evacuation of fæces.

Experiment 3.

The experiment was repeated on a rabbit. The temperature of the room was 60°. The respirations were made from 30 to 35 in a minute. The actions of the heart at first were strong and frequent: but at the end of one hour and forty minutes the pulse had fallen to 24 in a minute.

The blood in the arteries was seen of a florid red, and that in the veins of a dark colour.

A small opening was made in the abdominal muscles, through which the thermometer was introduced into the abdomen, and allowed to remain among the viscera.

At the end of an hour the heat in the abdomen had fallen from 100° to 89°. At the end of an hour and forty minutes in the same situation the heat had fallen to 85°, and when the bulb of the thermometer was placed in the thorax in contact with the lungs, the mercury fell to 82°.

It has been a very generally received opinion, that the heat of warm-blooded animals is dependent on the chemical changes produced on the blood by the air in respiration. In the two last experiments, the animals cooled very rapidly, notwithstanding the blood appeared to undergo the usual changes in the lungs, and I was therefore induced to doubt whether the above mentioned opinion respecting the source of animal heat is correct. No positive conclusions, however, could be deduced from these experiments. If animal heat depends on the changes produced on the blood by the air in respiration, its being kept up to the natural standard, or otherwise, must depend on the quantity of air inspired, and on the quantity of blood passing through the lungs in a given space of time: in other words, it must be in proportion to the fullness and frequency of the pulse, and the fullness and frequency of the inspirations. It therefore became necessary to pay particular attention to these circumstances.

Experiment 4.

The experiment was repeated on a dog of a small size, whose pulse was from 130 to 140 in a minute, and whose respirations, as far as I could judge, were performed from 30 to 35 times in a minute.

The temperature of the room was 63°. The heat in the rectum of the animal at the commencement of the experiment was 99°. The artificial inspirations were made to correspond

as

as nearly as posssible to the natural inspirations both in fullness and frequency.

At 20 minutes from the time of the dog being pithed, the heart acted 140 times in a minute with as much strength and regularity as before: the heat in the rectum had fallen to 96½.

At 40 minutes the pulse was still 140 in a minute: the heat in the rectum 92½.

At 55 minutes the pulse was 112, and the heat in the rectum 90°.

At one hour and 10 minutes the pulse beat 90 in a minute, and the heat in the rectum was 88°.

At one hour and 25 minutes the pulse had sunk to 30, and the heat in the rectum was 85°. The bulb of the thermometer being placed in the bag of the pericardium, the mercury stood at 85°, but among the viscera of the abdomem it rose to 87½.

During the experiment there were frequent and violent contractions of the voluntary muscles, and an hour after the experiment was begun, there was an evacuation of fæces.

Experiment 5.

The experiment was repeated on a rabbit, whose respirations, as far as I could judge, were from 30 to 40 in a minute, and whose pulse varied from 130 to 140 in a minute. The temperature of the room was 57°. The heat in the rectum, at the commencement of the experiment, was 101½. The artificial respirations were made to resemble the natural respirations as much as possible, both in fullness and frequency.

At 15 minutes from the time of the spinal marrow being divided, the heat in the rectum had fallen to 98½.

At the end of half an hour the heart was felt through the ribs, acting strongly 140 times in a minute.

At 45 minutes the pulse was still 140; the heat in the rectum was 94.

At the end of an hour the pulse continued 140 in a minute; the heat in the rectum was 92°; among the viscera of the abdomen 94°; in the thorax, between the lungs and pericardium, 92°.

During the experiment, the blood in the femoral artery was seen to be of a bright florid colour, and that in the femoral vein of a dark colour, as usual.

The rabbit voided urine at the commencement of the experiment; at the end of the experiment, no urine was found in the bladder.

Experiment 6.

I procured two rabbits of the same colour, but one of them was

was about one-fifth smaller than the other. I divided the spinal marrow of the larger rabbit between the occiput and atlas. Having secured the vessels in the neck, and removed the head, I kept up the circulation by means of artificial respiration as in the former experiments. The respirations were made as nearly as possible similar to natural respirations.

In 23 minutes after the spinal marrow was divided, the pulse was strong, and 130 in a minute: the ball of the thermometer being placed among the viscera of the abdomen, the mercury stood at 96°.

At 34 minutes the pulse was 120 in a minute; the heat in the abdomen was 95°.

At the end of an hour the pulse could not be felt, but on opening the thorax the heart was found acting, but slowly and feebly. The heat in the abdomen was 91°; and between the lobes of the right lung 88°.

During the experiment, the blood in the arteries and veins was seen to have its usual colour.

In this therefore, as in the preceding experiments, the heat of the animal sunk rapidly, notwithstanding the continuance of the respiration. In order to ascertain whether any heat at all was generated by this process, I made the following comparative experiment. The temperature of the room being the same, I killed the smaller rabbit by dividing the spinal marrow between the occiput and atlas. In consequence of the difference of size, *cæteris paribus*, the heat in this rabbit ought to diminish more rapidly than in the other; and I therefore examined its temperature at the end of 52 minutes, considering that this would be at least equivalent to examining that of the larger rabbit at the end of an hour. At 52 minutes from the time of the smaller rabbit being killed, the heat among the viscera of the abdomen was 92°, and between the lobes of the right lung it was 91°. From this experiment, therefore, it appeared not only that no heat was generated in the rabbit, in which the circulation was maintained by artificial respiration, but that it even cooled more rapidly than the dead rabbit.

At the suggestion of Professor Davy, who took an interest in the inquiry, I repeated the foregoing experiment on two animals, taking pains to procure them more nearly of the same size and colour.

Experiment 7.

I procured two large full grown rabbits, of the same colour, and so nearly equal in size, that no difference could be detected by the eye.

The

The temperature of the room was 57°, and the heat in the rectum of each rabbit previous to the experiment was 100½.

I divided the spinal marrow in one of them, produced artificial respiration, and removed the head after having secured the vessels in the neck. The artificial respirations were made about 35 times in a minute.

During the first hour, the heart contracted 144 times in a minute.

At the end of an hour and a quarter the pulse had fallen to 136 in a minute, and it continued the same at the end of an hour and a half. At the end of an hour and forty minutes the pulse had fallen to 90 in a minute, and the artificial respiration was not continued after this period.

Half an hour after the spinal marrow was divided, the heat in the rectum had fallen to 97°.

At 45 minutes the heat was 95½.

At the end of an hour the heat in the rectum was 94°.

At an hour and a quarter it was 92°.

At an hour and a half it was 91°.

At an hour and forty minutes, the heat in the rectum was 90½, and in the thorax, within the bag of the pericardium, the heat was 87½.

The temperature of the room being the same, the second rabbit was killed by dividing the spinal marrow, and the temperature was examined at corresponding periods.

Half on hour after the rabbit was killed, the heat in the rectum was 99°.

At 45 minutes it had fallen to 98°.

At the end of an hour the heat in the rectum was 96½.

At an hour and a quarter it was 95°.

At an hour and a half it was 94°.

At an hour and forty minutes the heat in the rectum was 93°, and in the bag of the pericardium 90½.

The following table will shew the comparative temperature of the two animals at corresponding periods.

Time.	Rabbit with artificial respiration.		Dead Rabbit.	
	Therm. in the Rectum.	Therm. in the Pericardium.	Thermom. in the Rectum.	Therm. in the Pericardium.
Before the Experiment	100½		100½	
30 min.	97		99	
45 —	95½		98	
60 —	94		96½	
75 —	92		95	
90 —	91		94	
100 —	90½	87½	93	90½

In this experiment, the thorax, even in the dead animal, cooled more rapidly than the abdomen. This is to be explained by the difference in the bulk of these two parts. The rabbit in which the circulation was maintained by artificial respiration, cooled more rapidly than the dead rabbit, but the difference was more perceptible in the thorax than in the rectum. This is what might be expected, if the production of animal heat does not depend on respiration, since the cold air by which the lungs were inflated, must necessarily have abstracted a certain quantity of heat, particularly as its influence was communicated to all parts of the body, in consequence of the continuance of respiration.

It was suggested that some animal heat might have been generated, though so small in quantity as not to counterbalance the cooling powers of the air thrown into the lungs. It is difficult or impossible, to ascertain with perfect accuracy, what effect cold air thrown into the lungs would have on the temperature of an animal under the circumstances of the last experiment, independently of any chemical action on the blood: since, if no chemical changes were produced, the circulation could not be maintained, and if the circulation ceased, the cooling properties of the air must be more confined to the thorax, and not communicated in an equal degree to the more distant parts. The following experiment, however, was instituted, as likely to afford a nearer approximation to the truth, than any other that could be devised.

Experiment 8.

I procured two rabbits of the same size and colour: the temperature of the room was 64°. I killed one of them by dividing the spinal marrow, and immediately, having made an opening into the left side of the thorax, I tied a ligature round the base of the heart, so as to stop the circulation. The wound in the skin was closed by a suture. An opening was then made into the trachea, and the apparatus for artificial respiration being fitted into it, the lungs were inflated, and then allowed to collapse as in the former experiment, about 36 times in a minute. This was continued for an hour and a half, and the temperature was examined at different periods. The temperature of the room being the same, I killed the second rabbit in the same manner, and measured the temperature at corresponding periods. The comparative temperature of the two dead animals, under these circumstances, will be seen in the following table.

Time.	Dead Rabbit whose lungs were inflated.		Dead Rabbit whose lungs were not inflated.	
	Therm. in the Rectum.	Therm. in the Thorax.	Thermom. in the Rectum.	Therm. in the Thorax.
Before the Experiment	100½		100	
30 min.	97		98	
45 —	95½		96	
60 —	94		91½	
75 —	92½		93	
90 —	91	86	91½	88½

In this last experiment, as may be seen from the above table, the difference in the temperature of the two rabbits, at the end of an hour and a half, in the rectum, was half a degree, and in the thorax two degrees and a half; whereas, in the preceding experiment, at the end of an hour and forty minutes, the difference in the rectum was 2½ degrees, and in the thorax 3 degrees. It appears, therefore, that the rabbit in which the circulation was maintained by artificial respiration, cooled more rapidly on the whole than the rabbit whose lungs were inflated in the same manner after the circulation had ceased. This is what might be expected, if no heat was produced by the chemical action of the air on the blood; since in the last case the cold air was always applied to the same surface, but in the former it was applied always to fresh portions of blood, by which its cooling powers were communicated to the more distant parts of the body.

In the course of the experiments which I have related, I was much indebted to several members of the Society for promoting the Knowledge of Animal Chemistry, for many important suggestions which have assisted me in prosecuting the inquiry. Mr. Home, at my request, was present at the seventh experiment. Dr. E. N. Bancroft was present at, and assisted me in the second experiment; and Mr. William Brande lent me his assistance in the greater part of those which were made. I have been further assisted in making the experiments by Mr. Broughton, surgeon of the Dorsetshire Regiment of Militia, and Mr. Richard Rawlins, and Mr. Robert Gatcombe, students in surgery.

I have selected the above from a great number of similar experiments, which it would be needless to detail. It is sufficient to state, that the general results were always the same; and that whether the pulse was frequent or slow, full or small, or whether the respirations were frequent or otherwise, there was no perceptible difference in the cooling of the animal.

From

From the whole we may deduce the following conclusions:

1. The influence of the brain is not directly necessary to the action of the heart.

2. When the brain is injured or removed, the action of the heart ceases, only because respiration is under its influence, and if under these circumstances respiration is artificially produced, the circulation will still continue.

3. When the influence of the brain is cut off, the secretion of urine appears to cease, and no heat is generated; notwithstanding the functions of respiration, and the circulation of the blood continue to be performed, and the usual changes in the appearance of the blood are produced in the lungs.

4. When the air respired is colder than the natural temperature of the animal, the effect of respiration is not to generate, but to diminish animal heat.

Addition to the Croonian Lecture for the Year 1810.

In the experiments formerly detailed, where the circulation was maintained by means of artificial respiration after the head was removed, I observed that the blood, in its passage through the lungs, was altered from a dark to a scarlet colour, and hence I was led to conclude that the action of the air produced in it changes analogous to those, which occur under ordinary circumstances. I have lately, with the assistance of my friend Mr. W. Brande, made the following experiment, which appears to confirm the truth of this conclusion.

An elastic gum bottle, having a tube and stop-cock connected with it, was filled with about a pint of oxygen gas. The spinal marrow was divided in the neck of a young rabbit, and the blood vessels having been secured, the head was removed, and the circulation was maintained by inflating the lungs with atmospheric air for five minutes, at the end of which time the tube of the gum bottle was inserted into the trachea, and carefully secured by a ligature, so that no air might escape. By making pressure on the gum bottle, the gas was made to pass and repass into and from the lungs about thirty times in a minute. At first, the heart acted one hundred and twenty times in a minute, with regularity and strength; the thermometer, in the rectum, rose to 100°. At the end of an hour, the heart acted as frequently as before, but more feebly; the blood in the arteries was very little more florid than that in the veins; the thermometer in the rectum had fallen to 93°. The gum bottle was then removed. On causing a stream of the gas which it contained, to pass through lime-water, the presence of carbonic acid was indi-

cated by the liquid being instantly rendered turbid. The proportion of carbon c acid was not accurately determined; but it appeared to form about one-half of the quantity of gas in the bottle.

B. C BRODIE.

CRITICAL ANALYSIS

OF

RECENT PUBLICATIONS

IN THE

DIFFERENT BRANCHES OF PHYSIC, SURGERY, AND MEDICAL PHILOSOPHY.

A Letter on the Study of Medicine, and on the Medical Character, addressed to a Student, by PETER REID, M. D. 8vo. pp. 59. Murray.

FROM the title of this letter, we were led to anticipate certain directions which might assist the student in his career of medical attainment. If we have been disappointed in this expectation, we have been abundantly gratified with the strong sense, keen observation, and intrepid remarks of this intelligent writer. But his opinions will probably be approved by the smaller portion of his brethren, and few in the class of students, to whom they are especially addressed, will be able to appreciate their truth, or acknowledge their justice. Before he can admit the due application of the satire, the tyro must have experienced many of the errors of education, and seen many of the vices of practitioners, at which this author aims his shafts.

The following is a fair specimen of that part of the letter, which more particularly concerns those to whom it is addressed.

"In order that you may reap due advantage from your studies, it is of the utmost importance that you should be able to form a just notion of the comparative value of the numerous objects which are about to be presented to your notice, otherwise you may waste that time in frivolous and secondary pursuits, which should be consecrated to solid attainments; for nothing is more common than to see a man, who thinks himself a zealous votary of true science, when he is only busied with its excrescences, or playing with the trumpery at its threshold. It is therefore essential to your progress, that you should be enabled to separate that kind of knowledge which is merely curious from that which best serves

terres the purposes of practical wisdom, so that you may not sacrifice the one to the other. Perhaps no other profession requires a stricter guard against those manifold absurdities by which an unsound head is held up to the ridicule of a laughing world. It is one of the unfortunate circumstances of medicine, that foolishness has so many ways of displaying itself; it is so ready to thrust itself upon us, that it requires more than usual circumspection to prevent a man from being hooked up by some of the baits which are hanging out on purpose to seduce him from common sense. Thus if we take a survey of all those men who rank themselves amongst the sons of science, without any fair passport, how many shall we see blowing bubbles with as important an inflation of their cheeks, as if they were making worlds! How many, with their heads stuck with straws, strutting with as much mock majesty as if they had covered them with diadems! In this list we must include all mere collectors of shells and stones, gatherers of weeds, vermin-hunters, makers of random experiments, all dilettanti members of learned societies, gossipping narrators of strange facts, men that have seen wonderful monsters in their day, and have been exposed to many a moving incident by flood and field; all men that stalk about the earth as great observers, solemnly busy in catching butterflies; all those who think that enriching their cabinets with toys is filling their heads with sense; in short all those who resolve to run, jump, stare, dive, cut, dress, sing, fiddle, or dance themselves into men of science."

Dr. Reid proceeds to expose the folly of imbibing the opinions of others till we have none of our own; of mistaking and perverting the purposes of philosophy; playing with paradoxes and spinning cobwebs, &c. He then delineates the character of mind which fits a man for cultivating science with success.

His remarks on the nature of study give evidence of a correct and broad understanding; amongst several which we might quote with approbation, the following ought to be generally known, and impressed on the mind of every student.

"There are many who think themselves entitled to the claims of a liberal education, from having read a great many books, and punctually attended all the classes, without ever considering that, while the mind remains passive, nothing valuable can be attained. They therefore often find, when it is too late, that going over a certain quantity of print with their eyes, hearing lectures, and seeing cases, have imposed on them with a specious shew of activity; that all these are only the means of collecting the materials of knowledge, which, without being weighed and sifted by their judgment, only seem to oppress the memory, without enlightening the understanding."

Dr. Reid cautions young men against indulging in the luxury of light reading, and warns them not to suffer the pursuit of polite literature to encroach too much on the time which should be employed in professional avocations. This reading also, he observes,

"Has often a very amusing effect on certain heads; it invites them to

to lighten up their scientific performances with very pretty poetic effusions; they acquire that dashing figurative style of writing, which hits the happy medium between poetry and prose, vulgarly called bombast, and is so sublimely bad, that it is much better than if it was good. It is not every one that can steer

"From grave to gay, from lively to severe,"

and still keep up that due balance between the fancy and judgment, which prevents the operations of the one from encroaching on the provinces of another."

The student is very properly cautioned not to suffer any interesting collateral branch of medical science to allure him into two close a pursuit of it, to the exclusion of those with which he must also be acquainted: as the ability and the usefulness of the physician depend not on his being a great anatomist, chemist, or physiologist.

The author's remarks on attending lectures are very acute:

"There are many students (he says) who deceive themselves most egregiously in their attendance on lectures. They are occupied in a continued round of classes, where one object thrusts out another in endless succession, and a medley of demonstrations, experiments, facts, observations, theories, and hypotheses, this man's opinion, and that man's opinion, fleet through the mind without leaving any trace behind, or breed such an uproar in the understanding, as confounds all judgement and reflection; just as if the mind was to be valued, like a sieve, not for what it retained, but for what passed through it. Hence, when they find that it is impossible to retain one-hundredth part of what they hear, or to meditate upon and digest one-hundredth part of what they retain, they devolve the duties of the head on the fingers, and think, that as they fill their note-books, they are improving their understanding."

In illustration of this author's talent for ridicule and power of caricaturing, we might quote several pages in which he considers the various ways in which practitioners attempt to acquire business, but our limits will only permit us to insert the following by way of sample.

"There is a particular bustling gait and hurried step, somewhat resembling that of a barber in a morning, which is thought to imply, that a man is harassed to death with business, which, according to the proverb, is thought the best security for more. As I have seldom any calls that require a very hurried pace, being often at perfect liberty to saunter wherever my fancy leads me, I have sometimes amused myself with keeping a sharp look-out on the motions of these worthies, and have seen occasionally a corner turned with a dexterity that would have done credit to any jockey; and once had the curiosity to overlook a long paper, meant for a list of patients, which one of these men of bustle was perusing in the streets with a serious face; and he had good reason, for a more formidable tailor's bill I never saw. In many places a chariot is a most indispensable vehicle for conducting a man into practice; and indeed I do not know any sight more interesting than the full profile

profile of a sapient physician, so judiciously fixed, as to be seen with equal advantage from both sides of his chariot, while he himself appears totally unconscious of the vulgar gaze, and enjoys the supreme pleasure of putting a poor pedestrian brother to flight, by the jehu whirl of his triumphal car."

"If we wish to amuse ourselves with higher game, we have the medical coxcomb, who moves only in the higher circle of fashion, is himself ambitious of being thought a fashionable man, and can only cure people of quality, like the knight of La Mancha's balsam, which was only good for those of the same order. This creature of grimace, in straining after that elegance of manners, which is so engaging when it is the expression of real delicacy of sentiment, for want of this necessary fineness of perception, works itself into the most grotesque motions imaginable, and becomes a most valuable specimen of the ridiculous, very useful in pointing out to children the hideous effects of affectation. Come forward, then, thou hollow, heartless, brainless thing, and let us examine whether thou art a man or an ape: ah! it smiles, it dances, it sings; its notes swell highest at the concerto, it displays the elegance of a figurante in the dance."

But it is time to conclude, we have quoted enough to elucidate our author's varied powers of writing. We regret that so many pages of this small treatise are devoted to caricatures, the drawing of which, in our opinion, is so incorrect and overcoloured, that the objects intended to be pourtrayed cannot be recognised. Surely the author would have conferred more essential benefit on his young readers, by more minutely pointing out the difficulties which impede their acquisition of principles which are to form the basis of their medical education: Surely, in addressing himself to medical students in particular, he might have spared himself the labour of embodying in language, many of the tasteless conceptions which obtrude themselves on our notice in various parts of his work. Alluding to the facility which the uncertainty of our art affords for sporting with popular credulity, he observes,

"Indeed, many have a strong suspicion that medicine is one of the black arts, and that we work by witchcraft; hence many find their account in pretending to supernatural gifts; and we are told that Paracelsus *Dæmones præceptores habuit, Dæmones familiares.* It is upon this principle that I strongly suspect that several very great conjurors in our art have *sold their souls* to the devil; this, however, I could by no means venture to affirm positively, as it is only from some of their slights of hand that I should suspect *they had compounded for a roasting hereafter.*" P. 43.

In a second edition, we trust that Dr. Reid will have the courage to omit some of these *witty* passages, and that he will considerably extend the useful parts of his letter, for which he has proved himself eminently qualified.

Essay

Essay on some of the Stages of the Operation of Cutting for the Stone. Illustrated with an Engraving. By Charles Brandon Trye, F.R.S. 8vo. London, 1811. pp. 49. Callow.

The objections which have lately been urged against the employment of the *Gorget* in Lythotomy, and the recommendation of the *Scalpel* for dividing the integuments, muscles, urethra, and prostate, have induced Mr. Trye to become the advocate of the former instrument. The objections to the *Gorget* are distinctly stated from Mr. Allan's publication; and to each objection Mr. Trye annexes an answer.

"Obj. 1. 'The beak of the gorget is apt to slip from the groove of the staff, before it reaches the neck of the bladder. This has often happened in the hands of good operators, and assuredly will happen.'

"Answ. If this happens, the staff and beak of the gorget must be both very ill made, or the surgeon must enter the urethra too soon, for instance, in the bulbous portion; whereas, he ought never to pierce that canal but in the membranous portion, and within half an inch of the prostate gland; and as then the gorget will not have more than the third of an inch to traverse, before it comes to the prostate, it will scarcely lose its way in this distance, and in the hands of a good surgeon the handle of the gorget is always depressed, in proportion as he depresses the handle of the staff.

"Obj. 2. 'If the operator presses his gorget onwards too horizontally, the prostate gland, being moveable, will recede, the gorget slip from the groove, and be driven between the rectum and the bladder.'

"Answ. It is here assumed that the surgeon operates with a very dull edge to his gorget; whereas it should always makes its way as easily as a scalpel would do; as will be the case, if its shape be good and its edge keen and smooth."

"Obj. 3. 'If the surgeon, or assistant, depresses the handle of the staff too much over the right groin, with the idea of making its bend or heel be distinctly felt in the left side of the perineum, the point of the staff will slip out of the bladder, and when the surgeon has completed his external incisions, it will start through the membranous part of the urethra; and, in this case, pushing his gorget by this false guide, he will drive it between the bladder and rectum.'

"Answ. If the staff be started through the membranous part of the urethra, it will also misguide the knife of the operator, so that this is no specific objection to the gorget, but only to an aukward surgeon, using an ill contrived staff, and having an aukward assistant. However, I hope I have freed the staff from being liable to its share of this censure.

"Obj. 4. 'It is uniformly acknowledged by the best surgeons, that the gorget cuts the prostate gland very imperfectly. Its incision sometimes admits, with difficulty, the introduction of the forceps; and if the stone be large, is quite inadequate to its extraction, without dreadful laceration.'

"Answ.

" Answ. If the gorget does not divide the prostate sufficiently, the fault is in its make, not in the principle of using it. It is not necessary nor expedient that the wound, through which the stone is to pass from the bladder, should be of the same length as the longest diameter of the stone.

Sir James Earl has given plates of the very large stones which he has successfully extracted after using the gorget; and larger than those will rarely occur to any operator: and after all, if the surgeon finds he has a stone too large to be extracted without dreadful laceration, he can enlarge the wound of his gorget by his scalpel, just as well as if he had never used the gorget at all; for we cannot suppose, that a prudent surgeon, even if he confines himself to the knife, will make his incision with his knife of the greatest possible size, before he has ascertained that the stone is of an extraordinary magnitude; which he cannot certainly do, till he has got his forceps and finger into the bladder. Neither the staff, nor feeling through the medium of the rectum, will enable him to ascertain the size of the stone.

" Obj. 5. ' If the cutting part of the instrument be made broad, to provide against the last accident, it enters the pubis with great difficulty, grates the bone, by which the pubic artery is sure to be wounded, and the patient brought into great danger by the hæmorrhage, which commonly proves fatal.'

" Answ. I admit the objection; but I should be sorry to see any surgeon operate with a gorget, which justified the expectation of its doing so much mischief.

" Obj. 6. ' Whenever the gorget enters the bladder, the patient feels an irresistible inclination to bear downwards, by which the fundus of the bladder is pressed against the point of the instrument; and if it be kept long in the bladder, to serve as a conductor to the forceps, this generally happens.'

" Answ. I never felt this descent of the fundus in using the prostatome; and my finger has always been so instantaneously introduced along its channel, that it could not have happened without my perceiving it: and, as I never keep this instrument long in the bladder, nor use it as a conductor to the forceps, at all events, I obviate in practice this part of the objection, whatever its force may be.

" Obj. 7. ' It is possible for a rash surgeon to push the gorget on with such violence, as to transfix the bladder.'

" Answ. There is no guarding against the mischiefs of rashness, whether a man use the knife or any other invention. However, if a square stop terminate the groove of the staff, as in that which is here delineated, it must be a very rash surgeon indeed, using a very strong hand in a very violent hurry, who, notwithstanding this defence, can pierce the opposite side of the bladder.

" Obj. 8. ' When the gorget has been successfully introduced into the bladder, and all these dangers have been avoided which we enumerated, unless the operator be very careful in withdrawing it in the very position in which it enters, it will make another incision.'

" Answ. This accident is very effectually prevented by me, and, I suppose, by all operators who do not introduce the forceps on the gorget, by withdrawing it with its cutting edge under the fore finger of the

left hand, which certainly keeps the bladder from coming in contact with it, while the instrument is being withdrawn by the right hand.

" Obj. 9. ' No man of feeling ever witnessed the *plunge* of the gorget, when *driven* into the bladder, without horror, or did it without reluctance.'

" Answ. To this appeal to our sensibility I must briefly reply, that the gorget, or whatever instrument be used, should never, in its introduction, excite the idea of *driving* or *plunging*. The operator should carry forwards his instrument as coolly, deliberately, and with as much manifest command of his hand, as he would in bleeding open the basilic vein, with the artery placed immediately under it.

The character, extensive practice, and success of Mr. Trye, give considerable value to his opinions, which are unequivocally in favour of the gorget; the form of which, however, he has altered in some particulars, and has described the altered instrument under the name *prostatome*. A plate renders this description perfectly intelligible, as well as some peculiarities in the staff and forceps which Mr. Trye uses in his operations.

Having thus replied to the objections brought against the gorget, the advantages said to arise from employing the scalpel exclusively are examined.

" Is it probable," Mr. Trye asks, (p. 16.) " that the prostate will be divided with equal precision, as to direction and dimensions, and that the adjacent parts will be equally protected, if we reject every instrument besides the scalpel? I know before hand the size of the wound which the prostatome produces, and by observing the relative position of the staff, in what direction it will be made. For as the handle of the staff is inclined more or less to the right groin of the patient, so will the wound in the prostate deviate, more or less, from a right angle with the wound in the urethra. How many surgeons are there, possessed of such a delicacy of touch as to conclude the work with the knife, with equal exactness? The knife cannot here be directed by the groove of the staff, as it is, in other cases, by the groove of the common director. For the staff, in dividing the prostate, is merely a goal from which the knife must set out, and to which it is to return. During the immediate act of dividing, it must move at some distance from the staff; that is to say, if the prostate be cut by a wound, forming more or less a right angle with the wound through the integuments, muscles, and urethra, which, to ensure the safety of the rectum, must be always done. Mr. Allan's description of the operation by the knife alone, as well as his plate of the lateral incision of the prostate, demonstrate the correctness of my statement. *(See Allan on Lithotomy.)*

" 'Tis true that, in the living body, the feel of the prostate is very different from that of every thing beside in its vicinity; and every part of it may be distinguished by an experienced touch. But the finger will rarely have attained that advantage the first time the surgeon is called to cut for the stone; it cannot have acquired it by exercise on the dead body, in which the feel excites a different sensation from what it does

applied

applied to living parts. Whereas, if a surgeon, having that anatomical knowledge, without which no man deserves the name of a surgeon, is cool and steady, and in the habit of using instruments, and attends to rules, he will, in his first operation,* equally as in subsequent ones, make his way correctly into the bladder. He is guarded against wounding the rectum, vesiculæ seminales, and seminal ducts, all exposed to injury, even from the most skilful hands, provided with the knife alone.

"There are two circumstances which appear very unfavourable to cutting with the knife alone: the patient being a very large and tall man, and the patient being a very small child. I have this day, March 8th, 1809, operated on a very tall man, sixty three years of age, and while I was dividing the urethra, I paid particular attention to the prostate. I am convinced, though I am tolerably accustomed to the use of the knife, and not very deficient in anatomical knowledge, that if I had attempted to have divided the prostate with the knife, I should have certainly been embarrassed by the great depth of the prostate, nor have perfected my task with accuracy.

As, in early childhood, the prostate is too small to be felt, we want its guidance, as to the situation and extent of the incision to be made by the knife. Whereas by our previous consideration of the size, and other circumstances of the prostatome, we can predetermine the situation and dimensions of the finishing wound."

We shall conclude our analysis of this short pamphlet with quoting from it the following singular case of *Ischuria Vesicalis*, subsequent to lithotomy.

"A farmer seventy-five years of age, six feet in height, having been long afflicted, with a stone in the bladder, in other respects in good health, submitted to lithotomy last November.

"The stone was small, and was extracted without difficulty. He was free from unusual pain till the second night, which he passed very uncomfortably, by reason of severe pain about the wound and along the urethra; the following day it was worse, and extended even to the hypogastric region. From circumstances, it was evident that he was free from peritonitis, but that the bladder was suffering from being distended with urine. A female catheter being passed through the wound, did not reach the retained water: a caoutchac catheter was then introduced by the penis, and came out again through the wound; a male silver catheter, in the common way, drew off a large quantity of urine. The same instrument was had recourse to twice or three times a day for a week, and then a caoutchac catheter being introduced with ease, a plug was inserted in its mouth, and withdrawn once in two or three hours, to discharge the urine. Thus went on the second week; after which the catheter was finally withdrawn; then the urine again issued through the wound. In a short time it began again to flow through the penis; in six weeks it all came that way; and he was able to leave Gloucester the seventh week, though the wound was not entirely healed. This is the only instance which I ever knew or heard of in which ischuria vesicalis occurred during the cure of the wound made by lithotomy."

* If he employs the prostatome, we presume the author means.

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

Proceedings of the Royal Society of Sciences, at Harlem, for 1810.—The Society held its 57th anniversary meeting, on the 19th of May. The Secretary reported the communications which the Society had received on the physical sciences since its last meeting May 20, 1809. From this report it appeared,

I. That the following papers were approved of for publication.

1. F. W. Freyer, additions to his memoirs upon the diseases of fruit-trees, which obtained the gold medal in 1808.

2. J. Buys, upon Echo, particularly that of Minderberg.

3. I. Logger, upon a remarkable ossification.

II. That a memoir in Dutch had been received too unsatisfactory to be crowned; on the following question: "Quels sont les changements que les grandes rivières, pour autant qu'elles parcourent ce royaume, ont subi par elles-mêmes, et sans le secours de l'art, dans les deux ou trois derniers siècles, et que peut on deduire, soit pour corriger les defauts des rivieres, soit pour en eviter les accidens facheux?"

III. Upon the question, "Pourrait-on établir avec avantage, près de nos cotes maritimes pour rassembler du sel brut, des batimens qu'on nomme en Allemagne *gradeerhausen*, pour l'evaporation de l'eau de mer, et de quelle maniere pourrait on essayer dans ce cas une telle entreprize, selon les circonstances locales et particulières à ce pays?" Two memoirs were received with these mottos; No. 1, *Nut en Voordeel*, and No. 2, *Quidquid agis, prudenter agas et respice finem.* These answers, though possessed of merit, were judged unworthy of being crowned; and the question is again proposed, and is open for candidates till the 1st of January 1812, with the addition of 50 ducats to the usual prize.

IV. Upon the question, "Quels sont les insectes qui sont les plus nuisibles aux arbres fruitieres dans ce pays-ci? Que sait on de leur économie, de leur metamorphose, de leur generation et des circonstances qui favorisent leur multiplication ou qui s'opposent? Quels moyens peut on déduire de l'un et de l'autre comme les plus convenables pour les diminuer; et qu'els moyens connait-on, par des experiences, pour en garantir les arbres susdits?" a memorial in German, having for its motto, *In minimis ut fere nullis, quanta vis!* was deemed to contain a satisfactory answer, and to be worthy of the gold medal, with the additional prize of 30 ducats. On opening the billet, it appeared that the author was Friedrich Wilhelm Freyer, Advocate of the Court and of the regency at Saxen Hilburghausen.

V. Upon the question, "Jusqu'à quel point connait-on, après les derniers progrés que l'on a fait dans la physiologie des plantes, de quelle manière les differens engrais, pour differens terroirs, favorisent la vegetation des plantes, et quelles indications peut-on deduire des connaissances acquises sur ce sujet pour le choix des engrais et la fertilization des terroirs incultes et arides?" two memoirs in Dutch were received, No. 1 having for its motto, *Natuur door kunst en vlijt;* and No. 2, *Mest sterkt de plant.* These answers were deemed unsatisfactory from the want of theoretical

theoretical principles, and the question stands over till the 1st of January, 1812, with the addition of 30 ducats to the usual prize.

The Society repeats the six following questions, to be answered before the 1st of January, 1812.

I. " Jusqu'à quel point l'étude des anciens auteurs latins et autres, l'examen des monumens antiques, et des observations faites dans les terrains, peuvent elles servir à déterminer avec certitude quelle a été ci-devant, et surtout sous la domination romaine, la face de ces pays, le cours des riviéres et l'étendue des lacs qui composent ce royaume, et quels changemens successifs ont-ils subis depuis ?"

The Society is desirous of seeing this subject examined again, and of its being precisely indicated what is known of it with certainty, and what ought to be considered as doubtful, in what celebrated authors have written upon it.

II. " Qu'est-ce que les relations historiques, dont l'authenticité est reconnue, nous apprennent des changemens qu'ont subi la côte maritime de la Hollande, les iles et les bras de mer qui les separent, et quelles instructions utiles peut-on tirer de ce qui en est connu ?"

III. " Les flux de nos côtes maritimes montent-ils actuellement à de plus grandes hauteurs que dans les siècles précédens, et les reflux descendent-ils proportionellement moins bas que ci-devant? S'il en est ainsi, jusqu'à quel point peut-on determiner la quantité de cette différence dans des siècles plus ou moins reculés, et quelles sont les causes de ces changemens ? Se brouvent-elles dans les alterations successives des embouchures, ou dependent-elles de causes exterieures et plus éloignées, et quelles sont ces causes ?"

The Society engages to add an extraordinary prize of 30 ducats to the customary medal, for the best answer, to each of the two first questions, and to add a prize of 50 ducats for the third.

IV. " Comme les experiences et les observations des physiciens du dernier temps ont fait voir, que la quantité d'air vital que les plantes exhalent, n'est nullement suffisante pour rétablir dans l'atmosphére tout l'air vital consommé par la respiration des animaux, par la combustion, par l'absorption, &c. ; on demande par quelles autre voies l'equilibre entre les parties constituantes de l'atmosphère est continuellement conservé ?"

V. " Jusqu'à quel point la chimie a-t-elle fait connaitre les principes ou parties constituantes, tant eloignées que prochaines des plantes, surtout de celles qui servent à la nourriture ? Et jusqu'à quel point peut-on deduire de ce qu'on en sait, ou en poura decouvrir par des experiences combinées avec la physiologie du corps humain, quelles plantes sont les plus convenables pour le corps humain dans l'état de santé et dans quelques maladies ?

The Society offers an extraordinary prize of 30 ducats, in addition to the ordinary one, for a satisfactory answer to this question.

VI. " Quelle est la cause de la phosphorescence de l'eau de mer dans les mers et les flux de mer qui se trouvent dans ce royaume et dans les mers affluentes ? Ce phénomène depend-il de la presence d'animalcules vivans ? Quels sont, dans ce cas, ces animalcules dans l'eau de mer, et peuvent ils communiquer à l'atmosphère des propriétés nuisibles à l'homme ?"

In

In considering this question, the candidate is requested to examine what relation the phosphorescence of the sea-water, which is very remarkable in some parts of these countries, bears to the prevailing diseases in the least healthy seasons. Those who intend to answer this question, are invited to consult the most recent and exact observations on the subject, and especially those of Viviani. 1805.

The Society proposes for this year the eight following questions, the prize-essays to be transmitted before the 1st of January, 1812.

I. Since it appears that the secretion of the milk of cows is increased when they are fed in stables on potatoes, carrots, or red-beet (betterave), it is asked,

1. " Qu'il soit démontré par des experiences et des observations, si le lait des vaches est réellement augmenté par les nourritures susdites, et dans quelles circonstances cette augmentation a lieu. 2. De quelle manière l'ont peut donner ces nourritures avec le plus de profit. 3. Si la qualité du lait est altérée par les nourritures, et en quoi consistent alors ces alterations en general, et particulierement à l'ègard de la qualitè et de la quantité relative de crême et de beurre que le lait peut produire.

II. As the anti-septic quality of common salt does not appear to depend solely on the muriate of soda, but also on the muriate of magnesia which is attached to common salt, it is required to determine by experiments: 1. " Dans quelle proportion se trouve la qualité anti-septique des deux sels susdits. 2. Quelle est la proportion dans laquelle ces deux sels doivent être mêlés pour prevenir le plus long-temps la putrefaction, sans que le goût des substances que l'on veut conservir devienne moins agréable. 3. S'il y a des cas dans lequels il serait avantageux de se servir uniquement du muriate de magnesie, particulièrement dans les expeditions pour des contrées plus chaudes ?"

III. " Quelle est la cause chimique que la chaux de pierre fait sur le total une maçonnerie plus solide et plus durable que la chaux de coquilles, et quels sont les moyens de corriger à cet égard la chaux de coquilles ?

IV. " Pourrait on établir dans ce pays, avec profit, des salpétrières, surtout dans les lieux ou l'eau est impregnée de plusieurs substances produites par la putréfaction des corps animaux ? Et quelles régles aurait-on alors à observer à cet égard ?"

V. " Qu'y a-t-il connu par des observations incontestables, par rapport à la nature des météores lumineux ou qui ont l'apparence du feu à l'exception de la foudre, comme il en parait de temps en temps dans l'atmosphere ? Jusqu'à quel point peut-on les expliquer par des experiences connues ? Qu'est ce qu'il y a encore de gratuitement soutenu ou de douteux dans ce que les physiciens de nos jours en ont avancé ?"

VI. " Peut-on démontrer par des expériences incontestables, que les substances qui ont l'apparence des métaux et qui ont été produites par des sels alcalins, sont des vraies métaux ? Ou, y a-t-il des raisons suffisantes pour soutenir que ce sont des hydrures, produites par la combinaison de l'hydrogéne avec les sels alcalins ? Quelle est la maniére la plus sûre et la plus convenable de produire ces substances des sels alcalins en une quantité assez considerable au moyen d'une haute temperature ?

VII. " Jusqu'à quel point peut-on soutenir encore la doctrine de Harvey,

vey, que les animaux naissent en general par des œufs préexistans, et que les plantes ne viennent que par les graines? Et quelles sont, au contraire, les observations principales qui font voir qu'il y a des animaux et des plantes qui proviennent d'une maniere différente?"

VIII. "Quel jugement faut-il porter sur les explications chimiques qu'on a taché de donner des phénomènes électriques? Y en a-t-il qui sont fondés sur des experiences suffisantes, ou peut on les prouver par des experiences nouvelles? Ou faut-il les regarder jusqu'ici comme des hypothéses nullement prouvées, ou posées sans des raisons valables?"

The Society adds to the ordinary medal of 30 ducats, a gratification of 30 ducats for a satisfactory reply to the questions No. II, III, V, VI, and VII.

The Society has proposed in the preceding years, the following questions to be answered before the 1st of January, 1812.

I. "Qu'est-ce que les dernières observations ont appris sur l'influence de l'oxigène de l'air atmosphèrique, soit combiné ou non avec l'action de la lumiére sur le changement des couleurs; et quels avantages peut-on en tirer?" The Society wishes that whatever has been proved by observation and experiment should be succinctly and precisely demonstrated, that the actual state of our knowledge on this subject may be more easily come at, and may be rendered more profitable, both in commerce and other branches of economy.

II. "Qu'y a-t-il de vrai de toutes ces indications concernant les saisons prochaines ou des changemens de temps, qu'on croit trouver dans les vol des oisseaux, dans le cri ou dans les sons qu'on entend à certains temps, soit des oisseaux ou des autres animaux, et en général dans ce qu'on observe de plusieurs genres d'animaux à cet égard? L'expérience a-t-elle fait voir dans ces pays ci l'un ou l'autre assez souvent pour s'y fier? Qu'est-ce qui est au contraire encore douteux de ce qu'on prétend à cet égard, ou réfuté par l'expérience? Et jusqu'à quel point peut-on expliquer ce qu'on en a observé par ce qu'on connaît de la nature des animaux? The society wishes to collect in one point of view, all that observation has shewn on this subject with respect to the particular animals of their own country, or such as are sometimes seen in France, that the explanation of the question may be advantageous to the inhabitants of both countries.

III. "Qu'est-ce que l'experience a suffisamment prouvé concernant la purification de l'eau corrompue et d'autres substances impures, au moyen du charbon de bois? Jusqu'à quel point peut-on expliquer, par des principes de chimie, la manière dont elle se fait? Et quels avantages superieurs peut-on en tirer?"

IV. "Quelle est la différence réelle des propriétés et des principes ou parties constituantes du sucre, tiré de la canne du sucre, et le principe sucro-muqueux de quelques arbres et plantes? Celui-ci contient-il du vrai sucre, ou peut-il être converti en sucre?"

V. To remove the uncertainty which exists respecting the choice of different kinds of vinegar for different purposes, as for food, an antiseptic, various uses in manufactures, &c. and to bring the vinegar manufactory to perfection, on fixed principles, it is asked, 1. "Quelles sont les propriétés et principes différens des différentes espèces de vinaigres en usage chez nous, soit fait ici ou aporté d'ailleurs, et de quelle manière peut-on determiner facilement la force relative de différentes espèces de vinaigres,

gres, sans y employer des appareils chimiques considerables ? 2. Quelles espèces de vinaigres doivent être considérées, suivant des épreuves chimiques, les plus convenables pour les differens usages, qu'on en fait ; et quelles sont les conséquences de cette théorie, qui peuvent servir au perfectionnement des trafics de vinaigre ?"

VI. " Quelle est apparemment l'origine du spermaceti, ainsi nommé ? Peut-on séparer cette substance de l'huile de baleine, ou en effectuer la production dans celle-ci ; et cette production pourra-t-elle être avantageuse ?"

VII. " Peut-on, de ci qu'on connait des principes des alimens des animaux, expliquer suffisamment l'origine des principes ou parties constituantes éloignées du corps humain, comme sont spécialement la terre calcaire, la soude, le phosphore, le fer, &c. ? Sinon, sont ils portés d'ailleurs dans le corps animal, ou y a-t-il des experiences et des observations suivant lesquelles on peut supposer qu'au moins quelques-uns de ces principes, quoiqu'on ne les puisse composer ni analyser par des moyens chimiques, sont produits par une action propre des organes vivans ?"

Should the latter opinion be adopted in the answer, it will be sufficient to prove the production of one of the aforesaid principles.

VII. " Qu'est-ce que l'experience a démontré suffisamment concernant l'accélération de la germination des semences, que Humboldt a essayé le premier, en les arrosant de l'acide muriatique oxygéné, comme aussi concernant d'autres moyens qu'on a employés, hormis les engrais communs et la chaleur pour accélérer la vegetation des plantes en general, et la germination des plantes, de quelle manière ces moyens agissent ? Quel secours nous donne ce que nous en connaissons, pour des recherches ultérieures, soit des moyens déjà fait voir et confirmé, pour la culture des vegetaux utiles ?"

IX. " Jusqu'à quel point connaît-on le sable mouvant (het welzand) pour autant qu'il se trouve à differens endroits de cette republique, surtout dans la proximité des côtes de la mer du Nord ? Que sait-on de son étendue et de sa profondeur ? De la nature différente, de l'epaisseur et de la variation de ses couches ? De sa mobilité ? Et de quelle maniere peut-on expliquer ce qu'on voit avoir lieu quelque fois à cet égard ? Quelles indications utiles peut-on deduire de ce que nous en savons soit en faisant des puits pour obtenir de la meilleure eau de source, soit en plaçant les fondemens pour les edifices, ecluses ou autres batimens ?"

X. The windmill being one of the most useful machines for the welfare, and even the existence of the principal part of the kingdom, the society demands, Quelle doit être la position de la toile des ailes, sur les lattes, par rapport au plan du mouvement des ailes, et à chaque distance de l'axe, afin que l'effet du moulin soit toujours le plus favorable ?"

The Society requests, 1. " Une esquisse des principales maniéres usitées chez les constructeurs des moulins selon lesquels ils mettent les lattes aux ailles. 2. Une comparaison de ces différentes manières entre elles, et surtout avec les ailles de Van Dijl, qui ont octroyées depuis quelques années. Une demonstration de la manière jugée la meilleure, fondée sur une theorie exacte, et confirmée par des épreuves."

XI. As experience has proved on the one hand, the great effect of sluices, (witwaterende sluizen) and on the other, the utility des déver-

soirs

soirs (overlaten) for the evacuation of l'eau intérieure (binnen-water), the Society requests ; " Une théorie comparative et prouvée par des experiences, de l'action de l'un et de l'autre, comme aussi une demonstration dans quels cas on doit préférer l'un à l'autre."

XII. " Quelle est la cause que la vegetation des plantes est beaucoup mieux accélerée par la pluie que par l'arrosement avec de l'eau de pluie, de source, de rivière on de fossé? Y-a-t-il des moyens de communiquer à ces differentes eaux cette qualité de la pluie, qui accélere la vegetation, et quels sont ces moyens ?"

XIII. " Quelles espèces de plantes graminées fournissent dans les prairies des terrains sablonneux, argilleux et marécageux, les alimens les plus nutritifs aux bêtes à cornes et aux chevaux ; et de quelle manière peut-on les cultiver et les multiplier le mieux au lieu de ces plantes, qui sont moins utiles dans ces prairies ?"

XIV. " Jusqu'à quel point peut-on juger de la fertilité des terrains, soit cultivés ou non cultivés, par les plantes qu'on voit végéter naturellement sur ces terrains ; et quelles indications donnent-elles de ce qu'on peut ou doit faire pour l'amélioration de ces terrains ?"

XV. " Que doit on penser de la fermentation panaire ainsi dite ? Est-elle une espèce particulière de fermentation ? Quelles matières en sont susceptibles ? Dans quelles circonstances peut-elle avoir lieu? Quels sont les phénomènes qui accompagnent cette fermentation depuis le commencement jusqu'à la fin ! Quels changemens subissent les parties constituantes les plus prochaines des corps, qui sont sujets a cette fermentation ? Et qu'apprend-on par l'un et l'autre pour perfectionner l'art de cuire le pain ?"

XVI. Que sait-on de la generation et de l'économie des poissons dans les rivières et les eaux stagnantes, surtout de ces poissons qui nous servent de nourriture ? Et que peut-on en deduire concernant ce qu'on doit éviter pour favoriser les multiplications des poissons ?"

The Society offers a prize of thirty ducats, in addition to the ordinary one, for a satisfactory answer to each of the questions, No. I, IV, V, VI, IX, X, XI, XII, XIV, and XV.

XVII. As the chemical analysis of vegetables, notwithstanding the considerable progress which has been made in it of late years, is not yet brought to that degree of perfection that we can trust to its results in all cases, since they sometimes differ considerably after the most careful analysis ; and as the knowledge of the nature of plants, of their greater or less utility for nourishment, and of their medicinal properties, depend upon it in a great degree, the Society offers an extraordinary prize of 50 ducats, in addition to the ordinary medal, " à celui, qui par des experiences répétées ou nouvelles (qu'on aura trouvé exactes en les répetant), aura réduit l'analyse chimique des plantes au plus haut degré de perfection, et aura écrit le precis le plus parfait des procédés les plus convenables, pour faire l'analyse chimique des matières végétales en tout cas par la voie la plus simple, mais en même temps la plus certaine, de manière qu'on obtient toujours, en répétant avec soin les procédés, les mêmes resultats."

The three following questions were proposed in the preceding years, to be answered before the 1st of January, 1812.

A. Experience, especially natural history united with chemistry,

having already proved in general, that in organized bodies, which differ considerably in form and external structure, a remarkable difference is observed in the constituent principles, and chemical composition; and the Society judging that botany may even acquire new light from the chemical examination of vegetables, proposes this question;

" Quel est le rapport qui existe entre la structure exterieure et la composition chimique des végétaux? Peut-on distinguer par des caractères chimiques les familles naturelles des plantes? Quels sont, dans ce cas, ces caractères? Et peuvent-ils servir à déterminer et à distinguer avec plus de certitude les familles naturelles des plantes?"

B. As the Linnean system in the classification of animals, has from time to time undergone several alterations, and as it is to be feared that the difficulties in the study of natural history will increase in proportion as the science extends, and that confusion will arise, instead of the order to which the system formerly fixed the natural history of animals, the Society proposes the following question:

" Est-ce qu'on a fait déjà assez de progrès dans cette science, pour introduire un autre système qui n'étant pas basé sur des positions gratuitement adoptées, est préférable à tous les autres, pour l'invariabilité et la simplicité des caractères, et qui mériterait pour cet effet d'être généralement adopté? Si la réponse est affirmative, quels sont les principes sur lesquels ce système est basé? Si non, quel système de ceux qui existent, est préférable pour l'état present de la science, et par quelle vois pourrait-on surmonter les difficultés susdites?"

As the consideration of this question may be extended to great length, it is necessary to observe, that short memoirs only will be admitted.

C. As it is a well established rule in agriculture, that herbs cultivated upon the same land ought to be varied, and as it is very important, both for the preservation of the fertility of such lands, and for the success of the herbs which are cultivated, that they follow in order, the Society desires: " Qu'on fasse voir par des principes physiques et chimiques, et suivant l'experience de l'agriculture, dans quel ordre ou dans quelle succession les herbes qu'on cultive dans ce pays-ci sur des terrains argilleux, marécageux, sablonneux et mêlés, doivent se suivre dans le même champ, afin que leur culture se fasse avec le plus grand avantage; surtout dans quel ordre on doit cultiver les herbes pour la nourriture des bestiaux et d'autres sur des terrains sablonneux et élevés, principalement ceux qui sont nouvellement défrichés, afin de ménager autant que possible les engrais, et de prevenir l'epuissement de la fertilité des terrains?"

The case of the Hon. Robert Grosvenor has excited the public mind to a degree that makes the notice of it here a proper measure. In 1801 this young gentleman was vaccinated by Dr. Jenner. In the month of May last he was attacked with febrile symptoms, succeeded, on the third day, by an eruption, which had the appearance, in its early stage, of small pox. This eruption became confluent, was accompanied with fever and delirium of such violence, as to indicate great danger. On the eighth day the fever subsided, and the eruption took on appearances, unusual, if they have ever occurred, in confluent varicla. At present,

we

we can only say, that facts have arisen in the course of this disease, which shew its progress to have been much influenced, and its character modified, by the previous vaccination. Among those who decide from evidence, opinion will certainly be suspended, until the whole of the testimony that the nature of the case admits comes fairly before the public. We know that a Report of the case is preparing, which may be expected to contain all the material facts; and upon those facts only can a rational conclusion be founded. The other children of Earl Grosvenor, who had been vaccinated, were, in consequence of this alarm, subjected to variolous inoculation, and were found to have been secured from its effects by the previous vaccination.

The resources with which Nature is provided for distributing the vital fluid throughout the bodies of animals, when the principal trunks of arteries are destroyed, has been remarkably exemplified in experiments lately made by Mr. Ashley Cooper. That gentleman tied the *aorta descendens* of dogs, very near to the heart, in a way to stop the current of blood passing, by that vessel, to all the lower parts of the frame. The animals seemed to sustain no great inconvenience by this; the wounds soon healed, the health was not impaired, the secretions proceeded as usual, and the creatures remained active and lively. When they were destroyed after some weeks, or months, for the purpose of ascertaining the changes that had happened, from the destruction of a part presumed to be so essential to life, the aorta was found obliterated where the ligature had been fixed, and the blood had been transmitted by anastymosing branches.

A marked instance of the appearance of Small-pox twice in the same person, has occurred in the case of the Rev. Mr. Rowley, son of lady Rowley. About forty years ago Mr. Rowley, then a child, was inoculated for the Small-pox, by Mr. Adair, Surgeon general; and had a considerable eruption. On the 5th of June last, he was seized with fever, and an eruption appeared on the third day: there were two hundred pustules on the face, and the distemper has proved a severe case of distinct Small-pox.

Another instance of Small-pox after inoculation has happened to Miss S. Booth, of Covent Garden Theatre. At five years of age this young lady was inoculated for Small-pox. The progress of the arm was regular, she had considerable fever, and the whole of the appearances were of a nature to afford, it was believed, a perfect security from any future attack of the disease. On the 20th of June, she was seized with febrile symptoms, which proved the precursor of Small-pox: on Sunday, the 3d day from the attack, pustules appeared on the forehead and scalp. The eruption spread to other parts of the frame, accompanied with sore throat. This eruption passed through the usual forms and stages of the disease, and constituted an undoubted case of *Variola*.

MONTHLY CATALOGUE OF MEDICAL BOOKS.

A Treatise on Surgical Anatomy; by A. Colles, one of the Professors of Anatomy and Surgery in the Royal College of Surgeons in Ireland, &c. &c. &c. Part 1st. 8vo. Longman and Co.

A Letter respectfully addressed to the Commissioners for Transports, sick and wounded Seamen, &c. &c. &c. on the Subject of the Operation for Popliteal Aneurism; Illustrated by Cases and a description of a new Instrument. By A. C. Hutchison, M. D. Surgeon to the Royal Naval Hospital at Deal. 8vo. Callow.

A Posologic Companion to the London Pharmacopœia. By John Nott, M. D. and Member of the Royal College of Physicians in London. The Third Edition, adapted to the latest reform of the College, 18mo. Callow.

A Letter to Dr. Jones on the composition of the Eau Medicinale D'Husson. By James Moore, Member of the Royal College of Surgeons, 8vo. Johnson.

The Edinburgh New Dispensatory, including Translations of the London Pharmacopœia, published in 1809; the Edinburgh of 1805; and the Dublin of 1807. By A. Duncan, Jun. M. D. Sixth Edition, corrected and enlarged. 8vo. Murray.

The New London Practice of Physic, pointing out the Characters, Causes, and Symptoms of the various Diseases to which the Human Body is liable. The Seventh Edition enlarged and carefully revised. By E. G. Clarke, M. D. 8vo. Cox.

An Account of Diseases in an Eastern District of London, from the 20th of May, to the 20th of June, 1811.

ACUTE DISEASES.		CHRONIC DISEASES.	
Typhus mitior	5	Tussis	7
Febris intermittens	3	Dyspnœa	5
Peripneumonia notha	4	Tussis cum Dyspnœa	9
Apoplexia	1	Raucedo	1
Ephemera	3	Hæmoptysis	3
Rheumatismus acutus	5	Phthisis Pulmonalis	2
		Menorrhagia	4
		Leucorrhœa	7
		Amenorrhœa	3
		Diarrhæa	4
		Dysuria	3
		Hæmorrhois	3
		Hypochondriasis	2
		Cephalalgia	5
		Herpes	4
		Psora	3
		Rheumatismus Chronicus	7

PUERPERAL DISEASES.		INFANTILE DISEASES.	
Menorrhagia Lochialis	5	Pertussis	7
Mastodynia	3	Erysipelas Infantile	3
Ephemera	4	Tabes Mesenterica	4
Dolor post partum	5	Convulsio	2
		Vermes	4

Fevers of the Typhoid kind still continue to engage the attention of

of the medical practitioner. This disease, though it has not, in any of the instances referred to, proved fatal, has still occasioned some perplexity and anxiety. Insidious in its attack, it has hardly been distinguished, till by some more prominent symptoms its character has been discovered. As its approach has been unperceived, so its advances have been slow and gradual; and the progress towards recovery has been unusually tedious.

Amongst children the hooping-cough has been very prevalent. This disease in some instances has appeared in so mild a form, and the parents of the children being accustomed to it, medical assistance was not solicited; but in other cases it has been a more serious and alarming disease, and has too frequently proved fatal. It being of a contagious nature, it is frequently propagated through families where there have been any that were not previously affected by it. It is sometimes at its first appearance mistaken for some other pneumonic affection, in which case there is not a sufficiently early caution to avoid the consequence of a continued intercourse between the patient and others liable to the disease. The cure of this disorder is to be conducted rather by an attention to general diet and regimen, than by a dependance upon any specific remedy.

NATURALIST'S MONTHLY REPORT.

MAY.

LEAFING MONTH.

Hail! bounteous May, that dost inspire
Mirth and youth and warm desire;
Woods and groves are of thy dressing,
Hill and dale doth boast thy blessing.

On the 1st of the month the wind was south-west; from the 2d to the 4th westerly; from the 5th to the 11th south-west; on the 12th and 13th south-east; on the 14th south and south-west; on the 15th and 16th south-east; on the 17th and 18th easterly; from the 19th to the 23d easterly; on the 23d and 24th south-west; from the 25th to the 27th southerly; on the 28th and 29th west; on the 30th south; and on the 31st south-east.

We had a heavy gale of wind, accompanied with showers, on the 5th, and strong gales on the 2d, 6th, 14th, 19th, 28th, and 29th.

The only thunder storm in the course of the month was in the morning of the 12th, and it was of short duration.

We had rain on the 1st, 3d, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 15th, 16th, 24th, 28th, and 31st. The weather has not been so hot as it frequently is in the month of May.

May 2d. Toads begin to croak in the evenings.

The Swifts are now seen in considerable numbers, and fly screaming after each other in the same manner as they do in the middle of summer.

May

May 4th. The nightingale is arrived.

Sweet-scented vernal grass *(anthoxanthum odoratum)* is in flower. It is this grass, chiefly, that gives to hay its peculiar scent.

May 6th. The Black-cap sings.

The Cuckoo is arrived. Mushrooms are gathered.

May 7th. Chaffers *(scarabæus melolontha)* begin to fly about in the evenings. It is really wonderful to observe with what exactness of time the first leafing of the trees, and the emerging of these insects from the ground, take place. Whether the season be early or late, the Chaffers invariably make their first appearance as soon as a sufficiency of food is provided for them by the vernal foliage.

May 8th. The seven-spotted lady-bug *(coccinella septempunctata)* flies about. The bloom of the hawthorn begins to expand.

Damson trees are in bloom.

Yellow wagtails *(motacilla flava)* appear.

May 12th. This was a close, damp, and yet sultry day. The ponds and manure heaps along the sides of the road were extremely offensive.

The caterpillars of the barred tree, lackey moth *(bombyx neustrius* of Haworth) begin to emerge from the ova which the parent insects deposited in the autumn round slender twigs of apple trees. These caterpillars are in some seasons so numerous as to devour a great part of the foliage.

There has of late been so much rain in the country to the westward, that the rivers have overflowed their banks.

May 13th. The sowing of barley, which was much retarded by the wet weather, is now going on; and, if the weather continues fine for a few days longer, will be finished.

May 15th. Bird's-foot trefoil *(ornithopus perpusillus)*, heart medick *(medicago polymorpha)*, common vetch *(vicia sativa)*, and common bird's-foot trefoil *(lotus corniculatus)*, are in flower. The hawthorn also is now in full bloom.

May 20th. The Chaffers are not at all numerous; but, if we may judge by the devastations which have of late been committed by the chaffer grub (or rook-worm, as it is usually called) it seems probable that in the next spring these insects will be unusually abundant.

The froth-worm, or cuckoo-spit, appears on the blades of grass and other herbage.

The leaves of the mulberry tree are not yet fully expanded. Those of the walnut tree have been much injured by the chaffers.

May 26th. Wall butterfly *(papilio mægera)*, red admiral *(papilio atalanta)*, and fern chaffer *(scarabæus horticola)*, appear.

May 27th. Young wood pigeons are nearly fledged.

Rye is in full ear; and the bramble, and dog-rose, are in flower.

May 30th. Green peas, and ripe strawberries gathered.

May 31st. The crops of grass are heavier in this neighbourhood than they have been for several years past. The rye also promises to afford an abundant crop; and the wheat and barley are, on the whole, looking very well.

The yellow iris, and fox glove are in flower.

Hampshire.

METEORO-

METEOROLOGICAL TABLE.

From May 27, to June 26.

D	Therm.	Barom.	Hygrom. dry	Hygrom. damp	Atmospherical Variations
28	65 — 57	29⁶ — —⁷		30 60 15	SW ... F .. — ... — ....
29	58 57 55	—⁷ — —⁹		24 3 27	W ... C ... R ... F ....
◐ 30	55 72 61	—⁹ — —⁷		30 9 10	W .. F ... — .... — ....
31	59 65 60	—⁵ — —		30 — 32	N . R ... F .. R .. F ...
1	58 64 60	—⁶ — —⁷		33 19 25	S .. C . F ... R . F ...
2	59 60 56	—⁵ — —		33 45 42	V .. R ... — ... F ... R ..
3	56 65 55	—⁷ — —⁹		44 55 25	W ... NW. C ...F .... F ....
4	57 65 50	—⁹ — —⁸		30 20 26	W.. NW .F ... — .... —....
5	58 57 55	—⁶ — —⁷		57 52 49	SW... R ... F .. R ... F....
○ 6	58 67 57	—⁸ — —		48 10 26	SW ... F .. — .... — ....
7	59 68 61	—⁹ — 30		45 33 40	SW .. F .. C .. F ....
8	64 76 56	29⁹ — 30		40 30 20	SE ... F ... R .. F ... R ...
9	59 70 57	—¹ — —²		40 35 55	W .. F .... — .... — ....
10	59 72 60	—² — —¹	— — 10	12 2 —	E .. F .... — .... — ....
11	60 65 57	29⁹ — —	— 8 —	10 — 5	SW .. F ... C .. F ....
12	59 65 54	—³ — 30		17 40 46	W .. F .... R . F .... — ....
◑ 13	53 61 55	—¹ — —	— 7 —	7 — 3	W .. F ... — .... — ....
14	56 67 59	30 — —	— 24 12	10 — —	SW .. F .... — ... — ....
15	60 72 61	29⁸ — 30	4 38 10		W .. F ... — .... — ....
16	60 70 61	29⁹ — 30	— 16 7	1 — —	W . C .. F .. R . F ....
17	58 72 62	—¹ — —³	3 20 3		N . F ... — .... — ....
18	60 71 63	—³ — —²	— 8 12	6 — —	E .. C ... F .... — ....
19	60 76 66	—² — 30	3 30 13		W . F ... — .... C ....
◔ 20	61 60 56	29⁷ — —⁶	13 15 10		N .. W .. C ... — .... — ....
21	54 64 53	—⁷ — —⁸	6 17 7		N .. E .. F ... — .... — ....
22	53 62 53	—⁸ — —⁹	— 10 —	1 — 4	NE .. F ... — . R . F ....
23	56 60 56	—⁹ — —⁸		11 15 30	NW ... R . C ... — ....
24	56 68 63	—⁷ — —		38 30 26	NW .. R . — .. F ... — ....
25	62 75 65	—⁸ — —⁹		24 1 5	E .. F ... — .... —....
26	65 75 63	—⁹ — —		15 2 20	E.. F .... — .... R ... in n ...

Quantity of Rain from May 27 to June 26, 1 inch and $\frac{34}{100}$.

The estimation of the quantity of Rain, by the Rain Gage, seems liable to some uncertainty, or the quantity falling at places not far distant, may vary exceedingly. In the last month the quantity, where this diary is kept in London, was 2 inches $\frac{48}{100}$, and at Highgate it is stated to have been 5 inches $\frac{50}{100}$.

2d. Variable winds from East to South and West, on the 5th varying in an equal degree; on this day there was a heavy fall of rain.

8th. The thermometer at 80 in the shade at four P. M. Thunder in the evening with rain.

The atmosphere has been generally dry in June, at least in the middle of the month; and the weather was dry and warm, before the hygrometer shewed the decreasing humidity, but which at no period did arise to the same degree as in the beginning of April.

Princes Street, Cavendish Square

IN THE PRESS.

A Treatise on the Gout, containing the Opinions of the most celebrated Ancient and Modern Physicians on that Disease, with observations on the Eau Medicinale d'Husson. By John Ring, Member of the Royal College of Surgeons, London and Paris.

NOTICES TO CORRESPONDENTS.

Mr. Harrup will perceive by this Number that the Editors have not been inattentive to the well-marked Case transmitted by him: but in the hurry with which the last pages of the Journal must necessarily be got up, the name of a gentleman (Harrold) to whom they are frequently indebted for valuable communications, was inserted instead of Harrup.

The Editors acknowledge the receival of some interesting statements from Dr. Hossack, respecting the Elgin Botanic Garden in the vicinity of New York, and of the *Hortus Elginensis*. From Dr. Spalding of Portsmouth, New Hampshire, they have also received some valuable meteorological details; they have much satisfaction in remarking the returning credit of the Medical and Physical Journal in the United States, and beg to assure their brethren of that country, that they will make every exertion to merit patronage, by collecting the most valuable materials that come within their reach, by liberal observations in their critical department, and by an honourable acknowledgment of the obligations they may be under to other periodical and printed works. Communications have been received from A. B. Granville, M. D. from H. R. on Dr. Harrison's Bill; from Mr. Whately, W. H., Mr. Smith, in continuation of the "Theory of Sensation," from A. B. G. from R. from A. Fogo, &c. &c.

We are much concerned that the observations of *Reprehensor* should be thought by Mr. Barlow unworthy of notice, because they are anonymous, and regret particularly their not having a real signature, if that circumstance prevents Mr. Barlow's further prosecution of an interesting inquiry. The public, also, are too well acquainted with the value of Mr. Barlow's opinions, and of his extensive practical information, not to feel with ourselves that his silence is a real loss. The support taken from the assertions of Dr. Douglass, in opposition to the opinions of Mr. Barlow, on the contagious property of the inoculated Small-pox, have, in themselves, but little value. Dr. Douglass was a violent prejudiced partizan, and his disingenuous and cruel opposition to Dr. Boylston, the intrepid introducer of Small-pox inoculation into America, will never be forgotten. Douglass was the Rowley of 1722: the rude and uncandid reprobater of a practice he did not himself approve. We apprehend that Reprehensor might have taken much stronger ground on the calculations of Dr. Rast of Vienna, and on the controversy which it produced, than on the suspected evidence of a mortal enemy to Inoculation, given at a period, when neither its merits nor its demerits were understood.

CORRIGENDA.

P. 31. For *Betoneia*, read *Betonica*.

P. 73 and 75, in the running Head, *for* Dr. Reid on the Study of Medicine, *read* Mr. Trye on Operations for the Stone.

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THE

Medical and Physical Journal.

VOL. XXVI.] AUGUST, 1811. [NO. 150.

Printed for R. PHILLIPS, by E. Hemsted, Great New Street, Fetter Lane, London.

For the Medical and Physical Journal.

Theory of Sensation.

(Continued from Vol. XXV. p. 475.)

SECOND GENERAL PHENOMENON.

WHEN action of the vital power is interrupted by *excess* of those matters which in a certain quantity are necessary to action, sensation is experienced at the part where the interruption is, the efforts to act continuing.

I. EXCESS OF CALORIC.

That a certain quantity of caloric is necessary to successful vital action is well known. But the important fact to which I beg leave now to call the reader's most serious attention, that excess of caloric proves a cause of obstruction to the actions of the vital power, is perhaps less generally understood; for, if I mistake not, increased heat and increased action are commonly employed as nearly synonimous terms. There appears, however, to be a very important difference, when the excess of caloric is productive of sensation.

Experiment 1st.

My hand being at the temperature of 94°, and moist in the palm, I took a large wine glass, and inverting it on the palm, observed that in less than a minute it became universally dim on the inside, from the perspirable matter condensing on the sides of the glass: at this time I had no sensation of either heat or cold in the palm of my hand. I then held the glass before a fire till it became somewhat warmer than my hand, and wiping my palm quite dry, I inverted the glass upon it, and held my hand so near the fire as to oc-

casion a distinct, and rather painful sensation of heat in every part of my palm inclosed by the glass. I continued this for upwards of a minute, but the glass remained quite free of dimness, nor could I perceive the least appearance of perspirable matter having collected on the palm. On withdrawing my hand from the fire the sensation of heat soon went entirely off: and in less than five seconds the whole palm was studded with large drops of perspirable matter, which I could distinctly see through the glass begin to emerge from the surface of the skin the moment the sense of heat began to abate.

Experiment 2d.

Having freed my palm of any moisture, I again inverted the glass upon it, and instantly immersed both in water raised to the temperature of 120°, taking care that none of the water should insinuate itself under the glass. Having borne a very painful sensation of heat (which was felt nearly as painful in the palm under the glass as in the rest of my hand) for the space of a minute; I caused some cold water to be dashed over the glass in order to condense any vapour that might be contained within it. But no dimness or moisture was found either in the glass or on the palm.

Experiment 3d.

I immersed my hand, with the glass inverted on the palm as before, in water at 110°. The sensation of heat soon began to diminish. I kept my hand in the water exactly one minute after the sensation was no longer felt. Cold water was then dashed over the glass as before. It instantly became quite dim on the inside from the condensation of the vapour, and on removing the glass, drops of perspirable matter were distinctly seen on the palm; although not the smallest drop of the water in which the hand was immersed could have got into the glass from the manner it was held on the palm. The temperature of the water at the end of this experiment was 104°, that of the hand 98°.

These experiments, which were frequently repeated with the same results, show clearly that excess of caloric obstructs the action of the vessels by which the perspirable matter is thrown out. They show, no less clearly, that a sensation of heat is inseparably connected with obstruction of action from that cause; for when the action of the vital power was allowed to recommence by the removal of that excess as in the first experiment, or came to be successfully performed proportioned to the excess as in the third experiment, the sensation instantly ceased. But it is not the exhalent actions

only

only which appear to be obstructed by excess of caloric: it seems to hinder the action of the circulating vessels equally with that of the exhalents, as is shewn by the tumefaction and redness of a part suffering under a painful sense of heat. Besides, I find by experiments, that when a living part is immersed in very hot water, the water cools much more rapidly after the sensation of heat begins to diminish, than during the time that it lasts: and much quicker than when an equal quantity of dead animal fibre is immersed in hot water under similar circumstances; a fact which appears to prove, that while the sensation of heat continues, the actions by which the caloric is either carried into the system by the circulation, or made latent by some peculiar process, are less than after the sensation begins to diminish, or is no longer felt.

Taking it for granted then that the true cause of the sensation in these experiments was the actions of the vital power being interrupted by excess of caloric, we shall now inquire how far that principle may assist us in explaining other phenomena both in health and diseases*.

It is well known that when the heat of the body is above the natural standard and the skin dry, the sensation of heat instantly diminishes, on the surface at least, when a sweat breaks out. Dr. Currie, who seems to have been fully aware of the importance of sensation connected with temperature†, ascribes that effect to the perspiration, which is, no doubt, in a great measure, true. The perspiration beginning to flow when the heat of the body is excessive, is a proof that the vascular actions interrupted by the excess of caloric, are more or less restored, which appears from the third experiment related above to be the true cause of the sensation becoming less; for I know by frequent observations, that when the temperature of the palm of my hand rises to 96°, or even 94°, without perspiration, a burning sensation is felt in it. Whereas, at the end of the

* If it be objected that these experiments are performed on too small a scale to warrant our drawing any important conclusions from them, I have only to observe, that if the results they lead to were confined to the solitary facts they contain, I should have thought them unworthy of detail, but as leading to a general principle, applicable in *every* case, they deserve regard. The laws of life operate as certainly in the extremities as in the centre of the system, in a small part of the body as in the whole; just as the force of gravity is as conspicuous in the fall of a pebble as in the revolution of a planet.

† The manner in which our sensations are affected by changes of temperature, is a subject of importance, as well as difficulty; for without a more precise knowledge of this, the action of temperature on life cannot be understood.—*Medical Reports*, vol. I. page 133.

third experiment, the temperature was 98°, and in other experiments I have found it as high as 101°, without the least distinguishable sensation of heat.

Another known fact of great practical importance, seems to admit of an easy explanation on this principle; viz. that when the temperature of the body is above the natural standard attended with a painful sense of heat, the abstraction of caloric, within certain limits, does not produce a sense of cold equal to that which the same degree of cold applied would occasion, when no previous sensation of heat is experienced. The reason of which appears to be, that as the sensation of heat proceeds from action being interrupted by *excess*, and the sensation of cold from action being prevented by *defect* of caloric, so the abstraction of the excess, instead of diminishing, really increases action; and therefore, agreeable to the principle, ought to make the sensation of heat less, without causing an equal sense of coldness.

Here a fact, apparently irreconcileable to this, or indeed to any other general principle, will, doubtless, occur to the minds of some of my readers; viz. that in a species of fever first noticed by Dr. Currie, although the heat of the body is greatly above the natural standard accompanied with a distressing sense of heat, yet chilliness is produced by the slightest application of cold. This circumstance is not peculiar to that case of fever; it is mentioned by Dr. Cullen as attending the commencement of other fevers: I have frequently observed it in the eruptive stage of scarlatina, and have even known it take place sometimes in health.

In inquiring into the cause of this interesting phenomenon, it appears to me that we can make no advances to a just explanation of it without understanding the possible effects of great changes of temperature on the solids and fluids even of the living body. The following question naturally occurs on this occasion: when the temperature applied is so much above or so much below the usual standard as to produce a longer or shorter interruption to the action of the vital power, do no changes in the condition of the fluids or solids of the part take place, which would have been prevented if the action of the vital power had not been interrupted? In these circumstances does the excess of caloric produce no chemical decomposition of the animal fibre, or of the fluids circulating in the vessels? and may not a powerful abstraction of caloric induce very essential changes in the state of the fluids which it is not in the power of the principle of life immediately, if at all to remedy?

That increased temperature does not produce the same effects on the living as the dead body, *at least when the powers*

powers of life are permitted to act successfully, is a truth too obvious to escape notice or require demonstration. But it occurred to me that if the principal of sensation here laid down be true, changes ought to be effected in the living body exposed to the action of caloric sufficient to produce a strong sensation of heat, nearly similar to those which take place in dead animal fibre exposed to the same temperature; but modified perhaps as the degree of sensation indicated the actions of the vital power to be more or less interrupted.

That this is really the case is rendered probable by even a superficial review of facts. In inflammation of the intestines the rapidity with which gangrene ensues, to the symptoms which denote very great or total obstruction of the actions of the vital power, is sufficiently known. When any of the extremities is exposed to a very intense degree of cold, so long as to produce a permanent obstruction of the vascular actions; the sudden exposure of the extremities in these circumstances to a high temperature is succeeded by the most excruciating pain, and the part obstructed becomes rapidly gangrenous. My readers will, no doubt, be able to recollect many similar instances, in which the application of caloric seemed to produce or hasten disorganization, and I suspect, in all such cases it will be found by the state of the sensations, that the plastic or preserving powers of life are prevented from acting successfully.

But even when the sensation of heat is very slight, some degree of chemical decomposition of the animal fibre can, in some instances, be detected to have taken place. In order to exhibit the comparative effects on the fibre of caloric, when it does, and when it does not induce sensation, the following experiments are selected, chiefly for their simplicity and the ease with which they can be repeated.

Experiment 4th.

At a time when the palm of my hand was without sensation and bedewed with perspirable matter, I inverted a wine glass upon it nearly full of water at the temperature of 90°. A slight sensation of warmth was felt at first, but this soon went off. I agitated it frequently, and at the end of a minute took off my hand and filled the glass with lime water, but no milkiness ensued although it stood several minutes. I varied this by collecting a considerable quantity of perspirable matter in a glass containing some lime water. But in no instance could I perceive the least marks of carbonic acid having been produced when I had no *sensation of heat* in my palm.

Experiment

Experiment 5th.

Having put into the glass the same quantity of water as in the last experiment, at 120°, I inverted it on the palm of my hand which I had previously wiped dry. The sensation of heat was almost intolerable, but I bore it for one minute, agitating the water from time to time as before. The glass being now filled up with lime water, the mixture became somewhat cloudy at top, and at the end of three minutes was quite milky.

I made trials with water at 96°, and upwards, and it is curious that the production of carbonic acid seemed always proportioned to the sensation the water caused; the milder the sensation of heat the less carbonic acid being produced, and *vice versa*.

To some this experiment may appear a proof that the vital power did really act on producing the carbonic acid, but that the mode of action was different when the sensation was felt, and when the palm freely perspired without sensation. The following experiment appears unfavourable to that supposition.

Experiment 6th.

I procured a piece of membrane of an animal lately killed, and having washed it and allowed it to lie for some time in water at 96°, I dried it well and put it over the mouth of a glass containing the same quantity of water at 120°, as in the fifth experiment. Having inverted the glass upon it, I allowed the membrane to suffer the action of the caloric for one minute, during which I agitated the water repeatedly. Filling now the glass with lime water, I observed the mixture immediately assumed a bluish cast, and after having stood three minutes it appeared even more milky than in the last experiment. Even when water at 90° was used the quantity of carbonic acid seemed very little less.

It will not be contended that the production of carbonic acid in this last experiment was owing to any but a chemical process, aided or excited by caloric. But since it was proved by the first three experiments that the vital actions are obstructed when a sensation of heat is felt; since no carbonic acid was produced when no sensation was felt, although what are incontestably actions of the vital power were going on, as in the fourth experiment; and since the more sensation was experienced, the nearer the quantity of carbonic acid produced in a given time, approached to that which is obtained from *dead* animal fibre; the conclusion appears irresistible that

that the carbonic acid formed in the fifth experiment was owing to mere *chemical* actions of the fibre, aided or excited by the caloric.*

But if chemical changes, similar to those which take place in dead animal fibre, are effected in the *solids* of the living body by the agency of caloric, when the vital power is prevented from acting; it cannot be doubted that the *fluids* also must be more or less decomposed or changed in these circumstances. That this is the case seems to be in some measure confirmed by the peculiar changes the blood is known to undergo in typhus and inflammatory fever; in both of which the state of the sensations indicate, that the actions of the powers of life are very seriously interrupted, though the interruption is specifically different in each and may exist in different degrees.

These things being granted, the cause of the phenomenon that led to this discussion may be conceived to be, that, possibly, during the cold stage certain chemical changes are produced in the cutaneous vessels, by which the capacity of the fluids for caloric is greatly diminished, and consequently the fluids condensed and rendered less moveable. In consequence of the diminished capacity for caloric, the skin will be both more easily heated, and more easily cooled, than in the natural state; and in consequence of the obstructed state of the vessels the actions excited by excess and defect of caloric will be equally interrupted.†

Other facts might be adduced in support of the principle of sensation, as far as regards excess of caloric; but enough has already been said, I hope, to prove that the action of the *vital* power is interrupted when a sensation of heat is felt.

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* The perspiration of carbonic acid by the skin (as a vital process I presume) has been affirmed by some philosophers, and denied by others. See Dr. Kellie on the Functions of the Skin, Edinburgh Medical and Surgical Journal, vol I. page 174. Though carbonic acid is not perspired by the palm of the hand, I do not assert that it may not be so by the skin of the axilla. At the same time I cannot but suspect, that the discordant results obtained in the experiments of these philosophers, might be, in a great measure, reconciled by attending to the *sensations*.

† I wish it to be understood, that no more stress is laid on this explanation than shall be justified by future observations or experiments. I have ventured the above to show that the phenomenon noticed by Dr. Currie, and others, *may* be explained on the principle of sensation. At the same time, till the existence of the state of the extreme vessels and fluids alleged to be present in these cases, is satisfactorily proved; it appears most prudent to suspend our judgment, and hold that phenomenon neither a proof nor exception to the principle.

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This being established, the following inference will, I think, be found justly drawn from it; viz.

That when the excess of Caloric is abstracted by means of cold applications, vital action is truly increased, provided always the abstraction be carried no farther than to remove the sensation of heat, and not to produce a painful sensation of cold.

In gout the topical application of cold to the inflamed joint within the limits here mentioned (which are exactly the same as Dr. Kinglake has strongly and repeatedly insisted on*) is, I apprehend, attended with no danger of destroying or repelling the gouty action, whatever that be, but on the contrary permits the actions to be more successfully performed, by removing a powerful cause of obstruction. Whether the first effect of the morbid actions is considered to be *torpor*, which it is the intention of the increased evolution of caloric to remedy; or that the primary effect is a greater evolution of caloric, which, if I mistake not, is Dr. Kinglake's idea of the disease; still, in either case, the abstraction of that portion of the caloric which produces painful sensation, promises to be equally safe and efficacious. If the first be the proximate cause of gout, the painful sense of heat proves that so much caloric is accumulated in the part as to obstruct the actions of the vital power, therefore the removal of the redundant caloric, by restoring impeded vascular action, must promote the intention of nature, and allow it more speedily to overcome the morbid torpor. But if the increased evolution of caloric be both the cause and effect of the disease, or in other words, the disease itself, the application of cold under the guidance of the sensations, instead of diminishing the quantity evolved in a given time, does really, I strongly suspect, increase it. This may be understood by observing the effect of secreted fluids accumulating at the mouths of secreting vessels. In an abscess the quantity of pus secreted in a given time, will, *cæteris paribus*, be always greatest when the flow of matter is least resisted. If the urine were prevented from passing into the bladder by calculi in the ureters, and were thereby caused to accumulate in the kidneys, it is not possible so much urine could be secreted in a given time as when the ureters are pervious; for the urine pressing against the mouths of the secreting vessels, must greatly, if not entirely, prevent their action; the same is obvious of all other secretions. Applying this reasoning to the accumulation of caloric in gout, it follows that the applica-

* See Dissertation on Gout, &c. by Robert Kinglake, M. D. See also Additional Cases of Gout, by the same Author.

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tion of cold in the manner directed by Dr. Kinglake, does really facilitate the morbid action, and consequently allow it to exhaust itself more speedily and with less derangement of the organization of the part.

Hence, I conceive, that topical refrigeration in gout, *so far as it removes the painful sense of heat*, must prove, not only safe, but highly beneficial.

But if the abstraction of caloric is carried so far as to induce a painful sensation of cold, and especially that state of the part, in which no sensation of cold is felt although it is below the temperature of health, I suspect that very different consequences might ensue; for although Dr. Kinglake seems to make light of any fears which may be entertained of repelling gout to the stomach or other important organs; still it must be acknowledged, that recorded facts strongly countenance the old opinion, and with these facts any knowledge we have of the effects which the excessive abstraction of caloric has upon the vital actions seems to correspond. I cannot therefore but suspect, that the metastasis of gout from the extremities to the stomach, brain, or other important organ, in consequence of the injudicious application of cold, is an evil really to be dreaded, and carefully to be guarded against.

But although too much refrigeration may have sometimes forced nature to abandon her post, this should not deter us from employing so much as by experience is known to quicken and facilitate her operations: which cold applications certainly do when they remove painful sensation and diminish the swelling of the part, these effects being direct consequences of increased action of the powers of life.

Quere. In cases where the cold applications prove disagreeable to the sensations, might not topical blood-letting, by unloading the overdistended vessels, promote the intention of cold applications, and render these more grateful to the feelings?

With regard to the application of cold in inflammatory affections of the viscera, might it not, especially in inflammation of the intestines and peritoneum, be sometimes employed as an useful auxiliary? What possible harm can result from abstracting that portion of caloric which produces a painful sense of heat? It certainly merits the most serious consideration of those to whose charge the lives of their fellow creatures are committed, what must be the destructive consequences to the organization, of caloric being allowed to accumulate in an important organ in such excess, as to greatly diminish, or totally prevent, the action of that power upon which the support of the organic fabric depends. That *chemical* actions destructive of the fluids or solids of the living

body, cannot take place when the *vital power* is allowed to act successfully, is a position which, I hope, will be the more confirmed the more it is reflected on. That the occurrence of such chemical actions is to be dreaded in every case of painful sensation, attended with excess of heat, I strongly suspect, both from the experiments and observations above related, and from a review of other facts, which it is unnecessary to specify, because many such must undoubtedly occur to the mind of every medical observer: and therefore, in enteritis especially, I should think it desirable and adviseable to remove the *excess* of caloric, which, although not the first cause of the disease, does without doubt, in many instances, increase its ravages and hasten its fatal termination.

I meant to have given other examples of sensation caused by action being interrupted by *excess* of those matters which are necessary in a certain quantity to action; but I have dwelt so long on the subject of caloric, and that being the most important, I shall pass over the others for the present, and hasten to the next general phenomenon.

THIRD GENERAL PHENOMENON.

When one action of the vital power interrupts another, sensation is felt at the part, the efforts to perform the obstructed action continuing.

1. ACTIONS INTERRUPTED BY THE VOLUNTARY POWER.

Every muscle is supplied with innumerable small vessels, by the united actions of which, it is taken for granted, the muscular fibres are preserved in a condition proper for contraction and relaxation. In our last paper it was shown that the contraction of the voluntary muscles is, in general, not attended with sensation in the fibres acting; this, if I am not mistaken, will be found to be always the case, when the contraction interrupts none of the actions of the muscular vessels: for,

1st. When a muscle in a state of inflammation is stimulated by the voluntary power to contract, a very painful sensation is immediately felt in the muscle. This pain cannot arise from *increased* action, for the action of the voluntary power in this case is not greater than in other cases in which no sensation is produced: nor can the action of the muscular vessels be then increased when they are compressed by the contraction of the muscular fibres. The pain, therefore, obviously arises from the interruption the actions of the new and delicate vessels suffer from the mechanical pressure of the contracted fibres, because similar pain is caused by external

external pressure although the muscle be in a state of relaxation.

2d. When a muscle is spasmodically contracted, the violent pressure which the small vessels, of which it is almost entirely composed, sustain during the excessive contraction, (under which the muscle feels as hard as a board) must totally interrupt the actions of these vessels; accordingly, excruciating pain is felt, which immediately abates when the pressure is removed. But, as may be expected, some soreness remains; because it is not to be supposed that the action of these vessels can be instantly performed in *perfection*, after such violent pressure, by which, undoubtedly, their elasticity and perfect organization is more or less impaired; and therefore must require some time to refit. Or granting that the organization is not impaired, it must require some time ere these vessels can be again supplied, as before, with fluids, without which it is utterly impossible their functions, although attempted, can be performed. I could wish this to be well understood, because I think it applies in every case of the same kind. In cramp of a muscle there is doubtless *increased action of the power which contracts* the muscle, but this increased action is not necessarily attended with sensation. It is not the power which produces contraction, but the power whose actions are prevented by the contraction of the muscular fibres that feels.

3d. Let a person keep the flexor muscles of his thigh in a constant state of contraction for a few minutes, he will soon feel a sensation of fatigue in them, incomparably sooner than he would do if these muscles were moderately contracted and relaxed alternately, as in walking. If the power of volition acting on muscular fibres impairs their elasticity and mobility; and if it be the part of the vessels of the muscle to restore these; it is self-evident that function cannot be performed so long as the muscle is contracted. Hence, it is plain, the elasticity, &c. of the muscular fibres, will not only be more impaired, but the action of the vessels which repair these, more obstructed for the time when a muscle is permanently contracted, than when it is alternately contracted and relaxed: because under relaxation the small vessels being permitted to act will upon the whole suffer little or no interruption of their function, at least, if the pressure during contraction is never so great as to impair their power of acting. Hence the great length of time a moderate and equal pace in walking is often continued without fatigue; and hence most people in performing a journey on foot, experience uneasy sensation in the soles of the feet, or in the joints, much sooner than in the muscles employed in walking.

2. By stimulated actions.

1. It cannot have escaped the notice of those who have examined into the sensations of patients during the operation of medicines, that they often bear no relation to the *actions* these medicines are expected to produce. Thus it must have been observed that a cathartic medicine has sometimes produced copious evacuations without either sickness, gripes, or other sensation at all proportioned to the increased action that must have taken place; nay, that in some cases the operation of the medicine has been effected without producing the smallest degree of either griping or sickness; while, in other cases, severe sickness or violent pain, or both, have been felt, neither attended nor followed by evacuations. These facts cannot, I am afraid, be reconciled, unless it be allowed that sensation and action are different and opposite conditions of the vital principle. If I have not been deceived in my observations, the following are the rules by which sensation or action is produced by an evacuant medicine. 1st. When contraction equal to the stimulus does not take place, *sickness* is felt. 2d. When contraction equal to the stimulus is effected, but the action of the muscular vessels obstructed by the contraction, simple *pain*, but no sickness is felt. 3d. When the stimulated action (without interrupting any other) is immediately performed equal to the stimulating cause, neither sickness nor pain is experienced. Whether or not these rules are correct, must be decided by future observations.

2. Effects similar to the above sometimes take place very distinctly on applying the galvanic stimulus to any part of the body. I have repeatedly observed contraction induced in a muscle at some distance from the part galvanized, although not the least sensation was perceived either in the part to which the stimulus was applied, or in the muscle contracting*. That sensation is experienced in the muscle when it contracts very strongly is not to be wondered at, in that case the action of the muscular vessels must be more or less obstructed by the mechanical pressure of the contracted fibres.

3. When the stomach is stimulated by any means to contract suddenly and expel its contents; if the contraction is

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* Dr. Mongiardini made the same remark. "The contraction," he observes, "is not always in direct proportion to the pain felt by the patient. It is even not rare to induce the contraction without the sensation, and vice versa.—*Edin. Med. and Surg. Jour.* vol. iii. page 32.

performed

performed easily, quickly, and in proportion to the stimulus, no sensation is induced but what may be referred to the mechanical pressure of the contents of the stomach on its internal coat. But if the contraction does not immediately take place as it ought, an increased flow of saliva, or contraction of the vessels of the skin, or sickness at stomach is felt, which immediately ceases when the stomach contracts; but if this contraction be strong, lasting, and unsuccessful, a violently painful sensation is felt in the stomach, (without sickness) which obviously arises from the interruption the pressure of the contracted fibres gives to the action of the vessels in the substance of the stomach; because although the pain abates when relaxation takes place, yet some degree of soreness commonly continues for some time, owing, I conceive, to the interrupted actions not being immediately fully restored.

In more violent cases of cramp of the stomach, is there not reason to suspect that sometimes a permanent obstruction of the actions of the compressed vessels remains even after the relaxation of the muscular fibres; and that violent unsuccessful efforts to restore these actions produce rupture of the vessels, and effusion of the fluids contained in them? How far such an obstruction proves a stimulus to the production of new vessels, or, in other words, to inflammatory action, deserves to be inquired into.

4. The pain that occurs in strangulated hernia, colic, and other cases of obstructed intestine, is so similar to that which is felt in the above instances, that it cannot but depend on the same cause, mechanical obstruction to the action of the vessels of the gut caused or increased by the contraction of the muscular fibres: remove the obstruction in these cases by which the progressive motion of the contents of the intestine is prevented, and the pain will be no longer felt, although the *action* of the gut continues really as great as before; provided inflammatory action has not come on.

When the action of the small vessels of the heart is prevented by spasmodic contraction of that organ, what symptoms attend? Did not the violent pain, with complete loss of pulse, which occurred in Mr. John Hunter's case, arise from that cause?* If so, I suspect the recovery from that attack was owing to the pain continuing till the obstruction was overcome†.

* See Mr. Home's account of Mr. Hunter's life prefixed to the Treatise on the Blood, &c. page 46.

† For the pain indicated, not only obstructed action, but that the efforts to act continued unimpaired; had these efforts ceased, the pain would have ceased, but the consequence must have been fatal.

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5. It has often been remarked by very judicious and accurate observers that the seat of sensation is not always the seat of the disease which gave rise to it. In making this remark, they only stated a fact, and I believe had not the most distant intention to infer from it either that sensation could take place without a cause, or to discourage any attempts that might be made to discover the laws by which it is governed. Yet that remark has induced some to believe that the sensations are altogether fallacious and not to be trusted to; an opinion which, if it were strictly followed in practice (which it is not, I hope, even by those who urge it most) could not fail to produce the most pernicious consequences. The following are the principal facts which have led to that opinion. 1st. Pain of the head from disordered stomach. 2d. Of the shoulder in hepatitis. 3d. Of the arm in dropsy of the chest, or aneurism of a large vessel there; or from an extraneous body getting into the trachea. 4. In the chest, from flatulence in the intestinal canal. 5th. Cramps in the muscles of the thighs and legs in cholera and other violently painful affections of the contents of the abdomen. 6th. Pain in the groin and testis in nephritis. 7th. In the glans penis from stone at the neck of the bladder. And 8th. In the bowels, chest, or head, &c. from coldness of the lower extremities.

We can only judge of the nature and cause of these pains from observing the attending circumstances. I have known the headachs from disordered stomach cease immediately when pain of the stomach came on. The pain of the shoulder in hepatitis commonly alternates with that in the region of the liver. The pains in the chest from flatulence instantly cease when the action of the intestine returns: thus I have repeatedly known such pains go off when the gut contracted, which it was known to do, not from any sensation felt in it, but from the gurgling noise caused by the motion of the air within it. In cholera the cramps of the muscles of the lower extremities alternate with those in the bowels; the patient being sometimes seized with the one the instant the other leaves him. The nature of these, and of all the other pains, seems to be the same. In all of them the action or attempt to act, ceasing in the original part, an action takes place in some other part of the system which is attended with sensation or not, according as it interrupts or increases action there. Thus some persons, when they sit with their feet cold or damp, are seized with a catarrhal increase of mucous discharge in the nostrils, which produces no sensation but what is accounted for by the irritation of the thin mucus; others in the same circumstances feel sensation although the discharge of mucus is diminished. In others, again, damp feet pro-

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duce spasmodic pains in the bowels; in others diarrhœa without pain: in others the same cause induces a fit of asthma; in others headach; in others inflammation of the throat. In all these cases this circumstance, as far as I have been able to trace, occurs in common. The sensation of cold ceases, or becomes less in the extremities (though the temperature is not increased) before the symptoms of the secondary affections begin; and if the sensation of cold in the extremities continues steady, the secondary disease does not take place although the circumstances are the same in every other respect. From all these circumstances we cannot but infer, that the painful sensation in all the above instances is produced by spasmodic actions, and that the spasm arises from the efforts to act in the original part ceasing and removing to some other part, with the effect of interrupting the usual action there; hence the pain; but that if instead of interrupting it increases action, no pain is induced, but only the effects which characterize increased action, viz. increased discharge of fluids.

3. By the mental actions.

There are few strong emotions of mind which do not give rise to action, either in the voluntary or involuntary muscles. Of the actions accompanying the different passions, some produce sensation, others none; and even the action succeeding to the same mental affection sometimes produces very distinct sensation, while, at other times, no sensation is induced, although the fibrous motion is equally visible. I shall instance only one mental affection at present; and if it shall appear that the sensation produced in it is truly a consequence of interrupted, or, in other words, spasmodic action, it will not, I hope, be judged an abuse of analogy to infer, that the sensation produced by other mental affections arises from the same cause.

Many persons in reading a sublime piece of poetry, or hearing a fine air in music, if they are much delighted with any particular passage in the poem, or cadence in the music, feel a sudden chilliness all over as if cold water were poured over them. I know one person in particular who, in reading Pope's Elegy to the Memory of an unfortunate Lady, was often seized with *cold shivering*, during which the papillæ of the skin, particularly in the arms and back, became elevated as in the cutis anserina. Nearly the same effect is produced in many by music which touches their fancy. But it is a remarkable circumstance that sometimes, instead of a sensation of coldness, the skin feels only as if it were strongly contracted, and at other times not the least sensation can be perceived,

ceived, although the contraction of the skin is visible to the eye, and though the emotion of mind producing the motion in the skin is exactly the same. This difference shows decisively that the sensation must have depended on some other cause than mere action, otherwise it should have been the same in every case. The circumstances giving rise to these differences appear to be the following. When the heat of the skin is natural, the action succeeding to the mental emotion causes a sensation of coldness. When the heat of the surface is natural, but supported by artificial means, the sensation of contraction only is felt. When the skin is hot and dry no sensation of cold is felt, but the sense of heat diminishes, and a sweat breaks out.

Are we to conclude from these effects that there are actions by which caloric is made directly latent? I have been able to ascertain by the thermometer that in these cases the temperature of the skin experiences a considerable fall; in some instances it has sunk half a degree, in others two degrees as soon as the cutaneous motion became visible. But the effect of the mental emotion is so transient, that it is not possible to form a certain judgment how much caloric is carried off. If the existence of actions of the vital power by which caloric is made latent were ascertained on proper evidence, it would account for the sudden fall the temperature of the body sustains in the cold fit of an ague; it would also account for a fact I have observed in plunging into the cold bath, that the system seemed to lose more caloric than was gained by the water, although a standard from which to judge was attempted to be formed, by observing the power of dead animal fibre in communicating temperature to a proportional quantity of water. But experiments to determine this interesting question are necessarily complicated with so many circumstances that may prove a source of error, that I am not satisfied with any trials I have yet made to determine it, and it appears to me too important to be either entirely disregarded, or taken for granted without further investigation.

But in whatever way this question shall be determined, it cannot affect the following conclusion from the different effects of the same emotion of mind in the circumstances above mentioned, that the sensation of coldness, when it was produced, depended solely on the interruption which the action of the mental power occasioned to the other actions of the skin, by the abstraction of some portion of caloric which was necessary to successful action.

Upon the above mentioned effect of the emotion of *delight* occasioning a flow of sweat, when the heat of the skin is above the natural standard, might, perhaps, be explained the influence

fluence ascribed by the ancients, and some of the moderns, to music in the cure of certain diseases. See Mead on Poisons, Essay 2d. I can only speak from experience of its effects in what has been termed nervous head-ach, attended with febrile heat of body, in which I have repeatedly known a strong, lasting, and agreeable emotion of mind, *by whatever cause excited*, act like a charm; it produced perspiration, and the head-ach vanished, not to return even after the mind was no longer occupied by the pleasing emotion.

T. SMITH.

Bristol, June 3, 1811.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IN looking over the 8th volume of your most valuable repository for medical information, I accidentally met with a *notice* of a preparation of the extract of *Rubia tinctorum*, and thus, with no less surprize than pleasure, learned, that Dr. Home had in some of his publications recommended the use of that most valuable root in *Chlorosis*, heedless of the imposing authority of Cullen, who, in his Materia Medica, had recorded it as a nugatory medicine. To account in some manner for my ignorance of this fact, and for the presumption of making remarks upon it, at so remote a period, it may not be impertinent to observe that, although in my *fifth* year of English *denization*, yet from the public situation I embraced on my arrival in this country, and being afterwards constantly on active service abroad, I had few opportunities of gaining periodical information. Having, by the repeated observations of the best practitioners in different parts of Europe, acquired sufficient authority to differ *once* from the opinion of a great master, I embrace the first opportunity of relating to the medical world what I know, of sufficient authenticity, respecting the use and virtues of the *Rubia tinctorum*.

All professional persons that have not forgotten their early *school books* are aware, that this root is recommended by the most celebrated of the Greek physicians under the name of Ερυθροδάνον, and by those of Italy, under that of *Rubia silvestris aspera*, or *Rubia tinctorum sativa*. The virtues which have been ascribed to it, by those writers, have made them agree in its application as an emmenagogue; why

 therefore

therefore Cullen, on the simple authority of his own practice, or that of a few friends, chiefly confined to the same spot, should have not only ridiculed the belief in the virtues of that root, but even doubted the veracity of those men of eminence, spread over the most civilized parts of the world, who, convinced by satisfactory experiments, had subscribed to it, and sanctioned its use in medicine, is not easy to conjecture, without bringing in question the modesty of that celebrated man. The fact is, that all those who, after the publication of his Materia Medica, still continued to place faith in the medicinal qualities of the *Rubia*, had reason to applaud themselves for disregarding *his injunctions*. To my own knowledge, the *Rubia tinctorum* has been generally prescribed in France, Italy, and Spain, to this day, in cases of *Chlorosis*, and simple suppression of the *Catamenia;* and to assert with what success, I need only mention that the prescriptions were sanctioned with the names of *Pacchioni*, *Vacca*, *Moschati*, *Bichat*, *Pinel*, *Arejulade*. These highly esteemed physicians have invariably administered the *Rubia tinctorum*, differently prepared, when called upon to correct the deficiency of menstrual evacuations, and I have been more than once a witness to its almost instantaneous good effects.

The *Rubia*, as a remedy possessing high *ecphractic* qualities, can boast of being more *popularly* known than any other article in the Materia Medica; for it is the remedy which is invariably recommended to young chlorotic patients by *old women* in Greece, Turkey, Egypt, Italy, France, Spain, &c. in which countries I found it in the hands of almost every person, who had either suffered or was actually suffering from a suppression of the menstrua. Had not Dr. Cullen disdained to make inquiry "*inter miseram et jejunam plebem* of his own country, and had he possessed patience enough to listen to their tales, and to examine the truth of their assertions, he would, most probably, have classed the *said medicine* with the *few* to whose virtues he yielded belief.

Since my late return from abroad, mingling with the most numerous and the most useful, though the most neglected classes of the inhabitants of a very populous town in England, I have seen two decided cases of *Chlorosis*, and one of *Dysmenorrhœa*, that had baffled the skill of regular practitioners, yielding, and I must repeat it, *instantaneously*, to the *unqualified* prescriptions of "*gossipping neighbours*," consisting in generous doses of *Rubia tinctorum* grossly pulverized. A case of total suppression of the *Catamenia* in a higher rank of life, I have also seen since cured rapidly with the same medicine. I purpose in future to study most particularly its application, and should I have reason, of

which

which I doubt not, to be confirmed in my opinion as to its efficacy, I shall not fail to communicate to you such cases, as may tend (through your extensive channel of medical information) to restore to its wonted rank a medicine, too improperly neglected.

The powder, in general, is to be preferred, and this may be obtained nearly impalpable. The tincture is equally valid, where the powder is found inconvenient, and the extract after this.

I shall conclude with relating the particulars of the last case above alluded to. Mrs. ———, a young married lady of a most delicate constitution, with light hair, and of a placid temperament, had waited in vain for the space of three months, immediately after the delivery of her first child, for the re-appearance of the *Catamenia*. Already did she feel the bad effects of the obstruction; but not till acute pains in the *loins* and the *hypogastric* region, with a sense of weight within the vagina, swelled ankles, pale face, head-ache, and loss of appetite, rendered her life precarious, were physicians called in for assistance. Warm baths, venesection of the foot, rhubarb, steel, were alternately employed, and with unremitted assiduity, but without success. The case was one day variously deplored by the surrounding circle of female acquaintances, when a certain "*excellent stuff*" was offered, for the cure, by one of the ladies, who had herself experienced *most wonderful* effects from its use in a similar case. Indifferent to any description of medicines, the too much exhausted patient readily submitted to the trial, and within that week she had cause to thank her friend, and to hail the return of health, by the appearance of the menstrual evacuations, which have been marked ever since by the greatest regularity. Of this "*excellent stuff*" I had the curiosity to examine a remaining part, and found it to be the *Rubia tinctorum* in powder, which the lady had procured under the name of *Dyers madder*. Mrs. ——— has since assured me, that on again examining the powder, she is certain of its being similar to what she had taken on a former occasion, when the *first* appearance of the *Catamenia* in her was attended by severe pains, and other distressing symptoms, in which case also the said medicine proved of the greatest advantage*.

A. B. GRENVILLE, M. D.
Surgeon R. N.

Upper Newington, Liverpool.

* We are obliged to Dr. Grenville for calling the attention of the profession to this neglected remedy, from which, in our own practice, we

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

CONSIDERABLE difference of opinion has originated amongst medical men respecting the propriety of blood-letting, as a remedy in fever. This practice has been considered by most physicians as highly injurious: they assert, that the disease arises solely from certain sedative powers acting upon the brain or nervous system, diminishing its energy, and consequently deranging all the rest of the animal functions; and that depletion would therefore only aggravate the symptoms, by inducing a greater degree of debility.

It is upon this supposition that the celebrated Dr. Cullen has founded his ingenious hypothesis, of the remote and proximate causes of fever. According to him, the remote cause of fever depends upon certain sedative powers acting, as above mentioned, by producing debility, which is considered the proximate cause of fever. That a derangement of the nervous system (having in its consequences general debility, and depraved action) is the cause of fever, I will not deny; but that this debility depends upon the sedative powers of contagion, I cannot conceive. Surely it is more consonant with daily observation to suppose, that contagion acts as a stimulus; and that we are to look for debility, with fever and its phenomena, from the natural effects stimuli produce on the system.

That contagion acts as a stimulus is fully proved, I think, in the instances of patients, who have been subjected to the direct influence of the contagious principle.

In these we find, not as is believed, an immediate debility produced, but a very high degree of excitement; as urgent sickness, increased action of the heart and arteries, with pains of the head more or less violent; after which succeed the cold and hot fits, great debility, with all the concomitant symptoms of fever. Taking it then for granted, that contagion acts as a stimulus upon the system; as we are acquainted with its peculiar powers, we may imagine, from the nature of the symptoms (prior to debility), that it has a powerful effect in determining to the brain, and there producing a turgescence of the blood-vessels; which I think will readily account for the different symptoms that occur in typhus.

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we have occasionally seen considerable benefit derived in cases of amenorrhœa, that had resisted steel and the usual emmenagogues. Further communications on this subject are earnestly requested.

EDITORS.

typhus. For it is evident that the brain requires a certain fulness, and tension of its vessels, for the distribution of its nervous power; and which is also necessary to the support of its ordinary and constant energy. Now as a deficiency of tension or fulness, for obvious reasons, will induce debility, so I conceive, that a turgescence of the vessels of the brain does not produce increased action; but rather, by their over distension, and by their pressure upon the sentient organ, diminish its mobility, and of course induce general debility.

That a turgescence of the blood-vessels of the brain does take place in this disease, is fully corroborated by the dissections which have been made upon those persons who have fallen victims to it; and in almost every instance it has been found, either in a lesser or greater degree.

Not unfrequently also, an apparent inflammation of the brain has been observed, which may account for that high degree of delirium, which so often takes place in persons labouring under the disease, and which may be considered, in fact, as a modification of phrenitis. Again, in this disease, if the eyes are examined, the blood-vessels will be generally found uncommonly turgid.

If what has been now stated be correct, little doubt can remain, I think, respecting the propriety of blood-letting; and therefore, our first consideration ought to be, the removal of the exciting, or rather, I may say, the depressing cause, and by that means induce reaction; but nothing will effect this so completely as depletion.

I am, Gentlemen, yours, &c.

SAM. M'CULLOCK,
Member of the Royal Physical Society,
Edinburgh.

Liverpool, May 1811.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

I BELIEVE such subjects as are in any way connected with Medicine will find admission into your periodical undertaking. As *electricity* has been found lately to have alleviated some very distressing diseases, and to have removed others of a less formidable nature; I am induced to recommend it to your consideration. That its effects are very powerful, is beyond doubt; and when they are directed by the advice of medical men, but more particularly when under

der their immediate management, we have reason to expect the most favourable results. Electricity is a subject, hitherto, but very imperfectly understood; at the same time, I cannot hesitate to say, that the treatises of the present day are mere recapitulations of the past. It will be well then to revive the subject in all its parts, and submit it to a thorough investigation, which in the present improved state of science may be more easily accomplished. Many a valuable remedy has been ultimately laid aside, because more has been expected from it than it could possibly accomplish; and because it could not cure every disorder to which it had been most injudiciously applied.

If gentlemen, whether of the medical profession or not, would favour you with the results of their investigations and experiments: Electricity, long neglected by the greatest number of practitioners, would become, with its surprizing phenomena, fixed on a more certain basis.

As it is necessary to have the best machine, I would propose the following question.

What is the most advantageous form for an electrical machine, and what are the reasons for such a peculiarity of construction? R.

To the Editors of the Medical and Physical Journal:

GENTLEMEN,

FOR some years past I have used cold water only, injected in the usual manner, as a cure for the hydrocele; though in some cases, within this period, I have used an injection of Port wine and water. Unfortunately, I have not kept a regular account of the number of cases in which the first of these methods of cure was adopted; but to the best of my recollection, they have been from fifteen to twenty. Three of them have occurred within the last three months, and I do not recollect a single instance of the failure of cure where this method has been pursued. In most of the cases, the inflammation and confinement have been less than occurred where the Port wine injection was used. On the ground of experience, therefore, I can venture to recommend this method to the attention of other practitioners.

If you think this little communication worthy a place in your valuable miscellany, it is at your service.

I am, Gentlemen,

Your obedient humble Servant,

THOMAS WHATELY.

Grafton Street, May 29, 1811.

To the Editors of the Medical and Physical Journal.

On the Forceps and Vectis.

GENTLEMEN,

IN cases of difficult labour, when the head of the child is fixed in the cavity of the pelvis and cannot be expelled by the powers of nature, few practitioners, I believe, now make trial of the vectis, the superiority of the forceps having been so thoroughly established. Amongst the many advantages which the vectis has been said exclusively to possess, one in particular was, that the practitioner could act with it long before the head had descended low enough in the pelvis to justify him in any attempts to introduce the forceps. The advantages of the vectis in this respect is still spoken of, though I cannot perceive that the opinion is deserving of much attention. In the first place, it has been proved in Dr. Osborne's Essay, that when the head can possibly be made to pass through the pelvis, instrumental assistance can never be required *before* the head has descended sufficiently low in the cavity of the pelvis to admit of the safe and effectual application of the forceps. "This situation of the head," he observes, "is always discovered by feeling an ear of the child." In the second place, the rules in general given for the application of the vectis imply, that the head is in that situation in the pelvis which is well known to be eligible for the management of the forceps. The rule is, that "the woman may be placed on her left side in the usual posture, and then with the fore finger of the left hand *we feel for the ear of the child* next the pubis." [Burn's Midwifery]. It is quite plain, that when such rules for the application of the vectis can be observed, the situation of the head in the pelvis must be that which would constitute a *forceps case*. Whether according to Dr. Hamilton's method of applying the vectis "*over the occiput*," it is meant to use the instrument before an ear of the child can be felt, I know not; if so, here is, in Dr. Hamilton's words, a strong confirmation of Dr. Osborne's declaration, how trifling and ambiguous the effect of the vectis must be, if used before that stage of labour in which it is practicable to deliver with the forceps. The vectis being applied over the occiput, "the head," Dr. Hamilton says, "should be drawn down till the whole of it be completely within the cavity of the pelvis; to accomplish which it will, in some cases, require *the continued exertions of the practitioner for several hours.*" [See his Outlines.]

Notwithstanding

Notwithstanding the authorities in favour of the vectis, the forceps has long obtained a decided preference in general practice; so much so, that it is very questionable whether many practitioners are provided with a vectis, in case they should at any time feel disposed to commence with it those long continued exertions which Dr. Hamilton recommends. As far as my information extends on the subject, the forceps are used by nine tenths, at least, of the practitioners of the present day in the difficult labours in question. Considerable obstacles to the introduction of the forceps, however, are occasionally experienced by the most expert; and it is well known that serious misfortunes have followed the unskilful management of the instrument. It is therefore important that every circumstance that can concern the right management of the forceps should be duly considered. An unfortunate forceps case lately happened in this vicinity. The perineum was extensively lacerated, the fœces came away involuntarily, and the unfortunate patient survived only a few weeks under these calamitous circumstances.

I wish now to attend to the manner of applying the forceps. Mr. Burns, in his late publication, advises the first blade of the forceps to be passed in that direction over the head, which Dr. Denman thought best for the application of the vectis, along an "imaginary line drawn from the vertex to the chin." Mr. Burns, it should be understood, is speaking of the short forceps without convex edges. If the practitioner should prefer this kind of forceps for the purpose of applying the cup of the blades over the chin of the child; he should be aware that such a direction of the blades will not correspond with the axis of the pelvis. An imaginary line drawn from the vertex to the chin of the child, cannot in any stage of labour correspond with an imaginary line drawn from the extremity of the os coccygis to the umbilicus, which is that of the axis of the pelvis. An imaginary line continued in the direction of the forceps would, while the head lies obliquely, pass out of the *side* of the abdomen on a level, perhaps, with the umbilicus. The same imaginary line, in the direction of the forceps, would, after the face had turned into the hollow of the sacrum, be continued to one of the dorsal vertebræ.

When the forceps with convex edges is used, the cup of the blades does not rest on the chin, but upon the mastoid processes, as Dr. Osborne has observed.

Let the practitioner employ the kind of forceps he judges best (though I think the forceps with convex edges ought to be preferred.) He should, in introducing the blades, be equally attentive to the situation of the parietal protuberances,

berances, as to the ears of the child; for it is of equal consequence that the blades be fixed over the one as over the other, *if the instrument is to act in corresponding lines on each side of the head.* The inaptness of the forceps to the shape of the child's head, when the blades are not fixed over the parietal protuberances, although placed in corresponding lines, not having been insisted upon, I shall beg leave to be particular in establishing the fact.

It is necessary to bear in mind, that the back part of the head begins to slope off where the parietal protuberances terminate; so that the breadth of the head at the lambdoidal suture is very considerably less than at the parietal protuberances. The space from the parietal protuberances to the lambdoidal suture, varies from an inch and a quarter to an inch and a half, or more. Now it is upon this part of the head upon which it is improper to fix *the blades* of the forceps, and a little reflection on the construction of the forceps will make the reason obvious. The forceps are adapted to act on PARALLEL SURFACES (surfaces at equal distances from each other, in the direction of the blades of the forceps); consequently, only one of the iron rims of each blade can possibly come in contact with a body of a conical shape. Now the back part of the head, from the parietal protuberances, is conical, in regard to all practical purposes, at least; hence the blades of forceps fixed here, can only press the head with the two iron rims near the parietal protuberances, the two rims near the occiput being at some distance from the head. The consequence must be that the hold of the instrument is insecure, that the head of the child suffers from the pressure being concentrated to a few points, and that the parts of the woman are in danger of injury from the edges of the blades which stand apart from the head.

As it is evident that the forceps, when placed in this situation, cannot act properly, it remains to inquire whether the directions usually given for the application of the instrument are in correspondence with the fact.

The finger is first to be passed to the ear of the child, next the pubis, as a guide to the first blade, as the ear, in this situation, is generally to be found by introducing the finger betwixt the parietal protuberance and the lambdoidal suture. "The first blade," Mr. Burns says, "follows a line drawn from the vertex to the chin, crossing the ear." If I understand the definition of the term *vertex* right, *the space where the bones slope backwards*, from the parietal protuberances, "like an obtuse angle, to the upper part of the occiput, which is a little flattened, is called the vertex." (Burns, p. 23.) "The second blade must follow a corresponding line

on the head." Both blades of the forceps, it is evident, will then be placed over the parietal bones, betwixt the protuberances and the occiput; and it is unnecessary for me again to say why it is physically impossible that the forceps can act properly in this situation. After the second blade is introduced, it is said that it may not lock easily; and a further direction is given which is not unimportant. On the presumption that the second blade, when it will not lock easily, does not follow the corresponding line, you must *adjust* it. To *adjust* is a very vague word on this occasion; however, till the blades lock easily the instrument is not *adjusted*. What happens in the attempt to rectify the direction of the second blade? The inexperienced practitioner, not having a principle to direct him, introduces the blade again, and fails. At last he has the satisfaction to succeed; and why? not because he has had the good luck to hit the corresponding line sought; no, but because he has placed the second blade on a surface, parallel to that surface upon which the first blade is laid. This parallel surface can only be found betwixt the parietal protuberance and the *coronal* suture. Let the practitioner reflect upon the anatomy of the fœtal skull, and the construction of the forceps, and he will soon find that in *practice*, if the first blade lies *behind* the one parietal protuberance, the second blade cannot antagonise it unless it be laid *before* the other.

I apprehend, however, that it is generally improper to fix the first blade of the forceps *behind* the parietal protuberance; and that the object ought to be to place the blade in a direction from the central part of the parietal protuberance to the ear. The second blade *must* then be laid on the other side of the head in a corresponding line; otherwise the blades could not act on parallel surfaces, and, of course, could not possibly act properly. In introducing the second blade then, the situation of the parallel protuberance must be strictly attended to; for should the blade be fixed on the parietal bone too far back, there would be a considerable hiatus betwixt the posterior iron rim of the blade and the head. The inflexible bodies, therefore, which encompass the back part of the head, would require much additional space; and a proportionally under part of the arch of the pubis to pass under. The *perineum*, therefore, being very much on the stretch, would, in addition to the evils already stated, be in great danger of laceration.

I am, Gentlemen,
Your obedient Servant,
A. B. G.

May 13, 1811.

To

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IN your last No. 148, p. 185, I observed a paper on the case published by Jones, on the subject of twins, by one who calls himself an Essex Practitioner, and very modestly, an inexperienced practitioner. The writer "condemned himself for rashness," for doing, what in my humble opinion, founded on both theory and practice, he ought to have done two hours before. He says, "in the absence of any particular bad symptom, delay cannot be very hazardous, whereas, producing delivery '*per artem*,' is always attended with danger, both to mother and child." In the above, he may, possibly, be deceived, from not *seeing* any particular bad symptom; but he little knew or suspected what was going on in the dark: and the hidden works of darkness ought always to be suspected. Was he certain that no unseen hæmorrhage was going on. Was he certain that the placenta of the first child continued to adhere firmly to the uterus? Was he certain that the vessels of the two placentas did not anastomose, and the first being detached, hæmorrhage would take place from both uterus and placenta. He says "no hæmorrhage succeeded the birth of the child, the placenta was retained by the undelivered child." So was any blood which had escaped from the vessels of the uterus or placenta; and as there was no appearance of blood there was no alarm. "I waited two hours, no pains returned, nor was there any hæmorrhage, but a great degree of languor." The cause of the last will soon appear. During these two hours the woman was losing blood; but being prevented passing the os externum, by the placenta of the first, and by the body, membranes, and waters of the second child, it did not, or could not, make its appearance. As soon as he delivered the second child, "flooding to an alarming extent instantly succeeded; and after bringing away the two placentas, the gush was such as I had never before witnessed." These, the flooding and the gush, were composed of the great pool of blood, which, I take for granted, was accumulating during two hours, from the detachment of the first placenta, which was confined, as mentioned above, till a passage was opened for it. The loss of this blood very readily accounts for the "great degree of languor." The writer's expression helps to confirm me in the above opinion. He says "the flooding soon abated, but this arose from the sunk state of the

patient, who had, in a few moments, lost not less than six or seven pounds of blood." The loss of so much blood in a few moments, in my opinion, proves that it was, as hinted above, ready, in an extravasated state, to gush out at the first opportunity. I deny that the vessels of any uterus can discharge six or seven pounds of blood in a few moments: is he aware that moments signify the more usual modern name of seconds?

The writer then condemns himself for what he did, forms a resolution, whenever he meets with twins in future, to deliver the first '*per artem*,' and leave the second to nature. However he may despise my advice, which is just the reverse, I caution him, before he unsheaths his *Tire-tetes*, that he is perfectly certain that there are two or three children. If he ever attended any respectable teacher, or read any respectable book on the subject, he must have heard or seen that few or no practitioners have been able to discover a twin case before the first is born. If he can point out any certain mode of discovering twins or triplets, erit vetustissimis nobis obstetricibus magnus Apollo. I may further presume to add, that if he had been of his present opinion and left the second to nature other two hours, he would, very probably, have witnessed the death of both mother and child.

He has contradicted the assertion he set out with, "that delivery *per artem* is always attended with danger to the mother and her offspring." Instead of which he had recourse to delivery *per artem*, and although, in my opinion, too long delayed, yet it narrowly saved the mother; there is no account of the child.

Dr. Denman, in a late publication, says, the science of midwifery has been improved in the present age beyond our utmost expectations; or words to that purpose, as I have not the book before me. I confess I am of a very different opinion, and have not kept these opinions secret; particularly in the case treated above. I am inclined to believe that the doctrines the philosophising and forbearing Dr. Hunter has instilled into his pupils will continue to prevail, and that the science is rather in a retrograde state. Do nothing; give no assistance; leave all to nature, but *guard the perineum*. Some observations on this fashionable forbearing practice will, possibly, be made in future. And also on the absurdity of the practice of guarding the perineum, opposing the passage of the child, and protracting the labour, which at the best is bad and long enough.

I am, &c.

A. FOGO.

Newcastle, June 8th, 1811.

To

To the Editors of the Medical and Physical Journal.

On the Quality inherent in the Inoculated Small-Pox of propagating the Disease by casual Infection.

" If it be true that the Practice of this Art has, for a series of years, augmented the Mortality of the natural Small-Pox: if, from the extension of that practice, a proportional increase of the mortality is to be apprehended, I cannot see on what principle, either of humanity or policy, the further use of it can be justified." WATKINSON.

GENTLEMEN,

I FIND by the Notices to Correspondents in your last number, p. 88, that a gentleman of extensive practical information thinks the observations published in your 148th Number, p. 490, with the Signature REPREHENSOR, unworthy of his notice because they are anonymous. I beg leave to say, that as the object of that letter was to shew, *by reference to authentic and acknowledged facts*, that the opinion of the non-infectious nature of the inoculated small-pox was untenable; it mattered not whether the references were made under a real or a fictitious Signature; for the facts referred to were to be judged by their own merits, and not from the name or the authority of the letter-writer.

It would indeed have sufficed, to refer to the memorable case recorded by Dr. Willan, or to the several cases published by Baron Dimsdale, which undeniably prove the infectious nature of the inoculated small-pox; because few would be disposed to call in question a fact, affirmed by such competent judges as Baron Dimsdale, and Dr. Willan. But I was desirous of shewing further, that the power which the *mild* inoculated small-pox possesses, of communicating the casual infection, had been known and acknowledged, almost from the first introduction of inoculation into England.

To prove this, I referred to the testimony of Dr. Douglass, published ninety years ago; seeing no reason to doubt the validity of his testimony, *as to this particular*.

I am told, however, in your notices to Correspondents, that the assertions of Dr. Douglass, on the contagious property of the inoculated small-pox, have *in themselves* " but little value." I think it therefore incumbent upon me, (without the least intention of defending his rudeness and illiberality) to substantiate his assertions by other authority, the credibility of which will hardly be impeached.

The first assertion of Dr. Douglass's which I have quoted,

is,

is, in effect, this; *that those who had maintained the non-infectious nature of the inoculated small-pox, were compelled by the evidence of facts to give up this tenet:* and I undertake to shew, that there is no good reason for disbelieving what he says, because there are facts upon record which warrant the assertion.

I appeal to the authority of Mr. Maitland as published by himself, in his "Account of inoculating the Small-pox," p. 26, Second Edition, 1723.

"October 2, 1721. After due preparation of the body I ingrafted Mary Batt, an infant of two years and a half old, daughter of Thomas Batt, a quaker, living at Temple, within three miles of Hertford. The red spots and flushings appeared on her face and neck the fourth day, and she kept playing about well till the seventh or eighth, when she became a little heavy and thirsty, with a fuller and quicker pulse; then the pustules came out fresh and full, and the incisions discharged a thick well digested matter. *She had not above twenty in all upon her;* they continued about three or four days, then dried away and fell off, and the child recovered perfectly.

"Thus far all was well; *but what happened afterwards was, I must own, not a little surprising to me, not having seen or observed any thing like it before.* The case was in short this; six of Mr. Batt's domestic servants, viz. four men and two maids, who all, in their turns, were wont to hug and caress this child whilst under the operation, and the pustules were out upon her, *never suspecting them to be catching, nor indeed did I,* were all seized *at once* with the right natural small-pox, of several and very different kinds; for some had the round distinct sort, some the small continued, and others the confluent; all of them had a great many, but especially the last, with the usual bad symptoms, and very narrowly escaped: but they all, God be thanked, did well, (except one maid, that would not be governed under the distemper, who died of it) and now enjoy a perfect state of health."

Mr. Maitland likewise, speaking of the inoculation of Mr. Heath's two sons, says, p. 28, "It is here also very remarkable, *further to evince the power of infection,* and the genuineness of the inoculated small-pox, that an infant of about four months old, then on Mrs. Heath's breast, while she nursed her two sons, and lay in bed with them, *was also seized with the distinct natural small-pox.*"

I am not ignorant, that when Maitland found the spreading of the natural small-pox through the town of Hertford charged upon this inoculation of Mr. Heath's sons, he endeavoured, in some measure, to explain away this his acknowledgment

knowledgment of the infectious nature of the inoculated small-pox. For which purpose, he says in his "Account of inoculating the Small-pox vindicated from Dr. Wagstaffe's Misrepresentations," p. 25, second edition, 1722, "I own that it *seemed probable* that the six persons in Mr. Batt's family might have catched the small-pox of the girl that was inoculated: but it is well known that the small-pox were rife, not only at Hertford, but in several villages round it, many months before any person was inoculated there." He then enumerates several families who had the small-pox, and goes on to say; "besides all these, there were a great many more whose names I cannot at present call to mind, both in [the] town and [the] country about it, who had the small-pox, and several died of it, *the summer before* I began this practice.—To charge then the spreading the infection and the consequences of it, through that town, upon two single boys who were inoculated in a court in a manner separated from all the rest of the town," [by the bye, he says in the first account, p. 28, that one of these boys could not be kept within doors] "which was fuller of the small-pox before than after the inoculation, is not agreeable to that ingenuity which the Doctor (Wagstaffe) seems to demand of his adversaries."

Afterwards, p. 34, he says, "I think it is hard to exclude men from the means of securing themselves from a great pestilence, *upon a mere suggestion;*" from all which it seems probable that Mr. Maitland would have been very glad to have it believed, that the persons in question catched the small-pox from some other source, rather than from the inoculated disease. If, however, there were no other evidence that Mr. Batt's servants catched the infection from the inoculated child, (which Mr. Maitland now finds it convenient to admit to be *only probable)* the mere circumstance of their being "*all seized at once,*" would go far to establish the fact.

But there is more complete evidence. An absurd suspicion was entertained, arising from the mild symptoms of the inoculated small-pox, that inoculation did not produce the genuine disease. To subvert this suspicion Mr. Maitland published the following certificate, as a complete proof that the real small-pox was given by inoculation, because from this identical *mild* small-pox, six persons had catched the genuine disease *in its several varieties* by casual infection.

"These are to certify, that Mr. Charles Maitland, Surgeon, did, about the beginning of October last, inoculate the small-pox upon my daughter Mary, aged two years and a half, *who had but few of them,* and perfectly recovered in about fifteen days. I do declare that six of my domestic servants were

were seized with the small-pox, which, I believe, was owing to their carrying about and conversing with my said daughter, *they having had no correspondence during that time with any person or family who had them*, which inclines me to think my child had *the true small-pox.*"

This certificate is not only signed by Mrs. Batt herself, but attested by the marks of "*two servants who received the small-pox from the child*," and who state that they "*know the contents to be true.*" A certificate to the same purport signed by Mrs. Heath was likewise published.

These extracts fully prove, that the *mildest* inoculated small-pox is infectious; and that Mr. Maitland and others were not aware of this fact, till it was *forced upon their conviction*, by the most indubitable evidence, and *the sacrifice of at least one poor woman to the variolous scourge.* This I think will lead us to acknowledge, that Dr. Douglass is worthy of credit, when he says, that the friends of inoculation at Boston "first gave out that it was a method not infecting," and that when "*many had died of the infection received from the inoculated, they gave up this point.*"

(*To be continued.*)

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

I LATELY sent you the history of a case of fracture of the vertebræ, in which the mode of treatment there detailed was, in a great degree, successful.

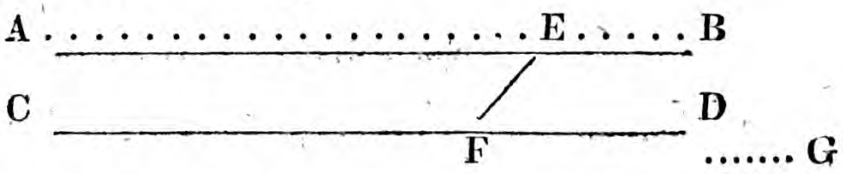
I have now a few remarks to offer on the subject of fractures of the thigh, which, as they are the result of further experience, may be useful to my professional brethren and their patients; and, not the less so, for their being sufficiently obvious when pointed out, if they have escaped particular notice before.

It has long been the established practice, I believe, in fractures of the thigh (except in those cases where the fracture has been supposed to be within the capsular ligament at its upper extremity) to keep the limb in a bent position, whether the patient lay upon his back or upon his side. This has been my own practice: but there is a circumstance, which I am about to explain, of considerable importance, and which, I believe, has not hitherto been observed.

The objects of the Surgeon in setting a fracture of this limb are, of course, as much as possible to prevent the twisting of the

the bone, if I may be allowed that expression, and to preserve its length. To secure the latter object, the plan first proposed by Mr. Pott, of placing the limb in such a position as to relax the muscles, generally, surrounding it, has been adopted.

Now, supposing the fracture to be within a few inches of the knee joint, the success of this treatment will materially depend upon the *direction* of the fracture; for, if the fracture be transverse, or if oblique, and the direction of that obliquity be not such that the *lower* fractured portion may rest *upon* the *upper* fractured portion, when the knee is bent, as much as it usually is on these occasions, the large body of muscle attached to the patella, will, by its communicated action upon the extremity of the bone, occasion a very material depression, and consequent separation of the lower fractured portion from the upper.



Let the parallel lines A. B. C. D. represent the os femoris—A. B. its anterior, C. D. its posterior surface when in an erect position; A. C. its upper, and B. D. its lower extremity. Let the line E. F. represent the oblique fracture of that bone in the direction (still in relation to its upright position) upwards and backwards. Let the dotted line from A. to B. represent the extensor muscles of the leg attached to the patella at B; and let the dotted line D. G. represent the direction of the resisting power, as applied to the calf of the leg, when *bent* at the knee, to prevent the shortening of the distance between A. and B.—the result of the action of the muscles of the dotted line A. B. and the resistance in the direction of the dotted line D. G. will be a sort of vertical rotation of the lower portion E. B. and a material depression of it at the point F.

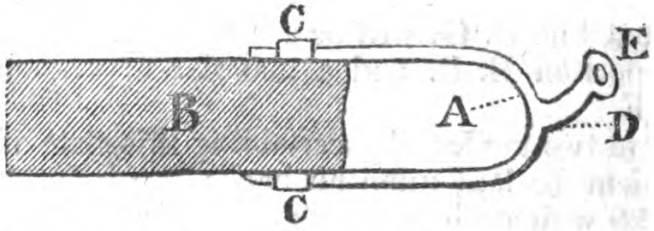
There are two modes of ascertaining this state of the case, if the patient be laid upon his back; one is by comparing the patellæ with each other, (if there be a fracture of one thigh only) the patella of the fractured limb will be found, in proportion to the proximity of the fracture to the joint, to be evidently *less prominent* than the other. The other mode is, by passing the fingers along the under surface of the fracture, when the depression will be evident to the touch.

If, however, the patella of the fractured limb be as prominent as the other, the Surgeon need make no farther in-

quiry, as he may then depend upon the under portion of bone being properly supported by the upper.

Having pointed out this distinction, it is scarcely necessary for me to remark that, where the fracture is transverse, or where the obliquity, as represented in the diagram, is upwards and backwards, the limb must be very little bent at the knee, and the rectus muscle would be still more relaxed if the body could be in some degree bent upon the thigh. I am not aware of any mode of preserving the proper length of the limb, where some resistance to the contraction of the muscles is not made by pressure upon the calf of the leg, and, when patients are placed upon the fracture machine, this is the only part which suffers pain. The cushion must therefore be made of the softest materials; ease may be frequently obtained by lessening the pressure upon particular points, insinuating for that purpose small portions of wool on each side, upon the end of a spatula; and the less the knee is bent, admitting that it is sufficiently so to answer the purpose, the less will the patient suffer from the pressure.

A new, but untried expedient occurs to me, which I am disposed to think may answer the purpose, and would deserve trial in the event of failure of the plan I have just mentioned—it is this—Let there be a band of stout buck skin, or buff leather (which last has the united qualities of firmness and softness, and might, if requisite, have a padding of wool on its inner surface.) Let there be a band of this description, about two inches broad, buckled, moderately tight, above the knee at the usual gartering place, with the buckle on one side, and the skin beneath it protected by a prolongation of the strap made rather wider than the buckle. To the front edge of this band, immediately above the patella, let the end of a strap be fixed.



Then let an iron A. somewhat in the form of a spur, be projected from the knee extremity of the fracture-box B (see the plate in vol. XV facing p. 16.) to which it may be fixed, when wanted, by its also sliding into the staples C C, and what corresponds with the shank of the spur D should be curved upwards and have a loop at the extremity E, to which a buckle should be fixed for the strap from the band to be led through;

through; by which means a moderate degree of extending power might be employed, so as to *counteract* the injurious action of the muscles attached to the patella.

It must be remembered that, as only a *moderate* degree of extension in this way could probably be borne, this must be considered only as an *auxiliary* power, and employed when the action of the muscles is *almost* prevented by the limb being but little bent at the knee.

I am, Gentlemen,
Your humble Servant,
E. HARROLD.

Cheshunt, Herts, May 14, 1811.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

I AM concerned to find, by the perusal of your last Number, that my former observations have produced little change on the language and sentiments of your correspondent A. H. He remains equally hostile to the Medical Bill, and, as I think, is highly and unjustly prejudiced and intemperate. In order, however, that your readers may be enabled to judge and decide between us upon a question of such importance to the whole profession, I shall be glad to see a corrected sketch of the Bill published in your Journal, together with the clauses, which I repeatedly stated to have been omitted, from motives of prudence, in the present sketch, through *the recommendation* of the Members, who *had engaged to introduce, and support the Bill in Parliament.*

A. H. has, it is true, retracted two material objections, on which he formerly laid great stress, and to which I now desire to call the particular attention of your numerous readers. He asserted, that the Bill would subject the faculty to *a pecuniary payment.* He now admits, on further consideration, that it will not *so* affect the present Establishment. This is an important concession, and will, I trust, make a due impression on the minds of the regular Profession. To them I desire to be understood as asserting, that the Bill *will in no way be productive of expence or inconvenience in practice. They will be left as much at liberty to exercise their skill and talents under the projected Act as at this moment.* No practical restrictions of any kind were ever intended to be

laid upon them. Such has been the uniform language of the Reformers, as set forth in their different statements, and I defy the most prejudiced objector to convict them of harbouring other views. Should any one remain sceptical on this point, let him examine the various printed documents. He will soon find conviction, and will, I hope, like my present opponent, have the candour to acknowledge it.

2dly. Your Correspondent entertained an opinion, that the Magistrates would be empowered under the Act to licence quacks in all succeeding generations. He now finds the Magistrates will be only authorized to interdict or sanction the practices of the present race of Quacks. As these die away or retire they cannot supply the list with new adventurers. Their discretion being wholly restricted to the present race, empirical practice must necessarily terminate with this generation. The Reformers, well convinced of the mischievous proceedings of empirical pretenders, were desirous to put an immediate stop to their interference, and have only relinquished the object from prudential considerations. Convinced as they have long been of the folly of such an attempt, they have confined their exertions to a slower, but they trust more certain process. In order to comprehend the policy and efficacy of the plan, let us suppose the empirical establishment of the United Kingdom to consist of 100,000, and I am disposed to believe, that including village doctors and midwifes, the calculation is not over rated. Should only nine in ten be suppressed at the first meeting of the Magistrates, the register will be limited to 10,000, consequently, the destructive career of 90,000 will be for ever arrested. And will humanity gain no relief from such a diminution? Will medical practice derive no benefit from the suppression? Or shall we say with Haman, "all this availeth nothing so long as we see Mordecai the Jew sitting at the King's gate."

It seems from this estimate that 10,000 will still remain to prey upon the lives of deluded invalids, and curtail the profits of regular men. And let us see what will be likely to happen to them. They are now for the most part general dealers and universal practitioners, whereas most of them would have their future proceedings limited by the Magistrates to particular cases. The persons, for example, licensed to set and replace bones would not be suffered with impunity to tease joints suffering from scrofulous inflammation, from rheumatism, or other pains. When thus confined to particular lines of employment, they would find the field too small for profitable culture, and many of them would voluntarily abandon the curative art for better speculations. In this way and by the controul of the Bench of Magistrates, *who can at pleasure withdraw*

withdraw the licences, the practice of many empiricks would thus be arrested long before the termination of their natural lives. A Bill calculated to effect these objects, so desirable to medical science, and so beneficial to incautious invalids, should not, I think, be hastily condemned and abandoned, except from the pleasing prospect of introducing another of greater vigor and more immediate operation. Of the fate of such a Bill, in its progress through Parliament, no person acquainted with the prejudices of the higher orders can entertain a doubt. We are consequently reduced to the alternative of leaving quackery to continue its destructive ravages *unmolested*, or of opposing it by a cautious interference. The recent failure of Lord Sidmouth's Bill to restrain the religious effervescence of illiterate and ignorant preachers, and the checks imposed upon Sir S. Romilie's benevolent attempts to proportion the punishment of criminals to the enormity of their offences, ought to impress us with a becoming diffidence of our own success in Parliament, *unless we adopt moderate measures and proceed in the most cautious manner.*

But it seems "no man in his senses would think of appealing to their Worships the Justices at the general or petty Sessions, as a competent tribunal to decide on the practice of physic?" From the opinion I entertain, I have always placed the Magistrates of Britain, acting as they do without fee or reward, among the most useful and deserving members of the Empire. In their official situations they have certainly the best opportunities of becoming acquainted with and deciding upon the general characters of empirics. But if the Bench of Justices are incompetent, in whom shall we repose confidence? Surely not in our noble selves, interested as we must be in the decision. Since it is a maxim in Jurisprudence, that no person shall sit as Judge when he is liable to be prejudiced or influenced by selfish considerations.

3dly. The great difficulty in the way of reform arises, as I conceive, from the Corporate bodies themselves. The members have contrived by private regulations and selfish by-laws to acquire a superiority in practice, and in professional character, over the Licentiates; the commonalty of Surgeons, and independent practitioners. These gentlemen, equal in talents and learning to their favored rivals, are forced to move in a lower sphere, merely because they are not suffered to contend for the highest rank in their respective colleges. These mortifications produced in direct violation of the acts of parliament and charters founded on them, are intended to serve the private views of the parties in possession. Hence the chief obstacle to reform. The persons in power satisfied with their condition meditate no change, and

oppose

oppose every measure, however mild and necessary, because they are afraid of some concealed purpose, some hostile motives. While the oppressed Faculty appear to be resolved to discourage every scheme of correction, which does not promise to loosen their fetters and remove their disabilities. The exaltation of medical men, the improvement of medical science, and the fall of quacks, are esteemed subordinate considerations with the respective parties. Feelings of this kind afford, as I apprehend, the true grounds of opposition to the proposed Bill. It is viewed with distrust by the Fellows of the College of Physicians, and Governors of the College of Surgeons, while it is disdainfully rejected by the Licentiates and commonalty of Surgeons, because, in its present shape, it offers to them no immediate prospect of College honors, and emoluments. I think I can perceive that A. H.'s hostility originates more in disappointed expectations of a radical reform, than in settled dislike to the Bill itself. Should he be really actuated by such considerations, I do not despair of seeing him fully reconciled to the scheme, when the parts omitted by the advice of parliamentary friends shall have been again restored, as they are intended to be, to their old places in the Bill. They were removed, as I formerly observed, from a desire not to irritate the Corporate Bodies, rather than from any conviction of their impropriety or inexpediency. The necessity for a more liberal and just interpretation of the Medical Statutes and Bye-laws is generally admitted, and I deem the present times to be particularly auspicious to such an inquiry. Under the enlightened direction of the Prince Regent, I think exertions will be made to improve the condition and increase the happiness of all descriptions of people, by correcting and reforming abuses in the several departments of the State. Few have suffered longer or more grievously than medical men. It is to be hoped, that in consideration of their laborious and important duties, they will meet with speedy and effectual redress. I am ready, for my own part, to come forward with pecuniary as well as personal assistance, to effect an object of such importance to the curative art, and humanity at large. If we be really desirous to shake off an odious aristocracy, let us not consume our time in querulous complaints or bitter invectives against each other, but proceed to form an union in the British Capital of professional men of every denomination and rank. The Fellows of the College amount to about 60, the Licentiates to 300. The College of Surgeons is governed by 21 Surgeons, to the exclusion of several thousands in and near London. The Company of Apothecaries is equally limited, while the independent practitioners are very numerous. A

contention

contention between the privileged Members and great body of the Faculty would, as it ought, terminate in the overthrow of monopoly, and unjust assumption, in favour of liberal views and equal privileges. Success is, I am persuaded, within the reach of the oppressed party, but in order to attain it a respectable force must be collected and organized, otherwise their remonstrances will be neglected and disregarded.

Your's, &c.
H. R.

[To be continued.]

To the Editors of the Medical and Physical Journal:

GENTLEMEN,

I HAVE in closed for your inspection the Portsmouth Bills of Mortality for 1809* and 1810. As you have done me the honour to publish those papers in your valuable Journal; and as they have become in this country the basis of calculations for annuities and insurance on lives, I think it proper to state to you that the Bill has now been published for ten years; and from the small number of inhabitants in this town, and my acquaintance with almost every family, I have been enabled to construct them with the greatest certainty of correctness.

The two last have been constructed with a view to determine what influence marriage has on longevity; for this purpose the married and unmarried have been characterized by specific marks.

I have yet to learn whether a Bill has been heretofore constructed on similar principles.

At some future period I intend to reprint the whole series, and as I have the materials by me, shall add to the former bills the characteristic marks of married and unmarried.

I have the honour to be, Gentlemen,
Yours, &c.
L. SPALDING.

Portsmouth, Feb. 10, 1811.

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* The Bills received were each for 1810; being duplicates.
EDITORS.

BILL

BILL OF MORTALITY

For PORTSMOUTH, NEWHAMPSHIRE, for A. D. 1810.

BY LYMAN SPALDING, M. D.

COMPLAINT.	AGE.	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	OCTOBER.	NOVEMBER.	DECEMBER.	TOTAL.
Apoplexy	78‘ years		1											1
Atrophy 1, w 76‘ y 3. d 2, 5. 68‘ y 2, m 2 47‘ y 10. d 4. m 56, 2. y		1	1	3		2		1		3		1	1	13
Chlorosis	13, years								1					1
Cholera of infants 4. m 2. 2, y 1, m 1. 1. 1, y									1	2	2	2		7
Consumption 33. 55‘ 36. 23, 63‘ 35, 64‘ 58, 20, 21, 42‘ 37‘ 25‘ 52‘ 69‘ 40‘ 15, 41‘ 38‘ 41‘ 23. 28, 17, 25‘ 44‘ 28‘ 34.	years		2	4	2	1	3	3	4	1	4	1	2	27
Convulsions	5, m 2, y 6. m 4. years			2					1				1	4
Croup	2, years												1	1
Dropsy	40‘ 60‘ 2. years						1		1			1		3
Dropsy in the brain 2. 13, y 5. m 2. 5, 4, 2, y 3,	months		1	1	1	1		1		1	1		1	8
Erythema	3. m 1, week		1				1							2
Fever inflammatory	5. 4, years						1		1					2
Fever petechial	9, years				1									1
Fever puerperal	18‘ 44‘ years			1									1	2
Fever pulmonic	52‘ 75‘ 78‘ 5, y 4, months	1	2		1				1					5
Gout	74· years									1				1
Hemorrhage	69· 52‘ years		1						1					2
Hooping cough	1, 3, years										2			2
Inflammation	46· years					1								1
Mortification	53‘ 67‘ years					1		1						2
Old age	89· 90‘ 77‘ 89‘ 90· 79‘ 78· years	2	1		2			2						7
Palsy	58‘ 74· 87‘ 60‘ years	1		1							2			4
Phrenitis	50· years			1										1
Quinsy	7. m 1. 1, year	2								1				3
Scirrhus liver	25. years							1						1
Casualties: Burnt	75‘ 4, 1, year										1	2		3
Casualties: Drowned	2. 7. years							1			1			2
Casualties: Overlaid	2. months											1		1
Casualties: Run over by a waggon	45· 5. years				1			1						2
Casualties: Suicide	19. 25‘ years				1							1		2
BIRTHS { Males 130 / Females 122 } 252	Still born 6													
MARRIAGES 64.	Total	7	10	13	9	6	6	11	11	9	13	9	7	111

PORTSMOUTH, the Capital of the State of Newhampshire, situated 43° 5′ north latitude, and 6o 26′ east longitude from Washington, contains 6934 inhabitants.

The month of January exhibited the coldest, as well as the most remarkable change of weather ever recorded in Newhampshire. At 12 o'clock at noon of the 18th the thermometer was at 42°, and at 12 the 19th it had fallen 12° below zero. It fluctuated between 7° and 14° below zero from the 19th to the 22d. We do not find that either this sudden change, or extreme cold weather, had any material effect on the health of our citizens.

NOTE. This Bill is so constructed as to shew the complaint, age, sex, &c. and whether married or unmarried. When a period follows the age, it denotes the male sex, a comma the female sex; when in their usual place at the bottom of the line, unmarried—at the top of the line, married.

Experiments and Observations on the different Modes in which Death is produced by certain vegetable Poisons. *By* Mr. B. C. Brodie, F. R. S.

(Phil. Trans.)

Read before the Royal Society, February 21, 1811.

1. THE following experiments were instituted with a view to ascertain, in what manner certain substances act on the animal system, so as to occasion death, independently of mechanical injury. I was led to the inquiry, from the subject of it appearing to be of considerable interest and importance, and from a hope, that, in the present improved state of physiological knowledge, we might be enabled to arrive at some more satisfactory conclusions, than had been deduced from any former observations.

The substances which act as poisons when applied to the animal body are very numerous. In the experiments, which I have hitherto made, I have employed vegetable poisons only. Of these I have selected such as are very active and certain in producing their effects, believing that, on this account, the exact nature of those effects would be more readily ascertained. The principal objects which I have kept in view have been to determine, on which of the vital organs the poison employed exercises its primary influence, and through what medium that organ becomes affected. I have also endeavoured to ascertain by what means the fatal consequences of some poisons may be prevented. With some of the conclusions, which I have ventured to draw, so far as I know, we were not before acquainted; and others of them, though not entirely new, had not been previously established by satisfactory experiments.

I shall relate first those experiments, in which poisons were applied internally, that is, to the mucous membranes of the tongue or alimentary canal, and afterwards those, in which poisons were applied to wounded surfaces.

II. *Experiments with Poisons applied to the Tongue or alimentary Canal.*

Experiments with Alcohol.

When spirits are taken into the stomach, in a certain quantity, they produce that kind of delirium which constitutes intoxication: when taken in a larger quantity, it is well known that they destroy life altogether, and that in the

course of a very short space of time. Intoxication is a derangement of the functions of the mind, and, as these are in some way connected with those of the brain, it seems probable, that it is by acting on this organ that spirits when taken into the stomach occasion death. In order to ascertain how far this conclusion is just, I made the following experiments.*

Experiment 1. I poured two drams of proof spirits down the œsophagus of a cat. Instantly he struggled violently; then lay on one side, perfectly motionless and insensible; the breathing was laboured and stertorous, and the pulsations of the heart were very frequent. He continued in this state for seven or eight minutes; then began to recover; the respiration became easier, and presently he stood up, and was able to walk.

Exp. 2. I injected an ounce and a half of proof spirits into the stomach of a large full-grown rabbit, by means of an elastic gum tube passed down the œsophagus. The same symptoms took place as in the last experiment; but the animal did not begin to recover from the state of insensibility, until forty minutes had elapsed from the time of the injection.

Exp. 3. Seven drams of proof spirits were injected into the stomach of a younger rabbit. Two minutes afterwards, he evidently was affected by the spirits, and in three minutes more he lay on one side motionless and insensible. The pupils of the eyes were perfectly dilated; there were occasional slight convulsive motions of the extremities; the respiration was laborious, it was gradually performed at longer and longer intervals, and at the end of an hour and fifteen minutes had entirely ceased. Two minutes after the animal was apparently dead, I opened into the thorax, and found the heart acting with moderate force and frequency, circulating dark coloured blood. I introduced a tube into the trachea, and produced artificial respiration by inflating the lungs, and found that by these means the action of the heart might be kept up to the natural standard, as in an animal from whom the head is removed.

Exp. 4. I injected into the stomach of a rabbit two ounces of proof spirits. The injection was scarcely completed, when the animal became perfectly insensible. Precisely the same symptoms took place as in the last experiment, and at the

* I am indebted to Dr. E. N. Bancroft for his assistance in many of the experiments which I am about to detail. Mr. W. Brande lent me his assistance in the greater part of those which were made. I have been further assisted by Mr. Broughton, Mr. R. Rawlins, and Mr. R. Gatcombe, and by several other gentlemen.

end

end of twenty-seven minutes, from the time of the injection, the rabbit was apparently dead; but on examining the thorax the heart was found still acting, as in the last experiment.

It has been shewn by M. Bichat, and the observation has been confirmed by some experiments, which I have lately had the honour of communicating to this learned Society, that the brain is not directly necessary to the action of the heart, and that, when the functions of the brain are destroyed, the heart continues to contract for some time afterwards, and then ceases only in consequence of the suspension of respiration, which is under the influence of the brain.

It would appear, from the experiments, which I have just detailed, that the symptoms produced by a large quantity of spirits taken into the stomach, arise entirely from disturbance of the functions of the brain. The complete insensibility to external impressions; the dilatation of the pupils of the eyes; and the loss of motion, indicate that the functions of this organ are suspended; respiration, which is under its influence, is ill performed, and at last altogether ceases; while the heart, to the action of which the brain is not directly necessary, continues to contract, circulating dark coloured blood for some time afterwards.

There is a striking analogy between the symptoms arising from spirits taken internally, and those produced by injuries of the brain.

Concussion of the brain, which may be considered as the slightest degree of injury, occasions a state of mind resembling intoxication, and the resemblance in some instances is so complete, that the most accurate observer cannot form a diagnosis, except from the history of the case. Pressure on the brain, which is a more severe injury than concussion, produces loss of motion, insensibility, dilatation of the pupils; respiration becomes laboured and stertorous, is performed at long intervals, and at last altogether ceases, and the patient dies.

It forms an interesting matter of inquiry, whether spirits when taken into the stomach produce their effects on the brain, by being absorbed into the circulation, or in consequence of the sympathy that exists between these organs by means of the nerves. The following circumstances lead me to conclude that they act in the last of these two ways.

1. In experiments where animals have been killed by the injection of spirits into the stomach, I have found this organ to bear the marks of great inflammation, but never found any preternatural appearances whatever in the brain. 2. The effects of spirits taken into the stomach in the last experiment were so instantaneous, that it appears impossible that ab-

sorption should have taken place before they were produced. 3. A person who is intoxicated, frequently becomes suddenly sober after vomiting. 4. In the experiments, which I have just related, I mixed tincture of rhubarb with the spirits, knowing from the experiments of Mr. Home and Mr. William Brande, that this, when absorbed into the circulation, was readily separated from the blood by the kidneys, and that very small quantities might be detected in the urine by the addition of potash; but, though I never failed to find urine in the bladder, I never detected rhubarb in it.

The including the termination of the thoracic duct in a ligature does not prevent spirits, when taken into the stomach, from producing their usual effects on the nervous system, but subsequent observations, which Mr. Home has already communicated to this Society, have shewn that no conclusion can be drawn from this experiment.

That a poison may affect a distant organ, through the medium of the nerves, without entering the circulation, is proved by the well-known circumstance of solution of the extract of *Belladonna*, when applied to the tunica conjunctiva of the eye, occasioning dilatation of the pupil of the same eye, though no other part of the system is affected.

It has been formerly supposed by Dr. Mead and other physiologists, that a poison may produce death by acting on the extremities of the nerves of the stomach and intestines, without being absorbed into the circulation. That it should by these means be capable of affecting the brain is not to be wondered at, when we consider the numerous and various sympathies between this organ and the alimentary canal, evidently independent of any other communication than the nerves.

*Experiments with the Essential Oil of Bitter Almonds.**

Experiment 5. One drop of the essential oil of bitter almonds was applied to the tongue of a young cat. She was instantly seized with violent convulsions; then lay on one side motionless, insensible, breathing in a hurried manner; the respirations became laboured, took place at longer and longer intervals, and at the end of five minutes, from the application of the poison, had entirely ceased, and the animal was apparently dead; but on opening the thorax, the heart

* The essential oil of bitter almonds does not appear to differ from the essential oil of laurel. I was furnished with a quantity of it, first by my friend Mr William Brande, and afterwards by Mr. Cooke of Southampton-street.

was found acting regularly eighty times in a minute, circulating dark coloured blood, and it continued to act for six or seven minutes afterwards.

Exp. 6. I injected into the rectum of a cat half an ounce of water, with two drops of the essential oil. In two minutes afterwards, he was affected with symptoms similar to those which occurred in the last experiment, and at the end of five minutes, from the injection of the poison, he was apparently dead. Two minutes after apparent death, the heart was found acting eighty times in a minute. On dissection, no preternatural appearances were found either in the internal membrane of the rectum, or the brain.

The symptoms produced by this poison, and the circumstance of the heart continuing to contract after apparent death, lead to the conclusion that it occasions death by disturbing the functions of the brain.

While engaged in these last experiments, I dipped the blunt end of a probe into the essential oil, and applied it to my tongue, meaning to taste it, and having no suspicion that so small a quantity could produce any of its specific effects on the nervous system; but scarcely had I applied it, when I experienced a very remarkable and unpleasant sensation, which I referred chiefly to the epigastric region, but the exact nature of which I cannot describe, because I know nothing precisely similar to it. At the same time there was a sense of weakness in my limbs, as if I had not the command of my muscles, and I thought that I was about to fall. However, these sensations were momentary, and I experienced no inconvenience whatever afterwards.

I afterwards applied a more minute quantity of the essential oil to my tongue several times, without experiencing from it any disagreeable effects; but on applying a larger quantity, I was affected with the same momentary sensations as in the former instance, and there was a recurrence of them in three or four seconds after the first attack had subsided.

From the instantaneousness, with which the effects are produced; and from its acting more speedily when applied to the tongue, than when injected into the intestine, though the latter presents a better absorbing surface, we may conclude that this poison acts on the brain through the medium of the nerves, without being absorbed into the circulation.

Experiment with the Juice of the Leaves of Aconite.

Exp. 7. An ounce of this juice was injected into the rectum of a cat. Three minutes afterwards he voided what appeared to be nearly the whole of the injection; he then stood for

for some minutes perfectly motionless, with his legs drawn together; at the end of nine minutes, from the time of the injection, he retched and vomited; then attempted to walk, but faultered and fell at every step, as if from giddiness. At the end of thirteen minutes, he lay on one side insensible, motionless, except some slight convulsive motions of the limbs. The respiration became slow and laboured; and at forty-seven minutes from the time of the injection, he was apparently dead. One minute and a half afterwards, the heart was found contracting regularly one hundred times in a minute.

It appears from this experiment, that the juice of aconite, when injected into the intestine, occasions death by destroying the functions of the brain. From the analogy of other poisons, it is rendered probable that it acts on the brain through the medium of the nerves, without being absorbed into the circulation. This opinion is confirmed by the following circumstance: if a small quantity of the leaf of aconite is chewed, it occasions a remarkable sense of numbness of the lips and gums, which does not subside for two or three hours.

Experiments with the Infusion of Tobacco.

Exp. 8. Four ounces of infusion of tobacco were injected into the rectum of a dog. Four minutes afterwards he retched, but did not vomit; he then became faint, and lay motionless on one side; at the end of nine minutes from the time of the injection, the heart could not be felt; he gasped for breath at long intervals; and in another minute there was no appearance whatever of life. I immediately laid open the cavities of the thorax and abdomen. The heart was much distended, and had entirely ceased to contract; there was no peristaltic motion of the intestines.

Exp. 9. An ounce of very strong infusion of tobacco was injected into the rectum of a cat. Symptoms were produced similar to those which occurred in the last experiment, and the animal died at the end of seven minutes from the time of the injection. On opening the thorax immediately after death, the heart was found extremely distended, and to have entirely ceased acting, with the exception of a slight tremulous motion of the auricles.

Exp. 10. Three ounces of infusion of tobacco were injected into the rectum of a dog. He was affected with symptoms similar to those in the former experiments, and died at the end of ten minutes. On opening the thorax immediately after death, I found the heart much distended, and to have entirely ceased contracting.

Exp. 11.

Exp. 11. Three ounces of infusion of tobacco were injected into the rectum of a dog. Immediately there took place tremulous contractions of the voluntary muscles. Five minutes afterwards the injection was repeated in the same quantity. The dog then was sick, and threw up some of the infusion with other matter from the stomach; he became faint, and died ten minutes after the second injection. Immediately after respiration had ceased I opened the thorax and found the heart extremely distended, and without any evident contraction, except of the appendix of the right auricle, which every now and then contracted in a slight degree. I divided the pericardium on the right side. In consequence of the extreme distension of the heart, this could not be done without irritating the fibres with the point of the scalpel. Immediately both auricles and ventricles began to contract with considerable force, so as to restore the circulation. Artificial respiration was produced, and the circulation was kept up for more than half an hour, beyond which time the experiment was not continued.

We may conclude from these experiments, that the effect of the infusion of tobacco, when injected into the intestine of a living animal, is to destroy the action of the heart, stopping the circulation and producing syncope. It appeared to me that the action of the heart ceased even before the animal had ceased to respire; and this was confirmed by another experiment in which, in a dog killed by the infusion of tobacco, I found the cavities of the left side of the heart to contain scarlet blood, while in those of the right side the blood was dark coloured. This poison therefore differs materially from alcohol, the essential oil of almonds, and the juice of aconite, which have no direct influence on the action of the heart. The infusion of tobacco renders the heart insensible to the stimulus of the blood, but it does not altogether destroy the power of muscular contraction, since the heart resumed its action in one instance on the division of the pericardium, and I have found that the voluntary muscles of an animal killed by this poison, are as readily stimulated to contract by the influence of the VOLTAIC battery, as if it had been killed in any other manner. At the same time, however, that the infusion of tobacco destroys the action of the heart, it appears to destroy also the functions of the brain, since these did not return in the last experiment; although the circulation was restored and kept up by artificial respiration.

Since there is no direct communication between the intestinal canal and the heart, I was at first induced to suppose that the latter becomes affected in consequence of the infusion being conveyed into the blood by absorption. Some circumstances

cumstances in the following experiment have since led me to doubt whether this is the case.

Exp. 12. In a dog, whose head was removed, I kept up the circulation by means of artificial respiration, in the manner already described in the account of some experiments which I lately communicated to this Society. I then injected into the stomach and intestines, nine ounces of infusion of tobacco. At the time of the injection, the body of the animal lay perfectly quiet and motionless on the table; the heart acted regularly one hundred times in a minute. Ten minutes afterwards the pulse rose to one hundred and forty in a minute; the peristaltic motion of the intestines was much increased, and the voluntary muscles in every part of the body were thrown into repeated and violent spasmodic action. The joints of the extremities were alternately bent and extended, the muscles of the spine, abdomen, and tail alternately relaxed and contracted, so as to turn the whole animal from one side to the other. I have observed, in other instances, spasmodic actions of the muscles, where the circulation was kept up by artificial respiration, after the removal of the head, but not at all to be compared, either in strength or frequency, with those which took place on this occasion. I made pressure on the abdominal aorta for more than a minute, so as to obstruct the circulation of the blood in the lower extremities; but the muscular contractions were not lessened in consequence. Half an hour after the injection of the infusion the artificial respiration was discontinued. The heart continued to act, circulating dark coloured blood; the muscular contractions continued, but gradually diminishsd in strength and frequency. I tied a ligature round the vessels at the base of the heart, so as to stop the circulation, nevertheless the muscular contraction still continued, though less frequent and forcible than before, and some minutes elapsed before they entirely ceased.

In this experiment the disposition to contraction in the muscles was very much increased, instead of being diminished as in those just related. If the infusion of tobacco influences the heart from being absorbed into the blood, and thus coming into actual contact with its fibres, there is no evident reason why the removal of the brain and the employment of artificial respiration, should occasion so material a difference in its effects. If the contraction of the voluntary muscles had depended on the infusion circulating with the blood, it is reasonable to suppose that the pressure on the aorta would have occasioned some diminution of them, and that the complete obstruction of the circulation would have caused them to cease altogether.

From

From these considerations, I am induced, on the whole, to believe, that the infusion of tobacco when injected into the intestines, influences the heart through the medium of the nervous system: but I have not been able to devise any experiment, by which the truth or fallacy of this opinion might be put beyond the reach of doubt.

It appears remarkable, that the brain and nervous system, although not necessary to the action of the heart, should, when under the influence of the infusion of tobacco, be capable of influencing this organ so as to stop its action: but this is analogous to what we see occur in consequence of violent emotions of the mind. Those states of the nervous system, which accompany the passions of joy, fear, and anger, when existing in a moderate degree, render the heart more sensible to the stimulus of the blood, and increase the frequency of its contractions; while, when the same passions exist in a greater degree, the heart is rendered altogether insensible to the stimulus of the blood, and syncope ensues.

Experiments with the Empyreumatic Oil of Tobacco.*

Exp. 13. Less than a drop of this oil was applied to the tongue of a young cat. Instantly violent convulsions took place in all the muscles, and the respirations became very frequent. In five minutes after the application, she lay on one side insensible, with slight spasmodic actions of the muscles. At the end of eleven minutes, she retched but did not vomit. In a quarter of an hour she appeared to be recovering. I repeated the application of the poison, and she was again seized with violent convulsions, and became insensible, breathing at long intervals, and in two minutes from the second application respiration had entirely ceased, and she was apparently dead. On opening the thorax, I found the heart acting with regularity and strength, circulating dark-coloured blood. I introduced a tube into the trachea, and produced artificial respiration; the contractions of the heart became augmented in force and frequency, and there was no evident diminution in six or seven minutes, during which the artificial respiration was continued.

On dissection, nothing remarkable was found in the appearance of the tongue or brain.

* I was furnished with the empyreumatic oil of tobacco by Mr. W. Brande. It may be produced by subjecting the leaves of tobacco to distillation in a heat above that of boiling water: a quantity of watery fluid comes over, on the surface of which is a thin film of unctuous substance.

The symptoms and mode of death in this experiment did not essentially differ from those produced by the essential oil of almonds. I was surprised to find the effects of the empyreumatic oil so entirely different from those of the infusion of tobacco. Supposing that this difference might arise from the poison being more concentrated in the oil than in the infusion, I made the following experiments.

Exp. 14. A drop of the oil of tobacco was suspended in an ounce and a half of water by means of mucilage of gum arabic, and the whole was injected into the rectum of a dog. In two minutes afterwards he became faint, retched, but did not vomit. He appeared to be recovering from this state, and in twenty-five minutes after the first injection, it was repeated in the same quantity. He was then seized with symptoms similar to those in the last experiment, and in two minutes and a half he was apparently dead.

Two minutes after apparent death, on the thorax being opened into, the heart was found acting regularly one hundred times in a minute, and it continued acting for several minutes.

Exp. 15. A drop of the empyreumatic oil of tobacco with an ounce of water was injected into the rectum of a cat. The symptoms produced were, in essential circumstances, similar to those which occurred in the last experiment. The animal was apparently dead in five minutes after the injection, and the heart continued to contract for several minutes afterwards.

We may conclude from these experiments, that the empyreumatic oil of tobacco, whether applied to the tongue, or injected into the intestine, does not stop the action of the heart and induce syncope, like the infusion of tobacco; but that it occasions death by destroying the functions of the brain, without directly acting on the circulation. In other words, its effects are similar to those of alcohol, the juice of aconite, and the essential oil of almonds.

III. *Experiments with Poisons applied to wounded Surfaces.*

Experiments with the Essential Oil of Almonds.

Exp. 16. I made an incision in the thigh of a rabbit, and introduced two drops of essential oil between the skin and the muscles. In four minutes after the application, he was seized with violent convulsions, and became insensible, and in two minutes more he was apparently dead; but the heart was felt through the ribs acting one hundred and twenty times in a minute, and it continued acting for several minutes.

There

There were no other appearances in the limb, than would have resulted from an ordinary wound.

Exp. 17. Two drops of the essential oil of almonds were introduced into a wound in the side of a mouse. Two minutes afterwards he was affected with symptoms similar to those which occurred in the last experiment, and in two minutes more he was apparently dead, but the heart continued to contract for some minutes afterwards.

From the experiments which I have just related, and from others which it appears unnecessary to detail, as the general results were the same, I have learned that where the essential oil of almonds is applied to a wound, its effects are not so instantaneous as when it is applied to the tongue; otherwise there is no difference in its effects in whatever manner it is applied.

Experiments with the Juice of the Leaves of the Aconite.

Exp. 18. I made a wound in the side of a young rabbit, and introduced, between the skin and muscles, about twenty drops of the juice of aconite. Twenty-three minutes afterwards he was affected with symptoms, in all essential respects, similar to those, which occurred in an experiment already related, where the juice was injected into the rectum, and at the end of forty-seven minutes from the application of the poison, he was apparently dead. Two minutes after apparent death, the heart was found contracting, but very feebly.

Experiments with the Woorara.*

Exp. 19. A small quantity of the woorara in powder was applied to a wound in the side of a Guinea pig. In ten minutes afterwards the animal was unable to walk; then he became quite motionless, except some slight occasional convulsions. He gradually became insensible, the respirations were laboured, and at the end of fourteen minutes from the application of the poison, the respiration had entirely ceased, and he was apparently dead; but on opening the thorax, the heart was found acting seventy times in a minutes, circulating dark coloured blood, and it continued to contract for several

* The Woorara is a poison with which the Indians of Guiana arm the points of their arrows. It appears not to differ essentially from the Ticunas, which was employed in the experiments of the Abbé Fontana. I am indebted to Dr. E. N. Bancroft, who not only furnished me with some of the Woorara which he had in his possession, but also lent me his assistance in the experiments which were made with it.

minutes afterwards. On dissection no preternatural appearances were observed in the brain; nor was there any other appearance in the limb than would have arisen from an ordinary wound.

Exp. 20. I made a wound in the side of a Guinea pig, and introduced into it about two grains of the woorara in powder. At the end of twenty-five minutes symptoms took place very similar to those which occurred in the last experiment, and in thirteen minutes more the animal was apparently dead; but the heart continued to contract one hundred and eight times in a minute, and by means of artificial respiration the circulation was kept up for more than twenty minutes.

The results of other experiments which I have made with the woorara, were similar to those just described. The heart continued to act after apparent death, and the circulation might be kept up by means of artificial respiration. It is evident that this poison acts in some way or another on the brain, and that the cessation of the functions of this organ is the immediate cause of death.

I found in these experiments, that the best mode of applying the woorara, is when it is disolved in water to the consistence of a thin paste. I first made the wound, and then smeared the poison over it with the end of the scalpel. I found that the animal was more speedily and certainly affected, if there was no hæmorrhage, unless the hæmorrhage was very copious, when it produced an opposite effect, by washing the poison away from the wound. When the poison was applied in large quantity, it sometimes began to act in six or seven minutes. Never more than half an hour elapsed from the time of the poison being inserted, to that of the animal being affected, except in one instance where a ligature was applied on the limb, which will be mentioned afterwards. The woorara which I employed had been preserved for some years, which will account for its having been less active than it has been described to be, by those who had witnessed its effects when in a recent state.

Experiments with the Upas Antiar.*

Exp. 21. About two grains of this poison were made into a thin paste with water, and inserted into a wound in the

* We are informed that the island of Java produces two powerful vegetable poisons, to one of which the natives give the name of *Upas tieuté*, and to the other that of *Upas antiar*. I was supplied with a quantity of the latter through the kindness of Mr. Marsden, who had some of it in his possession.

thigh

thigh of a dog. Twelve minutes afterwards he became languid; at the end of fifteen minutes, the heart was found to beat very irregularly, and with frequent intermissions; after this, he had a slight rigor. At the end of twenty minutes the heart beat very feebly and irregularly; he was languid; was sick and vomited; but the respirations were as frequent and as full as under natural circumstances, and he was perfectly sensible. At the end of twenty minutes he suddenly fell on one side, and was apparently dead. I immediately opened into the thorax, and found the heart distended with blood in a very remarkable degree, and to have entirely ceased contracting. There was one distinct and full inspiration after I had begun making the incision into the thorax. The cavities of the left side of the heart contained scarlet blood, and those of the right side contained dark coloured blood, as in a living animal.

Exp. 22. A small quantity of the upas antiar, prepared as before, was inserted into a wound in the thigh of a young cat. She appeared languid in two minutes after the poison was inserted. The symptoms which took place did not essentially differ from those which occurred in the last experiment, except that there were some convulsive motions of the limbs. At eight minutes after the poison was inserted she lay on one side, motionless and insensible, the heart could not be felt, but the respiration had not entirely ceased. On opening into the thorax, I found the heart to have ceased contracting. It was much distended with blood: and the blood in the cavities of the left side was of a scarlet colour. There were two full inspirations after the incision of the thorax was begun. On irritating the heart with the point of the scalpel, slight contractions took place in the fibres of the appendices of the auricles, but none in any other part.

Exp. 23. The experiment was repeated on a rabbit. The symptoms produced were similar to those in the last experiment; but the animal did not vomit, and the convulsive motions were in a less degree: he died eleven minutes after the poison was inserted. On opening the chest, the heart was found to have entirely ceased contracting; it was much distended with blood; and the blood in the cavities of the left side was of a scarlet colour. On irritating the heart with the point of the scalpel, the ventricles contracted, but not sufficiently to restore the circulation.

Exp. 24. About a grain of the upas antiar was inserted into a wound in the side of a rabbit. He was affected with symptoms similar to those before described, and died in ten minutes after the poison was applied. On opening the thorax immediately after death, the heart was found to have ceased

ceased contracting, and the blood in the cavities of the left side was of a scarlet colour.

It appears from these experiments, that the upas antiar, when inserted into a wound, produces death (as infusion of tobacco does when injected into the intestine) by rendering the heart insensible to the stimulus of the blood, and stopping the circulation. The heart beats feebly and irregularly before either the functions of the mind, or the respiration appear to be affected. Respiration is performed even after the circulation has ceased; and the left side of the heart is found after death to contain scarlet blood, which never can be the case, where the cause of death is the cessation of the functions of the brain or lungs. The convulsions, which occur when the circulation has nearly ceased, probably arise from the diminution of the supply of blood to the brain, resembling those, which take place in a person, who is dying from hæmorrhage.

There remains an interesting subject of inquiry, "through what medium do poisons influence the brain when applied to wounds?" That poisons applied in this manner do not produce their effects precisely in the same way as poisons taken internally, is rendered probable by this circumstance; that some poisons, which are very powerful when applied to wounds even in small quantities, are either altogether inefficient when taken internally, or require to be given in very large quantities, in order to produce their effect, and vice versa.

A poison applied to a wounded surface may be supposed to act on the brain in one of three ways,

1. By means of the nerves, like poisons taken internally.
2. By passing into the circulation through the absorbent vessels.
3. By passing directly into the circulation through the divided veins.

Exp. 25. In order to ascertain whether the woorara acts through the medium of the nerves, I exposed the axilla of a rabbit, and divided the spinal nerves supplying the upper extremity, just before they unite to form the axillary plexus. The operation was performed with the greatest care. I not only divided every nervous filament, however small, which I could detect, but every portion of cellular membrane in the axilla, so that the artery and vein were left entirely insulated. I then made two wounds in the fore-arm, and inserted into them some of the woorara formed into a paste. Fourteen minutes after the poison was applied, the hind legs became paralytic, and in ten minutes more he died, with symptoms precisely similar to those which took place in the former experiments,

periments, and the heart continued to act after apparent death. On dissection, the nerves of the upper extremity were particularly examined, but not the smallest filament could be found undivided.

I made the following experiment to ascertain whether the woorara passes into the circulation through the absorbent vessels.

Exp. 26. I tied a ligature round the thoracic duct of a dog, just before it perforates the angle of the left subclavian and jugular veins. I then made two wounds in the left hind leg, and introduced some of the woorara in powder into them. In less than a quarter of an hour he became affected with the usual symptoms, and died in a few minutes afterwards.

After death, I dissected the thoracic duct with great care. I found it to have been perfectly secured by the ligature. It was very much distended with chyle, and about two inches below its termination its coats had given way, and chyle was extravasated into the cellular membrane. The lymphatic vessels in the left axilla were distended in a very remarkable degree, and on dividing them, not less than a dram of lymph issued from the divided ends.

Since neither the division of the nerves, nor the obstruction of the thoracic duct interfere in the slightest degree with the effects of the woorara, there is presumptive evidence that it acts on the brain by entering the circulation through the divided veins. I endeavoured to ascertain, by experiment, whether this is really the case.

To apply ligatures to the large vessels of a limb only would evidently lead to no satisfactory conclusion, since the anastomosing vessels might still carry on the circulation. The only way, which I could devise of performing the experiment, was to include all the vessels, small as well as large, in a ligature.

Exp. 27. In order to make the experiment more satisfactorily, I exposed the sciatic nerve of a rabbit in the upper and posterior part of the thigh, and passed under it a tape half an inch wide. I then made a wound in the leg, and having introduced into it some of the woorara mixed with water, I tied the tape moderately tight on the fore-part of the thigh. Thus I interrupted the communication between the wounds and the other parts of the body, by means of the vessels, while that by means of the nerve still remained. After the ligature was tightened, I applied the woorara a second time, in another part of the leg. The rabbit was not at all affected, and at the end of an hour I removed the ligature. Being engaged in some other pursuit, I did not watch the animal so closely as I should otherwise have done; but twenty minutes after the ligature

ligature was removed, I found him lying on one side, motionless and insensible, evidently under the influence of the poison, but the symptoms were less violent than in most instances, and after lying in this state he recovered, and the limb became perfectly warm, and he regained the power of using it.

Exp. 28. I repeated the last experiment with this difference, that after having applied the poison, I made the ligature as tight as I could draw it. I removed the ligature at the end of an hour and twenty minutes, but the animal was not at all affected either before or after the removal of the ligature, and on the following day he had recovered the use of the limb.

Exp. 29. I repeated the experiment a third time, drawing the ligature very tight. At the end of forty-five minutes, the animal continued perfectly well, and the ligature was removed. I watched him for three quarters of an hour afterwards, but there were no symptoms of his being affected by the poison. On the following day the rabbit died, but this I attribute to the injury done to the limb and sciatic nerve by the ligature, as there was the appearance of inflammation in the parts in the neighbourhood of the ligature.

These three experiments were made with the greatest care. From the mode in which the poison was applied, from the quantity employed, and from my prior experience, I should have entertained not the smallest doubt of the poison taking effect in every instance in less than twenty minutes, if no ligature had been applied. In two of the three, the quantity of woorara was more than had been used in any former experiments.

I have not judged it necessary to make any more experiments, with the ligature on the limb, because the numerous experiments of the Abbé Fontana on the ticunas coincide in their results with those which have just been detailed, and fully establish the efficacy of the ligature, in preventing the action of the poison. It is not to be wondered at, that the ligature should sometimes fail in its effects, since these must evidently depend on the degree in which the circulation is obstructed, and on the length of time during which the obstruction is continued.

There can be little doubt that the woorara affects the brain, by passing into the circulation through the divided vessels. It is probable that it does not produce its effects, until it enters the substance of the brain, along with the blood, in which it is dissolved; nor will the experiments of the Abbé Fontana, in which he found the ticunas produce almost instant death when injected into the jugular vein of a rabbit, be found to militate against this conclusion, when we consider how short

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is the distance, which, in so small an animal, the blood has to pass from the jugular vein to the carotid artery, and the great rapidity of the circulation; since in a rabbit under the influence of terror, during such an experiment, the heart cannot be supposed to act so seldom as three times in a second.

I have made no experiments to ascertain through what medium other poisons when applied to wounds affect the vital organs, but from analogy we may suppose that they enter the circulation through the divided blood-vessels.

IV.

The facts already related led me to conclude that alcohol, the essential oil of almonds, the juice of aconite, the oil of tobacco, and the woorara, occasion death simply by destroying the functions of the brain. The following experiment appears fully to establish the truth of this conclusion.

Exp. 30. The temperature of the room being 58° of Fahrenheit's thermometer, I made two wounds in the side of a rabbit, and applied to them some of the woorara in the form of paste. In seven minutes after the application, the hind legs were paralysed, and in fifteen minutes respiration had ceased, and he was apparently dead. Two minutes afterwards the heart was still beating, and a tube was introduced through an opening into the trachea, by means of which the lungs were inflated. The artificial respiration was made regularly about thirty-six times in a minute.

At first, the heart contracted one hundred times in a minute.

At the end of forty minutes, the pulse had risen to one hundred and twenty in a minute.

At the end of an hour, it had risen to one hundred and forty in a minute.

At the end of an hour and twenty-three minutes, the pulse had fallen to a hundred, and the artificial respiration was discontinued.

At the commencement of the experiment, the ball of a thermometer being placed in the rectum, the quicksilver rose to one hundred degrees; at the close of the experiment it had fallen to eighty-eight and a half.

During the continuance of the artificial respiration, the blood in the femoral artery was of a florid red, and that in the femoral vein of a dark colour, as usual.

It has been observed by M. Bichat, that the immediate cause of death, when it takes place suddenly, must be the cessation of the functions of the heart, the brain, or the lungs. This observation may be extended to death under all circum-

stances. The stomach, the liver, the kidneys, and many other organs are necessary to life, but their constant action is not necessary; and the cessation of their functions cannot therefore be the *immediate* cause of death. As in this case the action of the heart had never ceased; as the circulation of the blood was kept up by artificial respiration for more than an hour and twenty minutes after the poison had produced its full effects; and as during this time the usual changes in the colour of the blood took place in the lungs; it is evident that the functions of the heart and lungs were unimpaired: but that those of the brain had ceased, is proved, by the animal having continued in a state of complete insensibility, and by this circumstance, that animal heat, to the generation of which I have formerly shewn the influence of the brain to be necessary, was not generated.

Having learned that the circulation might be kept up by artificial respiration for a considerable time after the woorara had produced its full effects, it occurred to me that in an animal under the influence of this or of any other poison that acts in a similar manner, by continuing the artificial respiration for a sufficient length of time after natural respiration had ceased, the brain might recover from the impression, which the poison had produced, and the animal might be restored to life. In the last experiment, the animal gave no sign of returning sensibility; but it is to be observed, 1. That the quantity of the poison employed was very large. 2. That there was a great loss of animal heat, in consequence of the temperature of the room being much below the natural temperature of the animal, which could not therefore be considered under such favourable circumstances as to recovery, as if it had been kept in a higher temperature. 3. That the circulation was still vigorous when I left off inflating the lungs, and therefore it cannot be known what would have been the result, if the artificial respiration had been longer continued.

Exp. 30. A wound was made in the side of a rabbit, and one drop of the essential oil of almonds was inserted into it, and immediately the animal was placed in a temperature of 90°. In two minutes he was under the influence of the poison. The usual symptoms took place, and in three minutes more respiration had ceased, and he lay apparently dead, but the heart was still felt beating through the ribs. A tube was then introduced into one of the nostrils, and the lungs were inflated about thirty-five times in a minute. Six minutes after the commencement of artificial respiration, he moved his head and legs, and made an effort to breathe. He then was seized with convulsions, and again lay motionless, but continued to make occasional efforts to breathe. Sixteen minutes after

its

its commencement, the artificial respiration was discontinued. He now breathed spontaneously seventy times in a minute, and moved his head and extremities. After this, he occasionally rose, and attempted to walk. In the intervals, he continued in a dozing state; but from this he gradually recovered. In less than two hours he appeared perfectly well, and he continued well on the following day.

The inflating the lungs has been frequently recommended in cases of suffocation, where the cause of death is the cessation of the functions of the lungs: as far as I know, it has not been before proposed in those cases, in which the cause of death is the cessation of the functions of the brain.* It is probable that this method of treatment might be employed with advantage for the recovery of persons labouring under the effects of opium, and many other poisons.

V.

The experiments which have been detailed lead to the following conclusions.

1. Alcohol, the essential oil of almonds, the juice of aconite, the empyreumatic oil of tobacco, and the woorara, act as poisons by simply destroying the functions of the brain; universal death taking place, because respiration is under the influence of the brain, and ceases when its functions are destroyed.

2. The infusion of tobacco when injected into the intestine, and the upas antiar when applied to a wound, have the power of rendering the heart insensible to the stimulus of the blood, thus stopping the circulation; in other words, they occasion syncope.

3. There is reason to believe that the poisons, which in these experiments were applied internally, produce their effects through the medium of the nerves without being absorbed into the circulation.

4. When the woorara is applied to a wound, it produces its effects on the brain, by entering the circulation through the divided blood-vessels, and from analogy, we may con-

* Since this paper was read, I have been favoured by the Right Hon. the President with the perusal of a Dissertation on the Effects of the Upas Tieutè, lately published at Paris by M. Delile, by which I find that he had employed artificial respiration for the purpose of recovering animals, which were under the influence of this poison, with success. M. Delile describes the Upas Tieutè as causing death, by occasioning repeated and long continued contractions of the muscles of respiration, on which it acts through the medium of the spinal marrow, without destroying the functions of the brain.

clude that other poisons, when applied to wounds, operate in a similar manner.

5. When an animal is apparently dead from the influence of a poison, which acts by simply destroying the functions of the brain, it may, in some instances, at least, be made to recover, if respiration is artificially produced, and continued for a certain length of time.

From analogy we might draw some conclusions respecting the mode in which some other vegetable poisons produce their effects on the animal system; but I forbear to enter into any speculative inquiries; as it is my wish, in the present communication, to record such facts only, as appear to be established by actual experiment.

CRITICAL ANALYSIS

OF

RECENT PUBLICATIONS

IN THE

DIFFERENT BRANCHES OF PHYSIC, SURGERY, AND MEDICAL PHILOSOPHY.

Observations on the Act for regulating Mad-houses, and a Correction of the Statements of the Case of Benjamin Elliot, convicted of illegally confining Mary Daintree; with Remarks addressed to the Friends of Insane Persons. By JAMES PARKINSON. 8vo. pp. 48. sewed. London. 1811.

THE case which called forth these observations of Mr. Parkinson will be in the recollection of most of our readers. He signed a certificate testifying the insanity of a Mrs. Daintree, in consequence of which she was confined in a mad-house, where she remained about three months. Three years within a month after the time of signing the certificate, Mr. Parkinson received a subpœna, and attended as a witness on the trial of the parties implicated in depriving Mrs. Daintree of her liberty. The result of the trial was, the defendant Benjamin Elliot was found guilty, and sentenced to six months imprisonment in the House of Correction in Cold-bath fields. If this verdict of the jury be correct, Mr. Parkinson must have acted interestedly, or injudiciously; he has therefore, in our opinion, very properly published the particulars of the

the case, which at least justifies his conduct in the affair. The minds of the jury seem to have been influenced by the direct contradiction of the defendant's principal witness, and in some degree perhaps by Mr. Parkinson not being able to swear to him, although he had afterwards no doubt of his identity. Mr. Parkinson, before he signed Mrs. Daintree's certificate, had examined her son, who declared that she was mad; on his examination in court, on oath, this young man denied that he had ever been questioned by Mr. P. respecting the state of his mother's mind, or that he had ever acknowledged that she was insane. Unfortunately Mr. Parkinson's memory would not allow him to identify this young man, when giving his evidence. As Mr. Parkinson did not sign the certificate until he was convinced of the patient's insanity from his own observation, surely this conduct of a witness should not have made any undue impression in court.

We shall now state some of the excellent remarks which this case has drawn from Mr. Parkinson.

One of the most important articles in the Act for regulating mad-houses, is that which prevents patients being received into them without an order in writing, under the hand and seal of some physician, surgeon, or apothecary. This regulation is doubtless productive of much good; there can be few individuals legally entitled to the rank of physician or surgeon, incompetent to determine upon the sanity or insanity of a patient.

"But how widely different is it with respect to some of those persons who call themselves apothecaries, and thence presume to judge respecting diseases. Their abilities have been examined by no prescribed test, nor have they received any authority to take on themselves the delicate and important task of judging of, or of practising upon, the diseases either of the body or the mind. That in this metropolis, and in many parts of the empire, there are many respectable persons, who with the designation only of apothecaries, possess every acquirement which is requisite for the successful exercise of their profession, is well known. But it is equally well known, that there is hardly a neighbourhood which is not infested with some ignorant and illiterate being, who having learned the names of many medicines, and of some diseases, seeks a livelihood by putting the lives of his neighbours at hazard, by pretending to remove the diseases with which they may happen to be afflicted."

It admits of no question, that such men are wholly unfit to decide upon the nice distinctions between eccentricity, hypochondriasis, and insanity. Independently of their ignorance, the moral character of men, who thus dare to profess an acquaintance with a difficult profession, must be suspicious. The Act indeed provides, that if the houses be situated within seven miles of London and Westminster, and within

within the County of Middlesex, it shall be visited by C missioners appointed for the purpose, *once* at least in e year, when the patients are inspected. Beyond this dista the visitation takes place as often as the Commissioners t fit. Now supposing that a patient has been improperly fined, a considerable time may elapse before his case ma known to the Commissioners; and before his release can effected, great violence may be done to his feelings. Parkinson has adduced many cases illustrative of his ar ments, for which we refer to his sensible and judicious pu cation, in which he has fully established the necessity a revision of that part of the Act which gives so vaguely power of confinement.

Communications relative to the Datura Stramonium, Thorn-apple; as a cure or relief of Asthma: Addres to the Editor of the Monthly Magazine. Several of th never before published. 8vo. pp. 90. Sherwood, Neel and Jones, 1811.

This Pamphlet, as the title expresses, consists chiefly cases in which Stramonium has been employed in the cure asthmatic complaints. The professed motives of the Edit in collecting and publishing these communications, do hi honour, because he believes in the efficacy of the remedy, an that a more general knowledge of its effects will be benefici to mankind, whilst he can have no other interest in its suc cess.

After the ample discussion which this subject has alread received in our pages, it may suffice on the present occasio to remark, that the cases now adduced are in favour of th remedy. The objections, however, which were advance against its introduction into general and indiscriminate prac tice, in the account of the plant before alluded to, in our opi nion, still remain in force.* Admitting that it possesses po tent qualities, and that it has occasionally proved beneficial; we contend after a fair and full examination of the question, founding our judgment upon considerable experience, that the application of Stramonium in the form of smoke, in many cases of asthma, is dangerous, in proportion as it produces its narcotic effects on the system; the cough and dyspnœa may be quieted; but apoplexy and other serious disorders have sometimes been the result.

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* *Vide* Medical and Physical Journal, June 1, 1811.

An

An Appendix is subjoined, containing Dr. Thornton's *description of Datura Stramonium;* an extract from Storck's account of it, published at Vienna in 1762; and an extract from the Medical and Physical Journal, May 1811.*

We cannot doubt that the attention already excited in the public mind by the various reports, and advertisements, respecting Stramonium, will induce many people to have recourse to it, and that we shall have further opportunities for collecting evidence on the subject. It is difficult to obtain the particulars of the unfavourable cases where the remedy has been used. When persons quack themselves, they are extremely unwilling to publish the mischief which has been occasioned by their own folly and imprudence.

The Edinburgh Medical and Surgical Journal, No. XXVI. *April* 1811.

ART I. *Medical Report for Nottingham. By* JAMES CLARKE, M.D.

This attentive observer commences with some sensible remarks upon the influence of the seasons in modifying, and inducing disease; a subject certainly not sufficiently regarded by practitioners in general. He then notices some objections of a *former* reviewer in this Journal, to certain opinions which he had advanced on the subject of diabetes.

The *epidemic constitution*, from April 1809 to March 1810, gives us a statement of the weather, with an enumeration of the diseases that prevailed in each month. Synochus was the prevailing disease in April and May. In July, Rubeola was prevalent, and in one instance proved fatal, previous to the appearance of the eruption.

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* The Editor of these Communications introduces the Extract from the Medical Journal with the following observations: "The Medical Journal noticed Stramonium last month (May) for the first time. The writer of the article fell however into an error, conceiving that Verax and Fisher (or *Rees*) were the same person, and detesting, as every honest man must, the imposture of the pretended Surgeon, has unwillingly given credence to the unquestionable authority of the Monthly Magazine." In reply, we may observe, that notice was taken of Fisher's Treatise on Stramonium, in the Medical Journal for Jan. 1811; further, that though it might be interpreted that the writer of the account of Stramonium suspected that Fisher and Verax were assumed titles, by the same individual, he by no means insinuated that Dr. *Rees* was implicated; we rather suppose too, that the Editor of the Communications intended to have written *Reece.*

REV.

"*October.*—Rain in the night of the 13th, 18th, 24th, and 25t weather this month cloudy and hazy.

"*Ophthalmia.*—This disease became very general this month, a considered contagious. It attacked the patient very suddenly, c the middle of the night, with a violent pain in the orbit, and a tion of sand in the eye. On rising in the morning when the atta been severe, the eye discharged a purulent fluid, but this was the more acute cases; in the majority of instances, the disease w slight, and was removed in two or three days by a simple col and a saline cathartic.

"*Pneumonia*—Some few mild cases of this disease in the ear of this month.

"*Dysenteria* was much more frequent than usual, not without su that it arose from contagion, from the soldiers on furlough who h turned from foreign service. Debility of the whole alimentary was a complaint in those who had suffered from dysentery or chol

"*Catarrhus* was prevalent, and the fever in almost every in typhoid.

"*Pertussis and Rubeola* were seen in a few sporadic cases.

"*Typhus* was unusually frequent this month, and certainly very contagious; it generally passed through the family. The c commenced with very strong rigor, often in the night, follow heat of skin, great thirst, headache, lassitude, languor, pain in part of the body, sometimes more violent in the chest and side then attended with a cough, which induced many to have recou bleeding, of which they had soon cause to repent, for the patient s recovered a copious general bleeding; the pulse was extremely not always quick, the tongue much furred, oftentimes blackish root, and when put out tremulous; the bowels at the commenc costive, but as the disease advanced, without medical assistar diarrhœa generally followed. With some, the disease was a panied with sore throat; the fever was not violent, seldom att with delirium, but lingering. Nearly one-half of the out-patien the hospital, under the care of the reporter, who had been rec for other diseases, had slight attacks of typhus. The only case of those under the care of the reporter, was attended w vomiting of thick greenish and coffee-ground-coloured fluids. M assistance was not called to this patient until some hours after this symptom had come on; the extremities had become cold, on the head a cold clammy sweat, and no means that were resorted to the effect of restoring the natural heat of the body; the counter was most ghastly, the true "facies hypocratica" was marked in feature; and entire prostration of strength, the arms hanging loosely by her side, the hair dishevelled, and a total insensibility t surrounding objects. Opium, blisters, and every method that was proved of no relief; and in twenty-four hours from the first sei this fine young girl was an inanimate and unsightly corpse."

ART. II. *Case of Apparent Paralysis of the lower Extremities removed by the patient being attacked with Hepatitis and Gout.* By MR. MELLOR, Surgeon, Stafford.

"May 23.—Mrs. H———, aged 40, full habit of body, menses regular; has been unwell a month or five weeks; complaining of general debility; great weakness and numbness of the lower extremities; has now much pain in the lower part of the back, sacrum, and pelvis; on examination of the spine, she complained of great tenderness of the sacrum and back; she cannot walk, or even stand, without being supported, nor can she turn herself in bed, or move the lower extremities. The bowels are very costive; the bladder appears to be paralytic, as she does not part with her urine oftener than once in 24 hours, and then in the quantity of two quarts; the skin is cool, tongue clean; pulse 80 and soft.

"She was ordered to take six grains of calomel immediately, and a purging mixture every four hours afterwards, composed of sulphas magnes. infus. sennæ, and pulv. jalapii. This procured several large evacuations. She was then directed to take a mixture with gum guaiacum, also to rub the spine with lin. volat. to use the warm bath every day, and to apply a blister to the sacrum.

"*May 30th.*—Complains of much pain in the epigastric and right hypochondriac regions; is completely jaundiced; has a short troublesome cough; the skin hot; tongue parched, and loaded with a yellow fur; great thirst; pulse 110, full and hard. An inflammation of a rose colour has attacked the outside of the right foot, which extends towards the toes, attended with swelling and great pain; the urine is in small quantity; makes it more frequent than she did, and it is very yellow; stools of a dirty white.

"I bled her to the quantity of sixteen ounces; put her upon the antiphlogistic plan; gave her saline medicines, with nitr. and vin. antim.; purged her smartly every day with calomel and infus of senna, and pulv. jalap. The blood was highly inflamed; she was bled again on the 31st, also on the first of June, and on the fifth.

"*June 2d.*—The gout has attacked the other foot.

"*June 4th.*—The inflammation has attacked both hands, and even extends to the fingers; the feet are better; has more feeling in her legs, and can move them a little; in other respects much the same. Ordered to continue her present plan."

From this time she recovered fast, and by the 20th of June was entirely well. Mr. Mellor concludes with enquiring, "if she had not been attacked with this violent inflammatory disease, would she have become paralytic?"

Case of Hæmorrhœa Petechialis, successfully treated.

There is nothing peculiar in this case of a child seven years of age; the medicine was decoction of bark, with muriated tincture of iron: the diet, fresh animal food; ripe fruits; vegetables; half a pint of port wine, diluted with an equal

quantity of water, every twenty-four hours; and the body was sponged every four hours with cold vinegar and water.

Two Cases where Bleeding, so as to produce Syncope, cured the Disease immediately, without the aid of Medicine.

"Miss Needam, aged 18, apparently of a full habit, pale complexion, but delicate constitution, short chest, has, for the last two years, been subject to violent attacks of apasmodic asthma, and an incessant, short, and irritable cough.

"*October 15th.*—Was attacked after dancing with the cough, which is incessant, recurring every second of time, and which appears to arise entirely from irritation; she has no pain or difficulty in breathing; pulse soft, but frequent; she has been coughing without intermission thirty-six hours; has taken opium, æther, camphor, assafœtida, and inhaled the steam of warm water, and also the vapour of æther, but without the slightest good effect. I bled her from a large orifice to the quantity of twelve ounces, until she fainted; she was very sick and vomited a good deal. The cough immediately ceased, and did not return in the slightest degree again.

"Mrs. S——, aged 36, spare habit, had been subject to attacks of acute rheumatism; complains of violent and acute pains in her knees, ankles, elbows, and wrists; is unable to walk without the support of two persons; skin cool; tongue rather white; pulse 80, but full, and rather hard; urine high-coloured; joints not swelled or inflamed.

"I bled her from a large orifice to the quantity of sixteen ounces; she fainted, and vomited, and was near an hour in recovering. I called upon her the next morning; found her busy in her domestic affairs; said she had had a very good night; was entirely free from pain, and could walk as well as usual, and has had no return of her disease."

ART. III. 1. *Case in which the Larvæ of an Insect were voided in the Urine.* 2. *Cases of Poisoning by Foxglove and Corrosive Sublimate.* 3. *Remarks on Enlargement of the Heart.* In a letter to Dr. Duncan jun. from William Henry, M. D. F. R. S. &c.

The subject of the first of these cases frequently voided gravel, and had strong symptoms of stone in the bladder, and once actually passed a small calculus.

For five or six weeks, there were discharged along with the urine, "the larvæ of an insect pretty exactly resembling the common maggot. They are not only alive but vivacious, and, besides those which are entire, the heads and bodies of several others may be observed, detached from each other. Of the entire insects he has frequently discharged three or four at once; and they appear in the urine, when it is perfectly free

free from sand, and even when it is received into a glass vessel."

The insect has a hard crustaceous head, with long maxillæ, like those of coleopterous larvæ. The body appears to have been soft and pulpy, and when magnified resembles *curculio nucum*. A semi-transparent line is seen running from the head to the tail. The body is covered with short hairs or *setæ*. The colour is dirty yellowish; head bright chocolate.

Effects of an excessive dose of Foxglove.

On the 17th of October, 1809, Dr. Henry was called to visit Alice Grice, aged about 60, as a home patient of the Manchester Infirmary. She had laboured under ascites for some months, and though already an out-patient of the charity, had taken, at the persuasion of a neighbour, a strong decoction of foxglove, prepared by boiling two handfuls of the leaves in a quart of water during half an hour. Of this, about seven o'clock on the morning of Sunday the 15th, she drank about ten ounces; in less than an hour she began to be sick and discharged part of the contents of the stomach.

"Enough, however, was retained to excite violent retching and vomiting throughout the whole of that and the following day, during which, every thing that was taken was instantly rejected. In the intervals of sickness she was excessively faint, and her skin was covered with a cold sweat. The tongue and lips swelled, and there was a constant flow of viscid saliva from the mouth. Very little urine was voided on Sunday; and, on the two following days, the action of the kidneys was entirely suspended. When I saw her on Tuesday the sickness had somewhat abated, though it was still extremely distressing. The tongue was covered with a white fur; the ptyalism continued, though in a less degree; and the breath was fœtid. The pulse was low, irregular, (not exceeding forty) and after every third or fourth pulsation an intermission occurred for some seconds. She complained also of general pains in the limbs, and of cramps in the legs.

"Though the danger appeared to me to be greatly diminished, yet something was absolutely necessary to abate the harassing sickness. I directed, therefore, effervescing draughts, prepared with infusion of columbo and carbonate of ammonia, with the addition of ten drops of laudanum to each, to be taken every three hours. In the intervals, thirty drops of a mixture of æther and the compound spirit of ammonia, were given occasionally; and she was supplied freely with wine from the hospital. Under this treatment the sickness and vomiting soon abated, and she gradually returned to her former state of imperfect health. The pulse, however, did not completely regain its regularity before the commencement of the following week."

"The case of poisoning by corrosive sublimate," Dr. Henry observes, "is chiefly interesting from its bearing upon a point of some importance, which was discussed on a trial for murder at the Lancaster assizes in 1808. The defendant, on that occasion, appeared to owe

his acquittal to the fact, that no poisonous substance could be detected after death, in the contents of the stomach or bowels, though the proper tests were applied with great skill and judgment, by Dr. Bostock. It was the declared opinion, however, of that physician at the time, and was afterwards proved by a course of experiments on animals, that a poison may produce fatal effects, and yet be so completely evacuated by vomiting or purging, as to leave no trace discoverable by chemical analysis, in the contents of the alimentary canal. Some time after this period, the following case occurred to my friend Dr. Holme, who obligingly pointed it out to my notice.

"Hannah Tomlinson, aged about 20, was induced by a series of ill-treatment and by the apprehension of pregnancy, to form the resolution of destroying herself. With this view, she poured about a quarter of a pint of hot water on an ounce of corrosive sublimate, and drank the whole of what the water could hold, both dissolved and in suspension. The act of swallowing was attended with a violent spasm of the glottis, and a small quantity of the liquid was rejected from the mouth. In less than half an hour she became extremely sick, and discharged the contents of her stomach. The retching, however, continued, and she threw up a considerable quantity of blood. On the following day the sickness had not abated, though the hæmorrhage had ceased. From this time to the period of her death, which, notwithstanding the most judicious treatment, happened on the sixth day, she continued to labour under sickness, anxiety, restlessness, quick pulse, and universal pain in the limbs. To these symptoms supervened, on the fourth day, great pain about the scrobiculus cordis, and tenderness on pressure; and a few hours before death, a complete paralysis of the upper and lower extremities took place.

"Some of the fluid which had been vomited about twelve hours after she had taken the sublimate was carefully examined by Dr. Roget (now physician in London) and myself. The tests applied were those which are described in my *Elements of Experimental Chemistry*, Vol. ii. page 393; but neither in this liquid, nor in that found in the stomach after death, were any traces of the poison discoverable.

"On the day after her decease, the body was opened by Dr. Roget, in the absence of Dr Holme from town. The external appearance of the stomach and intestines was perfectly natural. About two ounces of a thick yellow ropy fluid were found in the stomach, which was but moderately distended with air. On its inner surface, numerous dark red spots, indicating inflammation of the villous coat, were observable. They extended the whole length of the smaller curvature, and occupied the greater part of the fundus, but did not appear in the lower portion of the large curvature. To me they seemed to resemble, very closely, a similar appearance which I have three or four times observed in the stomachs of persons who have died of hydrophobia. No abrasion of the villous coat was perceptible. The inner coat of the duodenum, as far as the middle of its length, presented the same appearance of inflammation. The lower part of the œsophagus, for about three inches above the cardia, was slightly inflamed, but higher up it was of a natural colour. The liver and spleen were sound; the gall bladder more empty than usual. The left kidney was of a looser texture than natural, and a small

a small abscess was discovered in it filled with pus. The bladder was empty, and exceedingly contracted*. The uterus was of the natural size, and its cavity exhibited no marks of pregnancy. The ovaria were somewhat enlarged, and the left contained several hydatids; but no corpus luteum could be detected in either of them. The heart and lungs, it may be added, were perfectly sound."

Enlargement of the Heart.

"Case 1.—Thomas Leech, aged 20, late a sailor in the Royal Navy, had laboured for nearly three years under palpitation of the heart and shortness of breathing. About two years before, he had been induced, by the urgency of his complaints, to desert from his ship, but had been taken, and sentenced to undergo the punishment of the fleet. His complaints soon afterwards increased so rapidly, that in a short time he received his discharge from service. When I first visited him, on the 23d of April, 1809, as a home-patient of the Manchester Infirmary, his situation was truly deplorable. The pulsation of the heart was felt as low as between the ninth and tenth ribs; was extremely violent, and was attended with that peculiar jarring, which has been described by Dr. Ferriar, and other medical writers. The pulse at the wrist was 128, small and indistinct; the breathing laborious; and every attempt to lie down brought on a sense of suffocation. He was obliged, therefore, to sit with his head reclined upon his arms, which were supported by a table. The belly was considerably swelled; the legs œdematous; and the urine scanty and high-coloured. He had a constant tendency to sickness, and frequently severe pain in the abdomen. His dissolution, indeed, seemed to me so near at hand, that I attempted nothing but to palliate the most urgent symptoms. On the 1st of May he died; and with great difficulty I obtained permission to inspect the body, which was done, under circumstances of haste and interruption from the young man's friends, by Mr. Ransome, one of the surgeons to the Infirmary."

2. William Barlow, aged 16, was seized suddenly with violent pain in the head, and lost the use of the right side. He soon recovered this, however, but was attacked with still more distressing symptoms. The belly and legs began to swell, the breathing became short and laborious. The œdema soon extended to the face, the eyelids, and the scrotum. He had violent cough and spitting; the lips had a livid hue. The palpitation of the heart was considerable, and it appeared to be situated lower than natural; the stroke was indistinct and distant. There was a visible pulsation of the veins of the neck. At the wrist the pulse was small, irregular, rapid, and not always synchronous with the motions of the heart.

* No urine was voided after the third day, and on introducing the catheter repeatedly, the bladder was found empty. Suppression of urine (which took place also in Grice, from an over-dose of one of our most active diuretics), appears to be no uncommon effect of the administration of poisons. Vide Haller, Elem. vii. 396, edit. Lausan, 1778.

The

The appetite was tolerably good; the bowels regular, and the urine natural in quantity.

He died on the 14th of January. "On the following day, the body was opened by Mr. Ransome. The right sac of the pleura contained about a pint and a half of serum; and about nine ounces were found in the pericardium, which had no adhesion to the heart. The heart itself was enlarged, and the parietes of both ventricles were thicker than natural. In the left ventricle, the *columnæ carnæ* were in some places cartilaginous, and in others partially ossified. The right ventricle contained one of those substances which have been erroneously called polypi. But the chief seat of disease was in the right auricle and sinus venosus, which were dilated to twice their natural size, and were ossified in spots. All the valves of the heart, and those at the origin of the large arteries, were healthy. The weight of the heart was 14 troy ounces, perhaps double what it ought to have been in proportion to the size of the subject.* In the abdomen, the only deviation from a sound state of the viscera was an enlargement of the right kidney.

"The pain of the head and paralysis (though not the subsequent removal of the latter), were satisfactorily accounted for on examining the brain. Its membranes were sound, and no hydropic effusion had taken place between them. But in the posterior part of the brain, immediately above the *cornu ammonis* of the left lateral ventricle, an abscess was discovered, containing about two drachms of dark-coloured pus. The ventricles themselves contained, if any thing was remarkable, less than their natural quantity of fluid."

ART. IV. *Case of Deformity of the Face and Throat from Burning, removed by Chirurgical Operations. By* GEORGE NESSE HILL, Surgeon, Chester.

A BOY, eight years of age, was severely burned from the breast bone along the throat, chin, under lip, and left side of the face to the eye. In about nine months the surface of the burned part was cicatrized; and during this process, the integuments, from the upper edge of the sternum to the chin, were formed into a hard ridgy band, near two inches wide, and which every day brought the lower jaw nearer to the breast, so as wholly to preclude the possibility of approximating the inferior to the upper lip; occasioning considerable impediment to speech and a constant dripping of saliva; a dragging of the whole cheek downwards and backwards to the left ear, which was shrivelled. The mischief was augmented by a complete eversion of the inferior eye-lid; and so firm were the parts beneath it become, that the eye-lash lay fixed nearly flat on the cheek, the inner membrane forming, from the shape and unyielding structure of the tarsus, an

* Vide Senac, Traité du Cœur, i. 131.

arched

arched fold, tightly embracing the inferior portion of the globe, and leaving it constantly exposed.

Under these circumstances it was determined, in consultation, to divide, freely, as many of the constricted masses of integument and subjacent parts as would admit of such an operation, and effect the intentions indicated. This Mr. Hill executed in the following manner.

" The hard band which reached from the chin to the sternum, being relaxed as much as possible, by bringing the head forwards and downwards, a large needle, having a considerable curve and cutting edges, was passed through the (comparatively) soft parts behind it, close to the trachea, from one side to the other, including as much lateral skin as possible. Upon this instrument, held firm, the burnt mass was with considerable difficulty divided by a scalpel; the needle being thus freed, a large vein and two arteries which it had cut were taken up, and the farther division of the skin, cellular membrane, and muscular fibres completed laterally, as far as was practicably safe. Thus the stricture was so effectually removed, that our little patient could shut his mouth again with ease; the left angle was also greatly relieved, and the eyelid visibly amended; but so painful and tedious had this operation been, and the loss of blood so considerable, that it was deemed prudent to decline attempting more that day. The wound was dressed with a common dressing, and the head fixed as far backwards as possible, resting against a firm bolstered splint, which reached from the occiput to the coccyx; but in a few days, this method being found unsteady and incapable of admitting the head to be in every situation retained in that position, I contrived a machine from the girls' steel collar, which effectually answered. The wound healed smoothly in seven weeks, all contraction being removed, and but little hardness remaining. The head now resumed its natural position, and the thickened hard lip recovered its true situation, having become much softer. Notwithstanding which favourable change, the machine was still worn, night and day, without inconvenience, in order to keep the muscles and integuments of the throat as much as practicable upon the stretch. The folding or tucking inwards of the mouth, with the depressed and everted eyelid, now became the objects of further proceedings. Accordingly, the head being firmly fixed in the machine, and the heroic boy seated on the knee of an assistant, an incision was made upon the forefinger of the left hand, previously introduced into the mouth, reaching from near the angle of the lips to within a small distance of the ear, through a very hard, almost insensible, mass of scorched integuments, and carried downwards as deep as the parts would admit without dividing the internal membrane of the cheek: thus the puckering or folding inwards was removed, and a space gained sufficient to restore the injured eyelid about half way towards its true place. But in consequence of its long-continued displacement, the membrane had become greatly elongated, and now formed a large fold, impeding perfect restoration. To remedy this defect, having a tenaculum in my hand, I pushed it through a semicircular fold of the superfluous part, which, by one stroke of a pair of scissars, was cut away, the lids now closing nearly as well as those of the

the uninjured organ, independent of any efforts of the patient for that purpose. Prepared sponge being inserted into the wound of the cheek, was suffered to remain there till ejected by suppuration: it cicatrized in about three weeks. To the eye a cold saturnine cataplasm was applied: it healed without trouble. But in defiance of all care, and the unremitted assistance of compresses, adhesive plasters, and bandage, the cheek was no sooner well than a dragging downwards of the lid became every day more evident, which pulled it into an arch or cup-like form; here the tears accumulated and ran over. My little sufferer viewing himself one day in a glass, pointed out where he felt the dragging or tightness at the side of the nose, and a less degree beneath the external canthus. Consenting to have it removed, I took a knife and made a semilunar incision from the nose towards the temple, nearly down to the bone, and filled the wound with sponge tent. The eye was now completely closed, and covered with folded linen, wetted with cold saturnine solution. Upon the sponge coming away, the eyelid was retained by slips of adhesive plaster, carried up to the forehead. In three weeks this third incision was healed; the relaxed parts had greatly recovered their tone; the tears ceased to flow down the cheek."

In the treatment of burns on every part of the frame, but especially about the face and hands, the great object is to prevent those unseemly and incapacitating contractions so apt to occur. With a view to enforce this principle, we insert the following case, given by Mr. Hill, and which is properly contrasted with the preceding.

"Since transcribing the foregoing narrative from my notes, a case of extensive burn of all the right side of the throat, neck, and shoulder, has fallen under my care; the subject a fine, tall, thin girl, 11 years old, and it happened in consequence of setting fire to her tippet when alone up stairs. This garment being tied behind, she could not disembarrass herself from it without coming down for assistance. Cold water was liberally applied before my arrival, I found her quite easy, and directed a continuance of the water, during the preparation of a quantity of the potatoe cataplasm sufficient to cover the whole of the burnt parts. During the first 48 hours after the accident, these were occasionally renewed, and kept constantly cool by means of a sponge, imbued with the drainage liquor from the grated roots; subsequently, a dressing of cerate, softened with sp. tereb. spread on thin lint and covered by fourfold linen wetted with liq. plumb. procured an easy free digestion. But as the mischief was extensive, and the mastoid muscle much injured, I was very anxious to prevent contraction and wry neck. Accordingly, I fixed the head in a similar machine to that already described, so as to preserve the chin in a state of constant elevation; by which method impending disfigurement was completely avoided, and smooth cicatrization obtained in ten weeks.

ART. V. *Account of the good effects from inhaling the Smoke of several species of Datura, especially the Datura Fastuosa, in Asthma.* *By* THOMAS CHRISTIE, M. D.

THIS account is not very accurate; the several species enumerated,

merated in the head of the article, in the body of it, appear to be only two. The author has heard of the relief obtained from smoking the Datura Stramonium in spasmodic asthma; and acquaints us that he has employed the smoke of the *datura* in a variety of cases of asthma, and that it always procured relief when used before the accession of the paroxysm, or even after its commencement; but he is sorry to add, "that it did not often prevent the repetition of the fit, unless great attention was at the same time paid to diet and regimen."

"Its immediate effects were a sense of heat in the chest, followed by expectoration, and attended frequently with temporary vertigo, or drowsiness, and sometimes nausea."

ART. X. *A Case of Rupture of the Lungs in Parturition. By* MR. W. BALFOUR, Surgeon, Edinburgh.

DURING labour, a woman, 25 years of age, had made extravagant voluntary exertion for the propulsion of the fœtus. in these efforts, it appeared that some part of the lungs had given way, and when Mr. Balfour first saw her, the face was tumid. After delivery this tumefaction subsided, but is stated soon to have returned.

"The countenance was now, within half an hour after the separation of the placenta, much swollen, but especially the upper eyelids. The patient pointing to the bronchia, complained of a sense of suffocation, of swelling about the neck, and soreness in the right side of the thorax, toward the upper and back part. A crepitus was distinctly felt in the right arm, and the shoulder, neck, and face, exhibited the same unequivocal symptoms of emphysema. The upper eyelids pressed so hard upon the eyes as to occasion pain. Six or eight punctures were made in them, from which, in a short time, so much air was extricated, that the patient declared she could look up. In a few days the patient recovered."

A similar case has occurred in our own practice A young and healthy woman in her first labour, made great voluntary exertion, which was followed by emphysematous tumour of the face, to a degree that completely obscured the features. It extended in a smaller degree to the neck and shoulders. In twenty-four hours this subsided without assistance from art. In this instance there was no pain in any part of the lungs, indicatory of a point where a rupture had taken place.

ART. XII. *Case of Suppression of Urine, from Inflammation of the Neck of the Bladder, brought on by the improper use of Injections, and cured by the use of Camphor. By* MR. HAMILTON BAILLIE, Surgeon, R. N.

THIS alarming case succeeded to a gonorrhœa which ap-

peared on the 20th of January. On the 23d the patient, a plethoric sailor 21 years of age, used an injection of a weak solution of sulphate of lime. On the 28th a suppression of urine took place. At four o'clock in the morning of the 1st of February delirium came on, the pulse was very feeble, and quick; and some paralysis of the lower extremities. As it was judged that the inflammation about the neck of the bladder had subsided, it was hoped that the catheter might be passed into the bladder; but from the distress occasioned by the former unavailing attempts, the patient refused to submit to the trial. In this extremity, it was proposed by Mr. T. King, assistant surgeon, to employ camphor; which was given in doses of ten grains every hour. A few minutes after the patient had taken the third dose, an involuntary discharge of urine took place, the pulse becoming fuller and slower: and by the time he had taken the fifth dose, several pints of urine, the greater part discharged involuntarily, were voided. The camphor was then discontinued, and in a few hours every unpleasant symptom disappeared.

ART. XIII. *History of three Persons who were nearly suffocated, and of one who perished, from the irrespirable Gases arising from a Coal Fire. By* DAVID KING, M. D.

THE subjects of the symptoms described by Dr. King were sailors, who were affected in consequence of a fire having been kindled in the hold of their vessel, and their neglecting to leave the hatches open. The cases are well related, but will not admit of being abridged.

HORTUS ELGINENSIS; *or a Catalogue of Plants, indigenous and exotic, cultivated in the Elgin Botanic Garden in the vicinity of New-York.* By DAVID HOSACK, M. D. Prof. of Botany and Materia Medica in Columbia College, Member of the American Philosophical Society, &c. 2d Edit. 8vo. New-York. 1811. Plate. pp. 65.

A Statement of Facts relative to the Establishment and Progress of the Elgin Botanic Garden, and subsequent Disposal of the same to the State of New-York. By DAVID HOSACK, M. D. &c. &c. &c. 8vo. New-York. 1811. pp. 56.

THE cultivation of plants, and the construction of a garden, seem so congenial to the nature of man, that no surprize is felt on observing him, from the earliest period of his existence

istence through all subsequent times, applying to this delightful avocation. From the first garden, the terrestrial Paradise, where

" Universal Pan,
" Knit with the Graces and the Hours in dance,
" Led on the eternal Spring,"

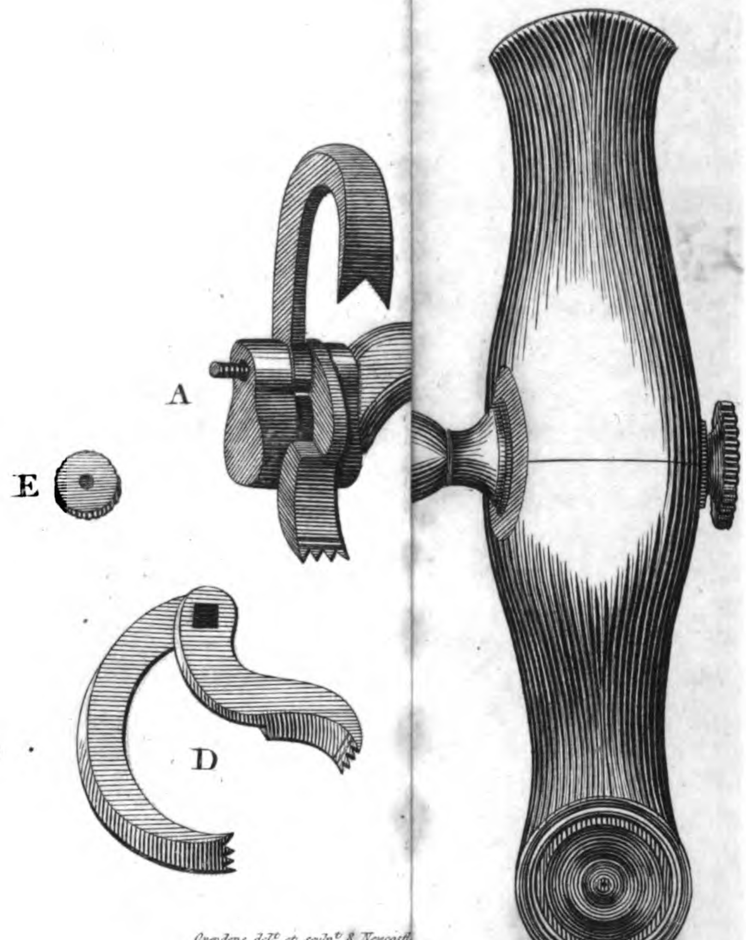
tradition or history has afforded details of this art. If it cannot be proved it can hardly be admitted, that the gardens of the Hesperides, of Adonis, and Alcinous, flourished no where but in song: or that Solomon, who was so well acquainted with all vegetables, possessed no other garden but that which was planted by Cotovicus in the *Itinerariuni Hierosolymitanum*. If these, indeed, were the visions of the muse, or the fabulous creation of faithless historians, authentic records yet remain of cultivated collections of plants, existing at a very early period, and bearing the semblance of infant science. Attalus the 3d, and the last king of Pergamus, was remarkable for having fled from the cares of government to cultivate a garden, 140 years before the Christian æra. In this garden he grew many poisonous plants, for the purpose of making experiments on criminals, with a view to ascertain the properties and powers of counterpoisons. Both Pliny and Galen speak of a Greek named Castor, who had a garden at Rome, in which, when he was an hundred years old, he demonstrated plants, and taught his pupils to distinguish rare and useful species. When learning revived from its long and gothic torpor, the study of Botany was among the earliest efforts of intellect: and the collection, culture, and arrangement of plants, was one of the first of the means employed to restore, or to create, this science. A botanic garden, formed at Padua in 1533, is intitled to the honourable circumstance of being the first public institution of this kind in modern Europe. Lucas Ghinus, a botanical physician, called by Matthiolus another Dioscorides, was not only an early promoter, but the first Professor of Botany in Europe, and taught the science in the schools of Bologna from 1527 to 1555; where by the force of his arguments and the influence of his reputation, he procured a public garden to be established in 1547. This, which followed that of Padua so closely, was, probably, the second establishment of the kind. As the mind became more enlightened in the study of nature, the utility of these collections, where the growth, the habits, and changes in vegetable life might, at leisure, be observed, became still more obvious. Individuals, as well as Colleges and Universities, rapidly multiplied this method of studying Botany,

tablishment and Progress of the Elgin Botanic Garden," an opportunity is afforded of contrasting the love for science, and the ardent perseverance of Dr. Hosack, with the neglect and frigid procrastination of the Legislature of the State of New-York. The liberality and candour of the individual is finely opposed to the cold, calculating, trading spirit of the public body. After a higgling delay of some years, the Garden with its plants, stoves, and conservatories, of which a pleasing view is given in the *Hortus*, has been conveyed to the State.

No region of the earth seems more appropriate to the improvement of Botany, by the collecting and cultivating of plants, than that where the Elgin Garden is seated. Nearly midway between the northern and southern extremities of the vast American continent, and not more than 40 degrees to the north of the equator, it commands resources of incalculable extent; and the European Botanist will look to it for additions to his catalogue of the highest interest. The indigenous Botany of America possesses most important qualities, and to that, we trust, Prof. Hosack, the projector, and indeed, the creator of this Garden, will particularly turn his attention. It can hardly be considered as an act of the imagination, so far does what has already been discovered countenance the most sanguine expectations, to conjecture, that in the unexplored wilderness of mountain, forest, and marsh, which composes so much of the western world, lie hidden plants of extraordinary forms and potent qualities.

From the scientific spirit and persevering industry of Dr. Hosack, every thing may be augured. Already has he projected an AMERICAN BOTANY, or a *Flora of the United States*, to be illustrated with coloured Plates, similar to those in the "*English Botany*" of our ingenious countryman, Dr. Smith. Considerable progress, we are informed, has already been made in obtaining materials for this work; but we regret that its completion depends on a contingency—the permanent preservation of the Elgin Botanic Garden. In the madness of political contention, in the apathy with which governments contemplate the advance of science, in the illiberal finesse and the low juggling of party, we may look for the occasional destruction or suspension of every rational project; but we hope these accidents will not frustrate the enlarged and enlightened intention of Dr. Hosack, but rather induce him to extend his *Flora*, and make the whole of the American continent his GARDEN.

MEDICAL



Ovendens, del.t et sculp.t 8. Newcastl

Published Aug.st 1811.

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

Description of Simpson's Tooth Instrument.

(With an Engraving.)

A B, two projecting extremities of a spindle which goes through the shank of the instrument, the part on which the two claws operate being perfectly square, the hole of the lower claw being round and large enough to admit of the free action of the spindle. C, the finger or thumb piece being attached to the extremity of the spindle B, gives the operator complete command of the upper claw, and enables him to place it with certainty on the most difficult stump without the introduction of his fingers into the mouth of the patient; and does away every danger of bruising or lacerating the gum, as there is no pressure on any part but the tooth he wishes to extract. Should the operator in any case prefer the bolster, he can withdraw the lower claw by drawing back the finger piece C, it then becomes the usual instrument, with the advantage of the claw being under the command of the fore-finger or the thumb of the hand in which the operator holds the instrument. D, the two claws as they appear when taken from the instrument; E, a small screw for going on the extremity of the spindle A.

The instrument above described is invented by Mr. Simpson, an ingenious manufacturer in the Borough: we have seen it employed, and have ourselves had some experience of its facility in application, and precision in action. We believe it to possess decided advantages over any other instrument employed for extracting teeth; and do not hesitate to recommend it to the notice of the profession. Editors.

Royal Society, May 20.—The reading of Mr. Travers' paper was concluded. It consisted of a summary of his experiments on wounds made into the cavity of the body, as it has been called. By these it appeared that the part denominated a cavity is always so extremely full, that no extravasation can take place in consequence of an horizontal or longitudinal puncture of the intestines, as in one case the lips of the wound are closed by pressure and cohesion, and in the other by inflammation.

The 13th of June, an account was read of a fœtus having been taken from the body of a woman, where it had remained 52 years. The narrative was written by Dr. Chester, who examined the body after death. The woman was a native of Gloucester, had been taken in labour as usual, but owing to the unskilfulness* of the midwife was not delivered. A surgeon was sent for; but when he arrived, the action of the uterus had subsided; in a few days the woman got well, and lived to the age of eighty, without having been delivered of the fœtus, when she died of

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* It is probable this singular termination of labour was not influenced by the unskilfulness of the midwife, as the reporter states, but depended on a circumstance she might not foresee, nor if she had, could she have obviated.

paralysis.

paralysis. Dr. Chester having learned the history of the case, opened the body, and found an ossified globe which contained the perfect child, the arms and legs of which were somewhat compressed by this osseous mass, and in some parts absorption had taken place. The fœtus was livid, but not putrid: the bony shell in which it was enveloped was thick and hard. This report (Phil. Mag.) is defective, inasmuch as it does not state the cavity in which the osseous mass was found. It was, probably, external to the uterus in the cavity of the abdomen, and was, perhaps, an extra-uterine fœtation, or one of those cases which arise from retroverted uterus of the latter period of pregnancy, which have been so clearly explained by Dr. Merriman.

A paper on the *alcohol* of wine was read by Mr. Brande. The object was to refute or confirm the opinion of Fabrioni, that *alcohol* is a product of distillation, and not an essential part of the vegetable liquor. He gave a table of the quantity of *alcohol* contained in various wines and malt liquors; the highest was, that of Marcella wine, which contained 26 per cent of alcohol; red Champagne, 20; Port, from 20 to 24; Madeira, 19; Claret, 15; Cider and Perry, 12; Ale, 9; Brown Stout, 8; Porter, 6.

Royal Society of Edinburgh.—March 4, Mr. Allan read a paper on the rocks of the environs of Edinburgh, being the first of a series which he proposes to read on the subject. The present embraced the rocks of St. Leonard's Hill and Salisbury Craig. April 1, Dr. Brewster read a description of an instrument for measuring capillary attraction.

Wernerian Society.—April 27, Prof. Jameson read a paper concerning the geognostic relations of the Iceland crystal. The Secretary communicated an account of the *Colymbas Immer*, or Ember Goose, by Dr. Edmonston, of Shetland. Dr. Gordon read an interesting paper, consisting of observations and experiments on the qualities and sensations of sound; on the different modes in which sonorous vibrations are communicated to the auditory nerve; on the idea of the distance, and of the angular position of sounding bodies with respect to the ear, which are assosiated by experience with the different qualities of sound; and on some of the more remarkable differences in the *Sense of Hearing*, both original and accidental, which are occasionally observed among individuals, and in particular, on the musical ear.

Royal Medical Society of Edinburgh.—This Society will give a set of books, or a medal of five guineas value, to the author of the best essay in answer to the following question.

"*Does any decomposition of Acids and Alkalies take place in their uniting to form neutral salts, according to an opinion advanced by Mr. Davy in respect to the Muriates?*"

The Dissertations are to be written in English, Latin, or French, and to be delivered to the Secretary on or before the 1st of December, 1812. To each Dissertation must be affixed a *motto* to be written also on the outside of the sealed packet, containing the name and address of the author. No Dissertation will be received with the author's name

affixed

affixed; and all Dissertations, except the successful one, will be returned if desired, with the sealed packet unopened.

The adjudication of the *prize* will take place in the last week of February 1812.—Honorary, extraordinary, and ordinary Members of the Society are alone invited as candidates.

Harveian Society of Edinburgh.—This Society resuming its accustomed plan of giving a copy of the 4to. edition of Harvey's works, published by the College of Physicians of London, for the best Dissertation on a subject proposed by the Society, has published the following *Questions* for competition.

For this year, 1811. *An Experimental Analysis of Diabetic Urine.*

For the year 1812. *An Experimental Essay on the best method of preparing a Soporific Medicine from the Lactuca Sativa.*

For the year 1813. *An Experimental Essay on the Effects of the Succus Spissatus Lactucæ sativa on the Human Body.*

Dissertations on the subject for 1811 must be transmitted to Dr. Duncan, senior, Edinburgh, principal Secretary to the Society, on or before the first of January, 1812. Each Dissertation must be accompanied with a sealed letter containing the name and address of the author, and marked on the back with a particular motto. The same motto must be prefixed to the Dissertation to which the letter belongs.

Royal Society of Harlem, continued from p. 82.—The following question was proposed for answer before the 1st of January, 1813. "Un catalogue exact des mammifères, des oiseaux, et des amphibies qui, n'étant pas des espèces transportées d'ailleurs, se trouvent naturellement dans ces pays-ci, contenant leurs différens noms en différentes parties de ce royaume, et leurs caractères génériques et spécifiques, décrits en peu de mots suivant le système de Linné, avec indication d'une ou plusieurs des meilleurs représentations de chaque animal?"

The Society then proceeded to determine upon the answers to the questions relating to natural and moral philosophy which had been proposed for the year 1809; and after rejecting some, and rewarding others, with the appropriate medal, it offered additional prize-questions on these subjects for 1812.

The following day, May 20th, the Society renewed its sitting, and determined upon the answers to questions in literary and antiquarian sciences.

The following questions continue to be proposed for an unlimited time.

I. "Qu'est-ce que l'expérience a appris concernant l'utilité de quelques animaux qui sont en apparence nuisibles, surtout dans les Pays-Bas, et quelles précautions doit-on observer à l'égard de leur extirpation?"

II. "Quelles sont les plantes indigènes le moins connues jusqu'ici par leur vertu, que l'on pourrait employer avec utilité dans nos pharmacopées, et qui pourraient remplacer les remèdes exotiques?"

III. "De quelles plantes indigènes, qui ne sont pas en usage jusqu'ici, pourrait-on se servir pour une bonne nourriture et à bas prix; et quelles plantes nourrissantes exotiques, ou qui se trouvent dans d'autres pays, pourrait-on cultiver ici dans le même but?"

IV. "Quelles plantes indigènes, qui sont inusitées jusqu'ici, peu-

vent, d'après des expériences bien confirmées, donner de bonnes couleurs, dont la préparation et l'usage pourrait être introduit avec profit; et quelles plantes exotiques pourrait-on cultiver avec profit dans des terres moins fertiles ou peu cultivées de cette république, pour en extraire des couleurs?"

V. "Que sait-on actuellement du cours ou de mouvement de la sève dans les arbres et dans les plantes? De quelle maniere pourrait-on acquérir une connoissance plus complette de ce qu'il y a encore d'obscur et de douteux à cet égard?"

The Society repeats, that it determined at the anniversary meeting in 1798 to consider at each subsequent anniversary, whether any of the papers transmitted to it (not being answers to prize-questions) on subjects of natural history or natural philosophy, merit a particular gratification; in which case it will be rewarded with a silver medal, and ten ducats. Authors are requested to make their communications as short as the nature of the subject will permit.

Answers to the prize-questions may be written (in *Italic* characters) in Dutch, French, Latin, or in German; they must appear to be written in the author's own hand-writing; his name and address must be given in a sealed note, and forwarded to M. Van Marum, perpetual Secretary to the Society.

BOTANICAL REPORT.

The physiology of vegetables has been but little prosecuted in this country of late years, considering its great importance, though Dr. Grew in the 17th century laid a valuable foundation for this study. The French botanists have pursued the subject with more ardour. It has not been however by any means totally neglected here. Mr. Knight in particular has applied himself with great assiduity to this subject, and, in various papers published in the Philosophical Transactions, has, we think, thrown more light upon the theory of vegetation than any of his predecessors, at home or abroad. Nor should the labours of Mrs. Ibbetson in this line be passed unnoticed. This ingenious lady has made a number of very interesting observations and experiments, which certainly throw light upon the subject, but the very high magnifying power she uses, aided by the warmth of her imagination, seems often to have led her into the regions of fancy; and the little knowledge she has of what has been already done, and even of the terms used by preceding writers, throws an obscurity over her writings, which makes it very difficult to understand them.

Mr. Knight's opinions and observations, though highly luminous and satisfactory with regard to the immediate subject of this inquiry, yet being written at different times, and with a particular view to the illustration sometimes of one point and sometimes another, are not easily connected together, so as to form in the mind a clear idea of his theory. We suppose that this difficulty has been felt by many, as well as ourselves; and some of his friends have urged him to give a connected view of his theory of vegetation, which he has done in a very satisfactory manner in a paper upon the

culture

culture of the Melon, in the Transactions of the Horticultural Society, published at page 217 of their first volume. Of this theory, as there delivered, we shall attempt to give a concise view, nearly in the words of the author.

" In the organs of the seed, but principally in the cotyledons, as much of the concrete sap of the parent plant is lodged as is sufficient to feed its offspring, till that has attached itself to the soil, and become capable of absorbing and assimilating new matter. The organizable matter probably exists in the cotyledons of the seeds, in the same state as it exists in the alburnum of trees; and, like that, it apparently undergoes considerable changes before it becomes the true circulating fluid of the plant. In some it becomes saccharine, in others acrid and bitter during germination. In this process the vital fluid is drawn by the caudex of the plumule, or bud, through vessels which correspond with those of the bark of the future tree; and are indeed cortical vessels.

" From the point of the caudex (erroneously called the *radicle**) springs the first root, which is, at this period, without alburnum; and, if uninterrupted by obstacles in its way, constantly descends in a straight line towards the centre of the earth, in whatever situation the seed may happen to be placed.

Soon after the first root has been emitted, the caudex elongates, and takes a direction directly opposite to that of the root; and in many plants, raises the cotyledons out of the ground, which then become the seed-leaves of the plant. During this period the young plant derives its nutriment almost always from the cotyledons or seed-leaves; and if those are destroyed, it perishes.

" The bark of the root now begins to deposit alburminous or woody matter; and, as soon as it is formed, the sap, which had hitherto only descended through the cortical vessels, begins to ascend through the alburnum. The plumule in consequence elongates, its leaves enlarge and unfold; and a set of vessels, which did not exist in the root, are now brought into action. These, which I have called the central vessels, surround the medulla, and, between it and the bark, form a circle upon which the alburnum is deposited by the bark, in the form of wedges, or like the stones of an arch. Through these vessels, which diverge into the leaf-stalks, the sap ascends, and is dispersed through the vessels and parenchymateus substance of the leaf. And in this organ, the fluid, recently absorbed from the soil, becomes converted into the true sap or blood of the plant. And, as this fluid, during germination, descended from the cotyledons and seed leaves of the plant, so it now descends from its proper leaves, and adds, in its descent, to the bulk of the stem and the growth of the root. Alburnum is also deposited in the stem of the plant below the proper leaves, as it was previously deposited below the seed-leaves. And from this spring other cen-

* It was this term of *radicle* which misled Mrs. Ibbetson, who understood by it, the *root*; and is surprised that botanists should speak of a part, as existing in the embryo of the seeds, which she declares never can exist prior to germination.

tral vessels, which give existence to, and feed, other leaves and buds.

"A portion of the true sap appears, in its descent down the bark, to secrete into the alburnum, through passages correspondent to the anastomosing vessels of the animal economy. Hence the ascending fluid becomes mixed with a portion of the descending sap in the alburnum.

"The full-grown leaves prepare the fluid which generates other young leaves, the health and growth of which are as much dependant upon the full-grown leaves, as those, when first formed, were upon the cotyledons.

"The power of each proper leaf to generate sap, in any given species and variety of plant, appears to be in a compound ratio of its width, its thickness, and the exposure of its upper surface to the light in a proper temperature. The mature leaves increase rapidly in proportion to the young leaves, and the creation of sap consequently exceeds the expenditure. It is therefore accumulated during a succession of weeks, or months, or years, according to the natural habits and duration of the plant; and varying considerably according to the soil and climate. The sap, thus generated, is deposited in the bulb of the tulip, in the tuber of the potatoe, in the fibrous roots of grasses, and in the alburnum of trees, during winter; and is dispersed through their foliage and bark during the spring and summer.

"When the plant has attained puberty, a portion of its sap is expended on its blossoms and fruit, which are fed by vessels apparently similar to those of the succulent, annual shoot and leaf-stalk, and which probably convey a similar fluid; for a bunch of grapes grew and ripened, when grafted on a leaf-stalk.

The fruit or seed-vessel appears to be generated always by the prepared sap of the plant, and its chief office to be to adapt the fluids to the proper nourishment of the seed.

Mr. Knight has illustrated the above theory by an application of it to the culture of the melon; a fruit which is often found to be so defective in richness and flavour, as to be hardly worth cultivating. This defect Mr. Knight found by experiment to be owing to the want of a sufficient number of leaves, exposing their upper surfaces to the light. For the stems and foot-stalks of the melon under the hot-bed frame are so weak, that when the leaves are displaced from their proper position, they are not able to regain it. This observation led him to direct that more care should be taken to preserve the leaves in their natural position, with the upper surfaces exposed to the light, which was effected by the aid of little wooden hooks, with which the trailing stems, and even the footstalks of the leaves were secured in their proper places; and by avoiding pouring the water in the usual way upon the leaves of the plant; using instead of a common watering pot, one with a spout adapted for pouring the water upon the tiles which cover the bed without touching the leaves. By this management Mr. Knight found that his melons were no longer defective in richness and flavour.

It may be of use to mention here, that the variety of melon which Mr. Knight exclusively cultivates, on account of its superior flavour, and which we believe is little known to cultivators in general, is the one that was imported by Mr. J. Hawkins from Salonica. The form of this variety is nearly spherical, without any depressions upon its surface. It is of a golden colour, and its flesh perfectly white. This kind, Mr. Knight says, continues to improve in flavour and richness till it becomes externally soft, and betrays some symptoms of decay. The consistence of its flesh is then nearly that of a water melon; and its taste so sweet, that few will think it improved by the addition of sugar. The weight of a good melon of this variety is about seven pounds.

The tenth volume of the Transactions of the Linnæan Society is published.

Dr. Smith has given us a translation of Linnæus's Tour in Lapland, now first published from the manuscript journal. It is in two volumes octavo, and is illustrated by wooden cuts, being fac-similes of the pen and ink sketches in the original.

A journal of a (botanical) Tour in Iceland, by Mr. William Jackson Hooker, is printed, but not published.

The first volume of the Transactions of the Wernerian Society, Edinburgh, is only interesting to the botanist, on account of a paper on the natural order of *Contortæ* of Linnæus, by Mr. Brown, of which we hope at a future time to give some account to our readers.

NATURALIST'S MONTHLY REPORT.

JUNE.

FLOWERING MONTH.

The martial pea observe,
In square battalion rang'd, line after line,
Successive; the gay bean, her hindmost ranks
Stript of their blossoms; the thick-scatter'd bed
Of soporific lettuce.

On the 1st and 2d of the month the wind was east in the morning, and westerly towards the latter part of the day; on the 3d westerly; on the 4th and 5th south-west; from the 6th to the 9th westerly; on the 10th south-west; on the 11th and 12th westerly; on the 13th and 14th south-west; on the 15th westerly; on the 16th south-west in the morning, and north-west in the evening; on the 17th easterly; on the 18th south; on the 19th easterly in the morning, and in the afternoon north; on the 20th and 21st easterly; on the 22d, 23d, and 24th, north-east; on the 25th, 26th, 27th, easterly; on the 28th south-west; and on the two last days of the month easterly.

There were strong gales on the 4th, 6th, 10th, and 12th, and fresh gales on the 8th and 9th. I do not recollect to have heard any thunder during this month. There were heavy showers in the morning of the 2d; and rain, more or less, on the 5th, 20th, 24th, 28th and 29th.

June 1st. The same singularity with respect to the tides, which w spoken of in all the public prints, occurred along the coast of Hampshi this day, to the great astonishment of all who witnessed it. This pl nomenon I have not yet (July 22d) seen accounted for.

June 3d. The bloom of the hawthorn is nearly all gone, having b in a great measure beaten off by the late heavy rains.

June 4th. The hay-harvest has commenced, but the weather is very favourable.

The following wild herbaceous plants are now in flower:—Comm buckbean *(menyanthes trifoliatum)* mouse-ear scorpion-grass *(myo arvensis)*, yellow water lily *(nymphæa lutea)*, narrow-leaved pond-w *(polygonum amphibium)*, black bind-weed *(polygonum convolvulus)*, c mon broom rape *(orobanche major)*, and long-storked crane s-bill *(g nium columbinum.)*

June 7th. Mackarel have been caught in tolerable quantity along coast. They are small, and are selling for ninepence per dozen.

June 8th. The pods of furze crack, and throw out their seeds. stamina of the flowers of the nettle throw out their farina. The this by a sudden expansion; and, in the sun-shine, the appearan not unlike that of the explosion of so many grains of gun-powder.

June 9th. I this day saw a saffron-coloured butterfly on the which most probably was the clouded yellow species *(papilio edu* Linnæus and Haworth), but its flight was so rapid that I coul perfectly distinguish it.

June 10th. The rivers are much discoloured by the rains which fallen in the country to the westward and northward.

June 12th. The farmers are beginning to carry and stack their h

June 16th. Cherries are gathered. Wheat is in flower.

June 18th. The cuckoo begins to stammer.

In the evening of this day mackarel were again caught. For s days past the shoals have kept at such a distance from the shore the seine nets of the fishermen could not reach them.

June 20th. Wheatears are in great numbers on the heaths.

June 22d. There was this morning a very sharp white frost.

June 24th. I remarked an immense number of swallows and m flying about over a large field of pease. They were no doubt att to that particular spot by the insects that abounded there, of whic must have devoured myriads. The utility of these and other b thus checking the ravages of what is commonly termed blight, is culably great.

June 26th. The leaves of several kinds of forest trees, particula elms and limes, have been shrivelled up by the late cold winds in the manner that the foliage was two years ago, but by no m the same extent.

July 28th. Some shoals of white mullet come into the harbour

June 31st. The musk thistle *(carduus nutans)*, common tansy *(tum vulgare)*, climbing fumitory *(fumaria claviculata)*, marsh St. wort *(hypericum elodes)*, common St. John's wort *(hypericum tum)*, ragwort *(senecio Jacobæa)*, greater daisy *(chrysanthemum themum)*, and corn marigold *(chrysanthemum segetum)* are in flo

Hampshire.

METI

METEOROLOGICAL TABLE.

From June 27, to July 27.

D	Therm.	Barom.	Hygrom. dry	Hygrom. damp	Winds.	Atmo. Variations.
27	63 67 65	29^{8} —^{9}		36 40 41	NE.	R ... C ... — ....
◐ 28	65 68 66	29^{9} —^{8}		58 60 6[illegible]	NE.	C....R...—...
29	65 67 66	29^{8} —		66 64 6[illegible]	E.	C ....— ... — ...
30	63 66 65	29^{8} —		65 61 6[illegible]	NE.	C .... — .... — ...
1	63 67 66	29^{8} —		64 59 6[illegible]	NE.	C ... — .. — ...
2	66 72 68	29^{8} —^{9}		60 54 [illegible]	NE. SE.	C....- R. C... R..
3	63 61 56	29^{9} 30^{1}		62 — [illegible]	NE.	[illegible].... R... C... — .
4	55 59 57	30^{1} —		49 48 49	NE.	F .. C .. R . F ..
5	56 66 58	30^{1} —		56 65 [illegible]	NE. NW	F .. — .... — ..
○ 6	60 69 62	30 —		25 20 2[illegible]	W ..	F .... — ... — ...
7	62 66 60	29^{9} —		35 30 —	NE.	C .. F.... — ...
8	57 70 60	29^{9} —		30 15 2	NE ..	C .. F .... — ....
9	63 70 6[illegible]	30 —		30 20 2[illegible]	NE . E.	F .. — ... — ...
10	63 77 65	30 30^{1}	— 2 —	30 — 15	W. E.	C .. F ... R . F ..
11	65 77 66	30^{1} —	— 9 1	25 — —	W .	F ... — .... — ...
◑ 12	63 80 67	30^{1} 30	— 15 —	20 — 6	W ..	F .... — .... —....
13	64 75 66	29^{9} —		24 12 31	W .	C ... — .. F.. R...
14	64 65 63	29^{8} —		38 27 30	W . . SW ..	C ... — . — ...
15	63 70 65	29^{9} —^{8}		27 — 35	S . .	C.... R. C... C....
16	65 70 62	29^{9} —	— 2 —	36 — 15	W . . SW ..	C ... F .... — ....
17	63 72 64	29^{9} —	— 1 —	27 — 13	S . .	F .. —...C... R ..
18	65 72 68	29^{8} —		27 12 18	SE . . SW .	F...-....C.. R. -....
19	68 74 64	29^{7} —^{9}	— 2 —	34 — 7	SW ..	C .. F.... — ....
◐ 20	63 — 59	29^{9} 30		16 26 30	SW ..	C ... R...—...—...
21	56 — 55	30 29^{9}		40 — —	SW .. W ..	R ... -- ... — ...
22	59 69 61	29^{9} 30^{1}		45 24 27	W .	R .. F ... — ...
23	58 67 63	30 —		33 15 25	W . . NW ..	F ... — .... C ..
24	61 74 64	30^{1} —	— 10 —	16 — 12	W . .	F ... — .... — ....
25	61 73 67	30^{2} —		25 7 15	W . .	F... —.... —....
26	63 71 66	30^{2} —		25 — 17	W .	C ... F .... — ....
27	64 73 68	30^{1} 30		25 12 22	NW.	F ... — .... — ...

The quantity of rain from June 27, to July 27, 3 inches $\frac{22}{100}$. The prevailing wind has been N. E. from which it has blown 12 days, and very frequently with a clouded or hazy atmosphere, particularly on the 29th and 30th of June, and on the 1st, 2d, and 3d of July. 19th, Thunder. Though the Therm. was, with the exception of the 2d, always below 70 on these hazy days, the quality of the heat was unusually oppressive.

Princes Street, Cavendish Square

MONTHLY CATALOGUE OF MEDICAL BOOKS.

Cheselden's Plates of the Human Bones, correctly reduced from the original copy, accompanied with explanations. 12mo. Cox.

An Account of the Ravages committed in Ceylon by the Small Pox, previously to the Introduction of Vaccination: with a Statement of the Circumstances attending the Introduction, Progress, and Success of Vaccine Inoculation in that Island. By Thomas Christie, M. D. 8vo. Murray.

History

History of the Walcheren Remittent; commencing with its advanced state, when most dangerous and destructive to the Soldiery, and concluding with its very favourable Termination, effected by those means first proposed by the Author only to the Legislature, and to the late and present Army Medical Board, with the Morbid Appearances on Dissection. Also the Sequels, Anæmia acholia, Egyptian Ophthalmia, &c. &c. &c. By Thomas Wright, M. D. and M. R. I. A. 8vo. Callow.

A Syllabus of a Course of Lectures on the Institutes and Practice of Medicine, delivered by Joseph Adams, M. D. F. L. S. 8vo. Callow.

A Syllabus of a Course of Lectures on Pharmaceutic Chemistry, delivered by John Ayrton Paris, M. B. F. L. S. 8vo. Callow.

A Treatise on the Gout; containing the opinions of the most celebrated ancient and modern Physicians on that disease; and Observations on the Eau Medicinale. By John Ring, Member of the Royal College of Surgeons in London, and of the Medical Societies of London and Paris. 8vo. Callow.

NOTICES TO CORRESPONDENTS.

We are much obliged to our friend Dr. J. C. Warren, of Boston, New England, for the tracts which he has forwarded to us; and assure him that his future Communications will be highly acceptable.

From the Signature he has adopted, we do not suppose our Correspondent Ἀπὼν Δυσμενὴς expected that we should insert his facetious letter; on another occasion we shall hope to avail ourselves of his classical pen.

We are much indebted to Lincolniensis for the information contained in his note, and shall be most willing to lay before the public any facts on the subject, authenticated by his real name, and expressed in temperate language.

A pressure of matter, either temporary, or having a prior claim, must afford an apology for us to our friendly correspondent, Mr. Knowles, for not inserting his communication this month. In the next Journal it certainly will appear.

As the subject on which W. H. writes has already had considerable discussion, we trust, he will excuse our inserting his note. As he states himself to be a young practitioner, we may, perhaps, be pardoned for recommending to him an investigation of the local circumstances of his residence, which we understand to be in a remote part of the island. These local circumstances will be comprehended in what may be called a medical Topography, and will consist of a Flora of his neighbourhood; its natural history as it regards quadrupeds, birds, fishes, and insects; the atmospherical peculiarities; the waters and soils; the prevalence of endemial and epidemical diseases; the veterinary art and diseases of cattle; empiricism and nostrums peculiar to the place, &c. &c. &c. On any of these subjects we shall be glad to hear from him. We take this opportunity of representing generally to our Correspondents the importance of collecting facts on the preceding subjects, as affording a direct means of elucidating the actual state of medical science throughout the Empire, of improving its practical part, either by correcting errors, promulgating successful modes of treatment, or by bringing under public notice efficacious cuporistic and popular remedies.

Mr. Hume's Observations on the Eau Medicinale d'Husson will appear in our next Number, as will Mr. Tegart's case of Small-Pox, and also histories of some anomalies in that disease, with Remarks by Medicus.

Communications are received from Dr. Dickson, Mr. Smith, Veritas, Mr. Harrup, Mr. Sur, Mr. Davies, Mr. Want, &c. &c. &c.

Mr. Harrold will see his wish complied with in this Journal; and the Editors assure him they will have much satisfaction in giving a place to his further statement of the Case of Newland, with the elucidations that dissection afforded.

CORRIGENDA.

Page 16, line 19, for *thinner* read *thicker.*

Printed by E. Hemsted, Great New Street, Fetter Lane.

THE

Medical and Physical Journal.

VOL. XXVI.] SEPTEMBER, 1811. [NO. 151.

Printed for R. PHILLIPS, by E. Hemsted, Great New Street, Fetter Lane, London.

To the Editors of the Medical and Physical Journal.

Case of Small-Pox after Vaccination; by A. TEGART, *Esq.*

GENTLEMEN,

IN November, 1801, I was desired to vaccinate the only son of Sir Henry Martin, bart. of Harley-street, who exhibited all the usual marks of that disease, in the most complete and satisfactory manner; in saying so, at this distance of time, I do not affect to lay a stress upon my particular recollection of the case in question, but I may be permitted to observe, that in a practice tolerably extensive I never allowed any patient to pass through my hands, as having received the benefit of this important discovery, who had not shewn all the signs of the disease, with its usual distinctive characters. A strong and marked eschar now remains on the arm vaccinated, and Sir Henry Martin tells me, that an eminent professional gentleman saw the child during its progress through the disorder, and considered it as a very fine specimen of the complaint. On this subject, therefore, not a doubt rests on my mind, of the patient having had the cow-pox constitutionally at the time above mentioned. From that period until the present time, the child enjoyed good health, except hooping-cough, which he had favourably, and which still continues in some degree. No other infantile disease took place, but at school about a year ago, the tinea capitis was prevalent; he was affected by it, and at this time is not entirely free from its influence.

I should observe here, that both Sir Henry and Lady Martin suffered severely from the small-pox, the former by inoculation, the latter in the natural way, and that they lost their eldest son in that disorder.

On Monday, the 24th of last June, I was desired to see Mas-

ter Martin, now in his tenth year, and the account I received from Lady Martin was as follows: that on the preceding Saturday he complained of not being well, was drowsy and heavy, but this did not prevent him accompanying his mother to see the apartments at Carlton House on that day. On the following day, Sunday, he walked out as usual, but on his return felt chilly, and declined his dinner; in the evening became hot and restless, and in the night was very feverish, but appeared much better again on Monday morning. In the afternoon of this day, when I first saw him, he complained very much of headach and pains in his limbs; he had just been sick at his stomach, his skin was hot, his eyes flushed, and upon inquiring, I found that his throat was slightly inflamed.

Under these circumstances I desired he might be put to bed, and directed him to take two grains of calomel, and the same quantity of antimonial powder, and that at intervals he might take saline medicines.

On Tuesday, the 25th, I found he had passed a very restless night, with fever and slight delirium; these symptoms all abated during the day, but in the evening increased considerably; he rambled much in the night, and in the morning of Wednesday, the 26th, an eruption was observed on the upper lip and forehead; he coughed a good deal, and the light became painful to him.

With these symptoms, little doubt was then entertained, that the eruption would prove to be the measles. Saline and antimonial medicines were given at this time; in the evening there was a considerable increase of fever, he passed another very restless night with a recurrence of the delirium. In the morning of Thursday, the 27th, he appeared very much better, the fever had greatly abated, but the eruption which now nearly covered the face, had extended to the extremities, and had put on a more distinct form, and conveyed the idea of an aggravated kind of chicken-pock, the pustules appearing to be surrounded by a reddish margin.

On the evening of this day, from an accidental circumstance, I did not see the patient; I was informed, however, that he passed a very restless night.

On Friday, the 28th of June, the 7th day of the attack, and third of the eruption, very little fever, but the pustules increased in size, and were filled with a whitish fluid, and put on so equivocal an appearance, that I began (reluctantly enough, I admit) to consider the disease as the small-pox. A few pustules were discovered on the tongue, upwards of a hundred were on the face, and about twice that number on the

the extremities; but it is remarkable, that the trunk of the body was almost entirely free from eruption.

Under these circumstances I mentioned my apprehension to the family, and having early expressed a wish that Dr. Heberden, the family physician, might see the boy, (but whose attendance at Windsor had hitherto prevented it): I again repeated this desire, and in the interim, called on Mr. Moore, the director of the Vaccine Establishment, who had seen Lord Grosvenor's son, under similar circumstances, requesting that he might accompany me to Harley-street the next morning, which he obligingly did.

On Saturday, the 29th, we found the patient much better; the pustules were now well filled, their tops indented, and clearly conveyed to my mind the idea of the most perfect kind of small-pox. From the peculiarities attending the case, however, Mr. Moore at this period entertained some doubts on the subject. In the evening of this day, viz. the 8th day of the attack, and fourth of the eruption, Dr. Heberden saw the case, and hesitated but little in pronouncing the disease to be the small-pox. The lips were swollen, a few pustules on the left eye had inflamed it, but the eyes at any period of the complaint were never closed from swelling of the integuments. The medical treatment, for the last two days, had been merely giving small doses of the sulphate of magnesia in infus. Rosæ once in four or five hours to keep the bowels gently open.

On Sunday, the 30th, the pustules advanced in size, and were becoming yellow; the patient better in all respects. On this day, at the suggestion of Dr. Heberden, and with the consent of Sir Henry and Lady Martin, I inoculated Miss Martin, a child of four years of age, whom I had vaccinated in March, 1808, (and who had been in the house from the commencement of her brother's illness) from some matter taken from him, and the day following I also inoculated a nursery maid in the family who had been previously vaccinated. On Monday, the 1st of July, the sixth day of the eruption, Master Martin had advanced rapidly towards recovery. The eruption on the face, when it commenced, began to turn; he sat up for several hours in the evening. On Tuesday, the 2d of July, the 7th since the eruption, he was convalescent, went into an adjoining room, and remained up the whole day: and on Wednesday, the 3d of July, the 8th day of the eruption, he was found perfectly well, and amusing himself as boys of that age are generally accustomed to do. The pustules were now falling off rapidly. From this time Dr. Heberden and Mr. Moore discontinued their visits,

and the boy was sent out of town perfectly well, and with scarcely any diminution of his strength.

On the first, second, and third day after inoculating Miss Martin and the nursery maid, the parts punctured appeared to inflame rapidly, but from that period the local inflammation diminished, and in a few days after entirely disappeared.

I have thus, Gentlemen, (I fear at an inexcusable length) detailed to you the particulars of a case, which I confess, during its progress, occasioned me considerable anxiety, not on account of the patient, whom I at no period of the complaint considered in danger, but as it has served, by the result, to prove (with some few instances which have occurred to others) that certain constitutions retain a susceptibility of receiving the small-pox contagion, after having passed the vaccine disease; and consequently, that it has weakened the faith I had hitherto entertained of the prophylactic power of the cow-pox in securing such constitutions against the small-pox, which, I believe, it must now be admitted, is not the case to the fullest extent of the word. But when it is recollected that these instances are very few, and that they only occur when a strong idiosyncracy or predisposition to small-pox has manifested itself either in the parents or relatives of the patient; and that in almost every case where the small-pox has followed vaccination, it has always been a mild and mitigated disease, and shorter in duration, and, I believe, in scarcely any instance fatal; surely a decided preference must be given to the discovery of the practice of vaccination, which I have always considered, and continue to think, the greatest blessing to the human race, from its peculiar mildness, from its being unattended with fever or eruption, and above all, from its being a disease which is not communicable through the medium of the atmosphere.

I remain, Gentlemen,

Your obedient humble Servant,

ARTHUR TEGART.

Pall Mall, July 8, 1811.

P. S. It may not be of any importance to know the particular mode of practice of an individual, but I would beg leave to state here, that I have for some time past adopted the idea suggested by Mr. Bryce, of Edinburgh, in communicating the vaccine disease by what he calls the test, viz. on the 3d, 4th, or 5th day, or as soon as a fluid can be found in the punctured part, taking it from thence and inserting it again in the other arm of the patient; if the constitution be affected by the matter first inserted, the phenomenon presenting itself will be, that the part *last* punctured takes on such active inflammation, that on the 10th day it overtakes, and

is

is as far advanced as the *first*, with the same circular efflorescence (in miniature) surrounding it. This I consider an additional security of the patient having passed through the vaccine disease.

For the Medical and Physical Journal.

Case of Apoplexy; by Dr. Dickson, Physician to his Majesty's Fleet, Leeward Islands.

On the 1st of December, 1802, I was requested to visit a merchant of the first respectability, at one of our factories, whose life was considered in such imminent danger, as to be altogether despaired of by his medical attendants.

On seeing the patient I certainly concurred with them in opinion, that a few hours would terminate his existence: there was a total suspension of all sensation, and voluntary motion; the breathing very laborious, slow, and sonorous; the pulse low, and irregular; the mouth open; countenance sunk, and ghastly; and the body covered with a cold clammy sweat.

He was only twenty-six years of age, married, and of an athletic form: had been accustomed to take violent exercise, in shooting, during the hottest months, which was supposed to have been the origin of a headach and giddiness, with which he was often affected. For a considerable time past, his health and spirits had much declined; and of late he had been attacked with intermittent fever. Within a few days, the headach and vertigo had become more frequent, and distressing; and on the preceding afternoon, he suddenly fell down in an apoplectic fit.

I may here remark that while I was receiving this account, his friends, anxious that he should have the benefit of every assistance, had sent for a Jew who professed some knowledge of medicine, who advised the application of leeches around the anus. As I was unacquainted with his reason, and did not then know that the patient had been accustomed to the hæmorrhoidal discharge, which lately had not returned as usual, I could not forbear smiling at the apparent futility of this proposition, which, in consequence met with no farther attention.

Upon inquiry I found he had been treated according to the inert and exploded doctrines which influenced the practice in the East. Small blisters had been applied to the inside of the thighs, legs, and to the nape of the neck; but to my astonishment

mishment and regret, not to the head: Pigeons, just killed and opened, were applied from time to time to the soles of the feet, and a mixture, denominated cordial, had been attempted to be given, which appeared to be little stronger than liquorice water.

Finding that he was unable to swallow, the only chance in such extreme depression of the animal powers, seemed to depend upon their excitement by the application of stimulants to the surface and intestines. A large blister was, therefore, immediately applied all over the head; acrid sinapisms of mustard, horse-radish, sal ammoniac, and vinegar to the feet, and a cathartic injection was recommended to be administered. In the event of his being able to swallow, a cordial mixture was also prescribed, but very little of it, or none at all could be got down.

During the night the breathing became less stertorous, and the perspirations less profuse, and he groaned occasionally, and moved his feet as if he felt pain from the sinapisms which were directed to be renewed.

In the morning the lethargic symptoms were materially diminished, and the pulse was more free and fuller. He opened his eyes occasionally, and looked around; swallowed what was offered him, though with some difficulty, and seemed to understand what was said, but could not articulate so distinctly as to be understood. The sinapisms had excited redness, but as the vesications on the head were only partial, and the bowels remained torpid, a fresh blister was applied to the scalp, and a stimulating injection administered.

On calling in the afternoon, I was told he had shewn much inclination to sleep, and found the stupor and all the symptoms of sensorial oppression increased. As I now conceived it of the utmost importance to rouze the action of the intestines, an acrid clyster was prescribed, composed of sulphate of magnesia in an infusion of senna, with some compound extract of colocynth, and antimonial wine, which after being retained for some time, produced two scanty dejections, followed by a considerable quantity of very thick, dark-coloured blood. Similar evacuations of blood and gelatinous matter recurred repeatedly during the night, with frequent groaning as if he were much griped; and as from the appearance of the discharge, the increase of sensibility, and of the pulse, I now entertained more sanguine hopes, nothing was done to counteract the irritation excited by the clyster, except the application of fomentations to gratify his friends, who judging by his moaning and uneasiness that he was still worse, now imagined that any further proceedure

cedure would only tend, unavailingly, to increase his sufferings.

On the morning of the 3d, he was free from coma and perfectly sensible: he spoke intelligibly, and took some salop with wine. The purging recurred at intervals throughout the day, mixed with a little blood and gelatinous matter; and, as he complained of griping and tenesmus, emollient injections were now permitted, consisting of a decoction of linseed and marsh-mallow, with gum arabic, and the yolks of eggs.

From this period he recovered rapidly, and his strength and appetite improved daily: he was recommended to take tonics, and particularly to keep his bowels very open; and on the 15th, when I left him, he was nearly well and able to attend to his affairs.

How far the suppression and congestion of a discharge like the hœmorrhoidal become constitutional, might contribute to the production of the disease in question, I shall not take upon me to say; but the appearance of the blood, and the instant amendment that followed its removal, are favourable to this idea, and point out the propriety of inquiring into the patient's history, and whatever can throw light on the source of the disease, with a view both to its prevention and cure.

This case is only intended to illustrate the benefit resulting from the exciting and evacuating powers of irritating clysters in comatose affections, of which I have since seen several instances: indeed it is unnecessary to remark, that these and blisters constitute the principal resource, under circumstances where venæsection is improper, and purgative, or other remedies by the mouth cannot be exhibited.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

ANY thing that leads to a successful treatment of diseases peculiar to mankind, especially when of an uncommon occurrence, probably, may not be unworthy of insertion in your excellent miscellany.

M. C———, a labouring-man's wife, of a debilitated habit of body, was affected, six weeks previous to my attendance, with diarrhæa, and being greatly emaciated from the violent evacuation, and the absorbents ceasing to perform their offices, symptoms of anasarca commenced, with a considerable enlargement of the lower extremities, nausea, vomiting, and excruciating pain accompanying every evacuation; so great

was

was the sinking that I was apprehensive of dissolution being not far off. The medical gentleman who had her first under his care, did not succeed in decreasing the peristaltic action and irritability in the intestinal canal; she gradually declined in strength until she was unable to make the smallest effort: at this time, which was six weeks from the commencement of the malady, I was desired to visit her, I found her in a very low state with nausea, vomiting, and great prostration of strength; the lower extremities cold and considerably enlarged, with a most violent pain accompanying every discharge *per anum*. I looked upon the predisposing cause to be some morbific matter producing irritation in the bowels, and that anasarca was only symptomatic of that affection; I was of opinion, previous to decreasing the action in the intestines, that a gentle aperient would be of utility; upon this ground I was determined to proceed. R. Pulv. Rhei Palmat. ʒss. Ol. Menth. pip. gtt. j. Tinct. Opii, gtt. xxv. Aq. pur. q. s. ft. haust. statim sumendus.

The opium in this instance was added to the aperient to obviate its stimulus upon the intestines, and with an intention of lessening excitement. Kino, Pulv. Cretæ, Opium, and several other remedies of the astringent and aromatic kind were administered, and after a long and tedious trial I succeeded to my satisfaction. My only motive now, was to direct my attention to the anasarcous affection of the lower extremities. I commenced with stimulating embrocations to augment the action of the decreased vessels, to absorb the accumulated lymph into the circulating system, and ordered her tonics, such as cinchona and the sulphate of steel, with proper nutritious regimen to support the *vis vitæ*. In two months, to my great astonishment, she was perfectly recovered from her tedious and severe indisposition. What is rather singular in this instance is, that the patient should lie so long without any intermission of the evacuation (having eight stools a day) without being exhausted, as she was naturally of a thin and delicate habit. Nature has in this case shewn a surprising effort to relieve herself of the morbific oppression, and it should give us a caution in other cases not to interfere or obstruct her progress too much when art is not absolutely necessary, but watch, discriminate, and assist her efforts.

I am, Gentlemen,

Your Humble Servant,

EDWARD LLOYD KNOWLES.

Soham, June 5th, 1811.

To

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

AS it is probable that Mr. Moore's experiments on the *Eau Medicinale D'Husson* may induce a general investigation of this very popular and, perhaps, valuable nostrum, I beg your permission to offer some observations on the subject.

On perusing that gentleman's letter to Dr. Jones, I was struck with a kind of coincidence of opinion, which had led me also to make the same combination, viz. that of *opium* and the root of *white hellebore*. I need make no apology for intruding these remarks, as it will presently appear that I do not arrogate to myself the merit of having discovered the true nature and composition of this celebrated remedy, even should these articles really form the genuine Eau Medicinale.

Soon after the publication of Dr. Jones's pamphlet I was requested by several of my medical friends, particularly by one very respectable Member and Fellow of the London College, to turn my attention to Husson's wine. Having procured what is deemed the true kind, which was then sold in the Haymarket, I immediately began the inquiry, by selecting a number of simples, by way of list, on which I proposed to operate in succession. To detail all the experiments would answer no purpose, for in no one example was I satisfied that we had obtained the end. Here, however, I must confess, my reliance was rather upon smell, taste, colour, and other obvious qualities, than upon the *virtue* of our imitation; and hence the cause of failure, should it ever be fully ascertained that the Eau Medicinale is composed of opium and white hellebore, the *veratrum album*.

Among a number of vegetables on which I had fixed for this synthetic inquiry, the very first, after opium and ipecacuanha, was white hellebore. This was submitted to many trials; it was infused in different wines and in diluted alcohol of various degrees of specific gravity. In all cases, however, the smell and taste seemed to forbid any favorable conclusion, even when combined with opium; and as none of the products had a chance afforded of being internally administered, even in one solitary trial, the farther consideration of this article was totally abandoned.

That we did not persevere so far as Mr. Moore, nor obtain the same fortunate result which has followed that gentleman's labours, must be ascribed chiefly to my own prejudice, in depending too much upon the smell and taste; for the objection, I acknowledge, arose entirely on my side, and not with the worthy individual to whom I allude, and to whom I owe, on many accounts, so much gratitude.

Now, had I fully accomplished the object I had in view, a perfect imitation of the Eau Medicinale in efficacy, flavor, taste, and other sensible qualities, and that opium and the veratrum had proved to be the primitive ingredients of which we were in search; I should not, even then, have assumed the title of a discoverer. My reason for declining so much honor would be this, that though these experiments took place above ten months ago, I was then perfectly aware that a composition of opium and white hellebore had been employed in this country, I believe, before Mons. Husson was born; I would, therefore, have acknowledged, as I do now, the source whence I took the hint in favour of the *hellebore* and *opium*, for, I certainly never trusted to the plausible juggle of this nostrum being extracted from one single vegetable only. Here I allude to one of the remedies employed by the famous Ward, the composition of which the public is already in possession of, as all his prescriptions were printed above thirty years ago.

I know that Ward practised in Paris about the year 1736; it is, therefore, probable that he may be the real founder of this nostrum, which, after all, may turn out to be no exotic, but of true English extraction.

Whether Dover's composition of opium with ipecacuanha, or that of Ward's, with white hellebore, claims the priority, I cannot now decide, having no reference at hand on which I can depend; the transition from one to the other is, however, so very palpable, that it greatly diminishes the merit of an imitator or pretender, such as Mons. Husson must be considered. Though Ward is generally reckoned as an empiric, he was certainly not destitute of abilities, for he has left evident proofs of genius behind him. As one example of his acuteness, we may take the modern process for manufacturing sulphuric acid, from nitrate of potash and sulphur, in place of the ancient method, from sulphate of iron only. He employed powerful materials for his medicines, such as antimony, opium, mercury, white hellebore, &c. and consequently the remedies he administered were often successful, though, I am persuaded, seldom if ever dangerous, when his instructions were observed.

I am not prepared to make many observations upon the substitute proposed by Mr. Moore, for the Eau Medicinale D'Husson. I am convinced it deserves a most candid consideration, and that it should be submitted to repeated and varied trials, before it is universally adopted or entirely discarded.

There seems a slight error in the vinum opii employed by Mr. Moore; it is, that of taking *pints* of the wine, in place of *troy pounds*, according to the Edinburgh College. There is indeed a prevailing mistake respecting the old *tinct. thebaica*

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of the London Pharmacopœia for 1745; the laudanum of Sydenham; and the vinum opii of the present edition of the London Dispensatory. These are often confounded, though evidently not of the same strength. If the vin. opii be superior to other solutions for the eyes, the spices, I should suppose, ought to be omitted; indeed I can see no advantage whatever in such trifling incumberances as these and many other articles, which frequently enter into officinal preparations, where a mere fractional part of a grain is the full amount in each dose.

In the Edinburgh New Dispensatory, it is observed of the vin. opii, now in use here, that it is the synonime of the tinct. thebaica, according to the Pharm. Lond. 1745. There is assuredly a material difference; the first contains *one* ounce, the last *two* ounces of opium to the pint; besides, to the last, when filtrated, was added one-twentieth part of proof spirit. It is true, in the former the *opium colatum* is ordered, and in our present wine it is *extractum opii*; but here, the danger arises from the variation of *quantity*, for there is little or none in the preparations of the opium itself varying.

White hellebore root was formerly administered as an emetic. We read of *Conradus's vomit* and the *vomiting wine* of *Heurnicus*. The former was prepared with spirit of wine, perhaps *proof* spirit; this was distilled off, and again returned upon the root to complete a tincture. A feather being dipped in this was then washed in a glass of wine, which being swallowed is said to have proved a powerful emetic. The preparation of Heurnicus was merely an infusion of one scruple only of the root in gross powder, in a pint of sack; one spoonful of this acted as an emetic, and half the quantity was occasionally combined with other purgatives to render them more potent.

The occasional examples of violence in the operation, and even of fatal consequences ensuing from the Eau Medicinale, arise, I suspect, from a kind of spontaneous decomposition which takes place in the medicine itself, as it is gradually and constantly depositing a sediment; hence, I would advise, that the phial should always be first shaken, and that it be kept in a cool place and not exposed to the sun. The medicated wines in general are susceptible of this change, and, therefore, the addition of a portion of proof spirit, according to former practice, would be of great use.

If Husson really employs the laudanum of Sydenham, it is likely that he takes the same saffron which we use in England, that is, the *Spanish* saffron, crocus in fœno, as our druggists call it. I believe no respectable practitioner would put *English* saffron into his compounds, for this is sold in cakes, and is avowedly and universally offered at an inferior

price, being composed of marygold petals and other trash. Saffron is, however, of no consequence in the p question, more than what regards the smell and colo Husson's nostrum.

Of those compounds which resulted from the experin that from ipecacuanha and opium seemed to promise fairly; so much so indeed, that our Dover's powder, sionally modified by the opium, may very securely b ministered as a substitute, by transferring its influence to or diluted alcohol. In several cases in which this imit was administered, the success was equal to any thing achieved by the Eau Medicinale; and as ipecacuanha i in its action, compared with the white hellebore, there be frequent opportunities of preferring the former, par larly in extreme debility.

As there is much to commend in Mr. Moore's endea to accomplish a complete knowledge of this remedy, cially if he was not aware of Ward's having dealt with hellebore and opium before Husson's time, I trust the in tance of the subject will urge the whole profession to con the inquiry. The chief reliance, however, is to be pl rather upon its effects as a medicine than its appearan our senses; I shall therefore leave to those whom it mor mediately concerns, to prosecute an inquiry of such vas portance, as an investigation of the *combined* powers o ratrum album and opium upon the human constitution.

JOS. HUM

Long Acre, July 27, 1811.

For the Medical and Physical Journal.

Mr. Want on the Treatment of Gout.

Ὑποληψιν δε εκ τυλυ το παθος ανιαραν εκληραλο κ̓ μηδὲ ὅλως ὑπο τεχνης ια ϊαθῆναι ποle δυνηθῆναι. ἐγω δέ φημι ὡς εἰ διαγνωσθεῖεν καλως αἵ τε διαφοραι ειδη αυlης ὅσα τὲ και οἷα τυγχανη, ευθεραπευlος ἀν ῥᾳδιως ὑπο των ιαlρων γενη

" An opinion has been entertained that this disease is not cu by the medical art, but, I affirm, that if physicians make a prope tinction between the different species of the disease, it may *very be cured.*"—Alex. Trallian, περι ποδαγρας, lib. xi.

" Est enim remedium hoc tantæ efficaciæ, ut hominem totum lib a Podagra, et articulario morbo præservet, ita ut eo qui utitur, nil opus sit de sanguine extrahendo aut remediis aliis, ut *longa experi compertum habetur.*" Ludovicus Enriques, De Podraga.

No subject of late has more engrossed the attention of profession, and, perhaps, of the public at large, than the

ture of gout, and the power of the French medicine in alleviating the paroxysms of that distressing malady. That a disease generally considered incurable should now be relieved, as it were, by a charm, could not fail to excite the wonder, and rouse the energies of the medical world. The effects of this medicine were no sooner acknowledged, than experiments were instituted in all quarters, as might naturally be expected, with the view of discovering its composition; but a period of nearly eighteen months had elapsed without any communication being made to the public upon the subject, until the appearance of Mr. Moore's Tract, in which he endeavours to prove its identity with a mixture of hellebore and opium. The reasonings in support of his opinion, as far as a cursory view of his paper has enabled me to judge of them, are conducted with much ingenuity; but whether he will succeed in establishing this point I shall not take upon me to hazard a conjecture. I must confess, indeed, that I attach less importance to this part of the inquiry than many may be disposed to give it. When first the medicine was administered in this country, when its effects were in a measure veiled in mystery, when more was attributed to it than subsequent experience proved to be warranted by fact, when it was supposed to possess properties totally unlike any other remedy in use, the inquiry was most natural. In the course of time, however, a long succession of facts has taught us so much of its operation as to supersede, in my opinion, the necessity of any new attempt to imitate it. Daily experience shews us, that a gouty paroxysm is curable by the production of certain sensible effects on the constitution. If any one medicine, therefore, or combination of medicines be discovered, which is capable of producing those effects, it is a fair inference that the gout may be cured with as much certainty in the one case as in the other, and the scientific physician will have no cause to regret his inability to compound a medicine, whose colour, taste, and smell, are similar to that which led him to the discovery. Under these circumstances it is only as a matter of curious speculation, that I should consider the farther prosecution of the inquiry as deserving attention.

Should Mr. Moore's opinion of this medicine, and the source from which it is derived, be supported by additional evidence, the profession will learn to set a higher value on the labours of antiquity than they have hitherto done. Their valuable repositories, in general, record the language of experience; and though much which they contain has been rendered useless by the efforts of succeeding generations, there yet remains a copious harvest for the industrious investigator.

From

From all that we can collect respecting the sensible operation of the gout medicine, it appears evidently to be a purgative of the drastic kind; and as most purgatives in an over dose evince an emetic quality in a greater or less degree, so upon this supposition it is easy to conceive that this medicine may, in many cases, produce nausea and vomiting.

Now the treatment of gout by strong purgatives is by no means a modern discovery. The limits of a paper of this kind will not allow me to trace back the history of the practice; it will be sufficient to observe, that it prevailed pretty generally and successfully previous to the time of Sydenham, when unfortunately for science and the afflicted sufferer, that enlightened physician interdicted the practice because it did not coincide with his ideas of morbific matter, and the necessity of its expulsion through the medium of the extremities. "It being," he observes, "an inviolable law of nature that the matter of the disease should be thrown out by the extremities; emetics and cathartics will have no other effect than that of bringing back the offending matter to the bowels."*

In another part of his treatise, we are told that the practice, however dangerous, was in high repute with certain empirics; he admits that during the purgative operation of the medicines administered the patient felt no pain, or at least very little; and that if the catharsis could be kept up for several days, the patient was certainly cured of that paroxysm.†

That this theory was framed in the face of personal experience, may be inferred from the latter part of the quotation, which amounts to an acknowledgment of the utility of the practice. That it was in opposition to the best practical authorities the world ever produced, will be evident to any one

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* "Deinde, catharsin, quod attinet, sive ἄνω sive κάτω animadvertendum est, quod cum naturæ lex sit inviolabilis, atque ipsi hujusce morbi essentiæ intertexta innexaque, morbi fomitem semper in articulos rejici debere; nihil prorsus aliud præstabunt remedia sive emetica, sive cathartica proprie dicta, nisi ut materia peccans, quam natura in corporis extremitates protruserat, in sanguinis massam denuo revocetur; unde accidit ut quæ in articulos eliminari debuerat, in aliquod e visceribus forte irruat, atque ita æger, qui in nullo prius discrimine versabatur, jam de vita periclitetur."

SYDENHAM, Tractatus de Podagra.

† "At vero hæc ipsa methodus, utut perniciosa ac nocens, nihilominus empiricis quibusdam, qui catharticum quo utebantur medicamentum astute omnes celarunt, haud mediocrem estimationem conciliavit. Observandum est enim quod purgatione currente, æger vel non omnino, vel remisse admodum, dolet; & si catharsis ad plures dies produci queat, nullo superveniente paroxysmo recenti, æger confestim ab eo, quo jam tenetur, convalescet: verum enimvero pœnas in posterum pendet dirissimas ab ἀδηξία, in quam dicta humorum exagitatio naturam præcipitem egit."

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who will take the trouble to investigate the subject. Dr. Cheyne, says, "that in his time some eminent physicians had so little regard to the opinion of Sydenham in this matter, that in the fit of the gout itself *they never scrupled to drive it off*, both in themselves and others, by strong, quick, and active purges;" he further adds, "and most certain it is that this method will cure any fit of the gout, how obstinate soever, and that in a few days. We have also the authority of Kirkland for this practice, who asserts, that he has never yet seen under an inflammatory state, any method equal to purging for giving immediate relief: and this remark extends to the disease when it has attacked the stomach and bowels.

Scammony is a medicine which has been famed in all ages for its power of subduing the paroxysms of gout; and it is remarkable, that I have met with no author on the subject, whose prescriptions are not found to contain a large portion of this drug. The electuarium caryocostinum, the active material of which is scammony, was sold, in the time of Tissot, as a quack medicine in Geneva, under the title of Opiate for Rheumatism, and which he highly extolls with some exceptions as to particular constitutions. Bate recommends a tincture of scammony as a medicine of great service in the Gout, and the same tincture is, at this time, a popular remedy for that disease in France; and I am credibly informed that one gentleman for 13 years past has by means of it succeeded in removing the paroxysms whenever they occurred.

Salmon extols scammony and elaterium as medicines which "*admirably help* the gout," and Turner's arthritic powder is a composition of turbith, hermodactyls, scammony, senna, and elder seeds, and was considered in its day as almost a specific for this complaint.

Willis recommends the electuarium caryocostinum and hermodactyls, which, he says, will make such as are not able to go, presently to walk about. The same medicine was before prescribed by Alexander, with the same expressions, as to its virtues, so as to leave little doubt of its having been taken from that author*. He quotes Rodericus a Fonseca in recommendation of the roots of black hellebore, and amongst other things an apple, with ʒss of its fibres stuck in it, which is to be roasted under the embers and eaten.

It would be easy to multiply authorities if it were necessary,

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* Alexander's prescription is composed of hermodactyls, ginger, cummin seed, pepper, aniseed, and scammony, which makes those who take it walk immediately.

"τὸλο ευθεως βαδιζειν αὐλοις ποιει."

ALEX. TRALL. IN LOCO.

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but as they are within the reach of every inquirer, I shall merely add the following extract from Hoffman, which, from the information it contains, appears of too much importance to be omitted.

" Hisce deductis operæ pretium esse estimo paucis judicium nostrum interponere de methodo hactenus usitata, sanandi dolores podagricos. Plures et ex iis exercitatissimi practici vomitorium usum non satis dilaudare queunt in affectu hoc, tam preservando quam sanando. Confert, ut podagrici omni verno et autumnali tempore circa æquinoctia preservationis causa assumunt vomitorium. In principio quoque podagræ, proficuum esse ipsi Galenici jamdudum testati sunt. Dolæus Encyclop. Med. p. 635. Hildanus, Cent. 6. Obs. 34. Mercatus de Morbis internis, L. 4. c. 18. Riverius praxi, L. 6. c. 1. Sylvius, pr. p. 153. Emeticorum usum præsentissimum judicant. Alii magni faciunt preservationis causa laxantia ante ipsum paroxysmum, vel singulis mensibus.

" Doctissimus Solenander in Cons. p. 78, scribit se in paroxysmi principio solere exhibere, magno cum successu, aliquod purgans; primum id edoctum ab Alex. Tralliano, l. xi, licet a multis hoc tempore reformidatus. Singulare esse scribit eruditissimus Pechlinus, Obs. 26, quod arthritici leviorem plerumque experiantur insultum, detracta ex primis viis materia. Novi, ait, Empiricum qui medicamento chymico, seu Chrystalli Lunæ essent seu Martis aliquod vitriolum, etiam in inveterato jam morbo postquam biduo ante paregoricum dedisset, alvum magno cum fructu provocabat. Ex adverso Sydenham illorum usum penitus rejicit. Nostra sententia hæc est qui plenius vescuntur, et largiori victui assueti sunt, et mox ante paroxysmum primum invitante appetitu plus justo indulserunt gulæ appropriata cathartica vel emetica summo cum fructu atque emolumento assumere possunt. Depletis sic primis viis a copiosa saburra humorum et acidi superantis, leviores evadunt paroxysmi, nec tam molesta symptomata anxietates dolores patiuntur ægri, &c. In eandem sententiam nobis cum accedit Lister, Tract de Arthridite, qui ita loquitur, &c."*

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* Dissertatio de genuino et simplicissimo podagræ remedio. Hoff. oper. vol. vi.—The sense of the author may be thus rendered:—" I shall say a few words on the method hitherto employed for the cure of gouty pains. Many of the most experienced practitioners speak in the highest terms of emetics in this complaint, both for prevention and cure. Gouty patients derive great benefit from emetics taken as prophylactic, at the vernal and autumnal equinoxes. In the commencement also of gout, the beneficial effects of these remedies have been long ago testified by the followers of Galen. Dolæus, Heldanus, Mercatus, Riverius,

In another treatise, de dolore podagrico et arthritico, he says, " Memini me olim statim sub initio doloris podagrici et arthritici, insigni sæpe cum fructu, usum fuisse sequentis mixturæ. Aq. flor. acaciæ ʒij. Aq. cinn. sine vino ʒss. P. cornachini ʒj. Syr. rosar. laxativ. vel rhabarb cum cichoreo ʒss. M. pro haustu. A dram of the pulv. cornachini contains, scammony, diaphoretic antimony and cream of tartar, of each equal parts, so that twenty grains of scammony was given for a dose.*

The experience of the present day is equally strong in favour of the practice.

Very early during the agitation of this question the attention of the profession was generally directed to the Elaterium as a medicine most likely, from its known effects, to be the basis of the *Eau Medicinale*. I determined, therefore, to put it to the test of experiment on the first patients I met with. Three cases soon presented themselves, in which the curative powers of this remedy were as speedy and as satisfactory as any thing that could possibly have been expected from the gout medicine itself.

It is deserving of remark, that independently of its purgative, emetic, and diuretic effects, Elaterium possesses another property in common with the gout medicine, that of producing a tingling sensation in the extremities of the fingers.

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rius, and Sylvius, consider emetics as a most effectual remedy. Others think highly of laxatives as a means of prevention before the paroxysm, or taken monthly.

" The learned Solenander writes, that he was in the habit of administering a purgative with great success, in the commencement of a paroxysm, that he first learned this practice from Alexander of Tralles, though by many it was much dreaded.

" Pechlin says, ' it is a singular fact that arthritics have a milder fit if the primæ viæ have been first cleared. I know,' says he, ' an empiric who, by a chemical medicine, whether it was the chrystals of silver, or a vitriolate of steel, is uncertain, procured evacuation from the bowels with great success, and this even in an inveterate disease, he having given a paregoric two days before.' On the contrary Sydenham entirely rejects the use of purgatives. I am of opinion, that in those patients who are accustomed to eat much, and who just before the paroxysm have been too indulgent with their appetite, proper emetics or cathartics may be taken with the greatest advantage.

" The primæ viæ being thus cleared of the suburra of the humors and superabundant acid, the paroxysms become milder, nor do the patients feel so much pain or uneasiness. Lister, in his Treatise on Gout, is of the same opinion with me on this subject, and has these words, &c."

* " I remember having used the following mixture with great success in the commencement of gouty pains, &c." De dolore arthritico et podagrico. Hoff. opera, vol. 2.

This effect, which was noticed in the year 1695 by Dr. Martin Lister, was first pointed out to me by Dr. Buchan of Percy-street, and was very strongly marked in the persons to whom I administered it. Whether this property is only exerted in gouty patients must be determined by future observation; Dr. L. however, spoke of its effects generally in his Treatise on Dropsy*.

The first case which was submitted to its influence was that of a labouring man, John Tomkins, who had long been a sufferer from that form of the disease called by many rheumatic gout†, and was never entirely free from its attacks; he had been under the care of the most eminent Hospital physicians in town without deriving any benefit from their treatment. I recollect having attended him upon a former occasion under a severe illness from this complaint, when his life was despaired of for many days, so much was he reduced by its violence and duration; at this time, the stomach and bowels were much affected by metastasis, and he recovered under the use of large doses of volatile tincture of guaiacum‡.

He had now inflammatory swellings of several joints, particularly of his hands, wrists, and feet; the knuckles were permanently enlarged, and the fingers in a state of contraction, from former attacks. The pain often subsided in one part for another; sometimes it went from the joints to the bowels, and his friends became seriously alarmed for his safety. I gave him half a grain of elaterium every two hours, and on the following morning I found him free from all his symptoms, but great debility, and complaining of the severe operation of his medicine. The disease returned the following day and was again relieved in the same manner.

Within these few days, a period of nearly eight months having elapsed since his last illness, he has had another attack of the gout; but here the seat of the disease was not as in the other case in the extremities, but confined to the

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* Lister Exercitationes de Morbis Chronicis. Tract. de Hydrop. p. 50.

† Some practitioners call the acute rheumatism, rheumatic gout; the latter disease, which is here alluded to, is characterized by inflammatory swellings in the larger joints of the body, *with little or no fever*, whereas acute rheumatism is always attended with great heat of skin, and the other symptoms of fever.

‡ A more extended experience, since this time, has abundantly confirmed me in the opinion I had formed of the efficacy of this remedy when administered in large doses. I think I may assert with confidence, that there are few cases of Gout which may not be subdued by means of it. The efficient dose is ʒss or ʒvj taken in half a pint of water gruel night and morning.

bowels.

bowels. He had been ill nearly a fortnight, complaining of tightness across the bowels, and what he denominated a heavy pain; he had nausea, impaired appetite, and flatulency; his bowels were costive, and he was generally indisposed. These were considered to be symptoms of gout, affecting some of the abdominal viscera. Three grains of elaterium were ordered, with directions for him to take one half immediately, and the remainder at night. Having taken one portion of this medicine, in the evening he was attacked with the most violent pain in his bowels; the remaining portion was given him, and a purgative glyster with two drams of aloes and the same quantity of jalap ordered, which however was not administered. On the following morning I found he had been in excruciating pain all night: in the evening I saw him, the tongue was of a reddish brown colour and parched, his breath offensive in a remarkable degree, of which no words can convey an adequate idea, but which is very commonly met with in this stage of the complaint. With these symptoms of evident danger I did not think it right to rely solely on the elaterium: three grains more were given, and ʒxvj of blood ordered to be taken away; he was easy for the space of three hours after the bleeding, when the pain returned; on the following morning he was in great pain, the medicines had not operated. The glyster was repeated twice this day without effect; in the evening he was still in acute pain; and was again bled; ℈j of calomel was given, with directions to have the glyster repeated, which however was omitted; he was much relieved by the bleeding, but on the following morning the pain returned; he had one stool in the night; half an ounce of volatile tincture of guaiacum with fifty drops of laudanum were now given, which produced ease for the whole of the day. Towards evening the pain returning, the medicines were repeated with equal benefit. On the following morning he was free from pain, and his bowels were open; he was directed to continue his medicines a day or two longer, and is now quite recovered.

In the other cases the disease was confined to the back of the hand and wrists, it had here existed many days; each had three grains of Elaterium administered, which produced a strong purgative effect, but the symptoms were removed with the exception, in one case, of a trifling degree of pain still remaining, though it was not of sufficient importance to require a repetition of the medicine. In one of these patients it was remarkable that the pain ceased before the evacuation from the bowels took place; it is not improbable that the salutary operation of the medicine was occasioned by some change in the secretions of this viscus effected by it. The same result is sometimes observed from the Eau Medicinale.

These cases have been related to shew the advantage of attacking this complaint by purgatives. The precursory symptoms of a paroxysm of gout; the inappetency, flatulence, sour eructations, and constipated bowels, indicate a disordered state of the intestinal canal. If the village dame be consulted by a patient in this case, he will be told that his bowels are in a bad condition, that he must take a dose of physic; and, probably, the opinion of the medical practitioner will not be very different, if he has not the good sense to know that gout is coming on. But if his mind is warped by prejudice this knowledge is sufficient for the prohibition, and the unfortunate sufferer is consigned to patience and his flannels.

The *sicca alvus*, or torpor of the intestinal canal, is a very common attendant on this disease. The celebrated Father of Physic, who lived 360 years before Christ, thought that gout was curable by no human means in old men, with *constipated bowels* and nodosity of the joints. But the disease even in them was not proof against a providential attack of dysentery, which cured it readily. He found other profuse evacuations from the bowels (εκληξις, which literally signifies a melting down) also very useful; and he tells us, that a young man whose bowels were readily acted upon, who lived regularly and was fond of labour, had only to find a physician with common understanding and he might easily be cured.*

The power of diarrhœa in carrying off a fit of the gout when seated in the extremities is so notorious, that it could hardly escape so accurate an observer as Sydenham; but blinded as he was by a prepossession for his favourite opinion, he could not be expected to derive that practical advantage from it which the fact was capable of imparting. We cannot then be surprised to find him giving solemn directions for its suppression, as the only means of recalling the wanderer to his proper seat.

"There is but one remedy," he says, "that I know of, viz. to produce perspiration, by the medicines usually given for this purpose, which if effected for two or three days morning and evening, two or three hours at a time, the diarrhœa

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* Ὅσοι μεν ἢ γερόντες, η περι τοῖσιν ἄρθροισιν επιπωρώματα ἔχουσιν, ἢ τροπον ταλαιπωρον ζωσι κοιλιας ξηρας εχοντες ουτοι μεν παντες αδυνατοι υγιεες γινεσθαι ανθρωπινη τεχνη οσον εγω οιδα. ιωνται μεν τουτους, αριστα μεν δυσεντεριαι ην επιγενωνται, αταρ και αλλαι εκληξιες οφελουσι καρτα, αι ες τα κατω χωρια ρεπουσι. ος δε τις νεος εστι και αμφι τοισιν αρθροισιν ουπω επιπωρωματα εχει, και τον τροπον εστιν επιμελης τε και φιλοπονος και κοιλιας αγαθας εχων, υπακουει προς τα επιτηδευματα, ουτος δη ιητρου γνωμην εχοντος επιτυχων υγιης αν γενοιτο. Hippocrates. προρρ. lib. 2.

is

is commonly stopt, and the gout comes *thundering* back upon the extremities.*" It should be remarked, however, that when he has reason to believe the diarrhœa is critical, he does not attempt to interfere with it.

It is impossible for the imagination to contemplate the strength of the *thundering* figure, which he uses to express the return of gout to the limbs, without picturing to itself the triumphant extacy of the man on the seeming victory he had obtained; whilst his patients, writhing under the most insufferable anguish human nature is capable of bearing, are consoled with the cheering prospect of longevity, which he invariably calculates upon, *cæteris paribus*, in a certain proportion to the violence of the pain.†

How different is the conduct of Musgrave on this point, who after telling us that during a paroxysm of gout a diarrhœa often takes place, which carries off the pain and tumefaction‡, adds, that "the diarrhœa which *anticipates* the fit is frequently found to be salutary, health and vigor returning after it.§ The event of it, however, he confesses is uncertain. If it stops in time and is not *excessive* it proves serviceable, by carrying off the gouty matter by a safe way, though not the most common; and it has this advantage attending it, that the paroxysm *does not return for a long time after.*‖ He displays the folly and danger of an attempt to stop it; "for an officious diligence," he says, "disturbs nature, and interrupts her in the work she has begun, when it is better to leave her to herself, and permit that to be dis-

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* "Unicum, quod scio, remedium est, ut sudor provocetur methodo et medicamentis huic usui destinatis: quod si fiat ad biduum triduumve mane & vesperi, per duas tresve horas continuas, sistetur ut plurimum diarrhœa, & morbi fomes magna vi in artus *detonabit.*" SYDENHAM.

† "Morbo jam discusso, ægri tum ἐυεξία, tum appetitus, redeunt, pro rata doloris quo sæviebat paroxysmus nuper elapsus, & in eadem proportione servata, vel acceleratur vel differtur sequens paroxysmus. Nam si hic ultimus ægrum *pessime multaverit*, sequens paroxysmus non, nisi anno ad idem punctum revertente, denuo accedet."—

SYDENHAM.

‡ "Accidit diarrhœa; eamque statim excipit doloris et tumoris diminutio." De Arthritida Anomala, page 137.

§ "Atque istiusmodi fluor paroxysmos interdum Arthriticos antevertens, salutaris esse reperitur. *Expulso etenim inimico, clauduntur januæ; pax, et quies restituitur; viget œconomia.*" Page 138.

‖ Hujusmodi diarrhœa incerti admodum eventus est; si enim tempori cohibeatur, neque modum excedat, utilis invenitur; et quidem arthritidis materiam etiamsi via non usitatissima, tamen tuta emittere. Cui isthuc consequens, quod paroxysmus *non nisi diu post* recurrit arthriticus. P. 139.

charged,

charged, which if retained would do mischief; but if it becomes excessive it should certainly be restrained.*

That the gout is symptomatic of the affection of the bowels, I have little doubt. Stahl endeavours to account for the alternation of this disease with hypocondriasis, which may evidently be traced to this source.† If we admit that erysipelas is often connected with sordes in the intestinal canal, we shall have little difficulty in conceiving that another inflammation, in some respects similar, may arise from the same cause.

The affinity that exists between these two diseases may be inferred from the fact of their frequently alternating with each other. After a paroxysm of gout has been fairly fixed upon a joint, in all regularity and form, and has continued there for several days, it is sometimes suddenly transferred to the face and neck, or other parts, where it appears in the shape of an erysipelas, and *vice versa*.

Hoffman relates the case of a patient who had an extensive erysipelas of the right leg, which soon seized the metatarsus and toe of the left side, with considerable tumefaction and pain. The surgeon, who was in attendance, applied spirit of wine and camphor to the foot, upon which it attacked the other: by the application of powdered camphor, the disease was again immediately relieved, but the patient was seized with symptoms of gout in the vicinity of the heart, with so great a constriction upon the diaphragm that he could hardly breathe.‡

Musgrave also speaks of the transition from erysipelas to gout in the joints§; but he is not warranted, I think, in assuming from this fact the existence of an arthritic erysipelas. The *morbi fomes*, the daily accumulations of indigested sordes, is the exciting cause of both these and of many other diseases. Gout in the joints, erysipelas in the skin, asthma, phthisis, peripneumony in the lungs, colic in the bowels,

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* Nihil inepta sedulitate *stultius* dicam an *periculosius?* quæ, Pharmacis perperam ingestis, naturæ opus sæpe interturbet, interdum abrumpat. Suo potius arbitrio ea, patiaris, agat; quodque intus læsurum erat suo utiliter ingenio effundat, si vero diarrhœa *nimium excurrat*, viresque excedat, astringentibus sistenda est. Page 139.

† Stahl. Theoria Medica, page 1372.

‡ Observations Interessantes sur la Goute & Rheumatism, traduites de Fred. Hoffman.—Obs. 2. 241.

§ "*Faciei* porro *erysipelas* notavi quod detractione sanguinis, factaque inde materiæ in artus Διαδοχῆ quum in *dolorem* mutaretur isthuc *arthriticum*, naturam plane confessum est *arthriticum*, &c."—Musgrave de Arthritide anomala, p. 459.

commonly

commonly called gout in the stomach: these, and a variety of other symptoms from the same cause, may be removed by the evacuation of the offending matter, or by retunding and neutralizing its acrimony. His book is a most invaluable production, inasmuch as it shews what an endless variety of nervous and chronic diseases may be traced to this source.

If this opinion be established, the superiority of purging over bleeding will be evident; the latter may relieve, as in all cases of inflammation it does, but it is only by removing the cause that we can expect a removal of the disease.

With these facts before me, I cannot help recurring to the exploded doctrine of the humoral pathology, as affording the only plausible solution of the phenomena of this malady. Is it, I would ask, inconsistent with the known laws of the animal œconomy, to suppose that an acrid matter may be carried by absorption from the intestines into the circulation, and that its existence in the blood is incompatible with the healthy functions of the body? If I might be allowed to step beyond the limits of fair induction into the field of hypothesis, I would imagine the joints, from some peculiarity unknown to us, to be the parts chosen by nature for the deposition of this matter, or I see no difficulty in allowing its transpiration to be going on through every pore, whilst the joints or parts attacked, from this unknown peculiarity, are more susceptible of diseased impression from its acrimonious nature than others.

Pain is not an inseparable concomitant of this disease: its intensity, or indeed its very existence, is probably determined by the texture or sensibility of the parts attacked. Thus in the commencement of a regular paroxysm which is seated in the ligaments of the joints, acute pain is felt, but when at the close of each "*paroxysmulus*" the pain is commuted for swelling, erythematous redness, and itching of the surrounding integuments, it is not unfair to conclude that the matter has been translated from the ligaments to the skin. When the disease by metastasis or otherwise affects the brain, separate from its meninges, no pain is felt, but giddiness, stupor, or apoplexy are the consequence.

Cullen's fourth objection to the theory of morbific matter is, that its operation, if it exists, should be similar in the several parts which it attacks; whereas it seems to be very different, being *stimulant*, and exciting inflammation in *the joints*, but *sedative*, and destroying tone in *the stomach*.*

Lest any doubt should arise of the truth of this position, from the natural insensibility of parts of a ligamentous struc-

* First Lines, Sect. 529.

ture,

ture, I must be allowed in digression to observe, that however insensible in their healthy state, when they have taken on inflammatory action the pain is most *acute*. This arises from their dense, firm, and unyielding nature.

The acknowledged efficacy of blisters* in the cure of gout, in many cases, when applied to the inflamed joint, strongly favour the theory of morbific matter. No person in the right possession of his senses would think of curing inflammation by means of blistering, unless with the hope of exciting a discharge of some irritating material producing the disease.

The local application of euphorbium,† elaterium,‡ and medicines of this kind, the beneficial effects of which are attested, the former by Trallian, the latter by Dioscorides and Pliny, can hardly be accounted for upon any other supposition.

Another reason in support of this theory, to say nothing of the relief demonstrably given by purgatives, is the immediate benefit arising from the use of those medicines which have the power of neutralizing acid secreted in the stomach and bowels. Half an ounce, or a larger dose of volatile tincture of guaiacum, given night and morning, is a remedy which from much experience I can recommend as a specific in many cases of this disease.

If the medical reader requires more evidence than his own experience will afford him of the existence of this acid, I may refer him, amongst others, to a case of gout related in the first volume of the Medical Observations and Enquiries, where a severe paroxysm was critically carried off by the vo-

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* Και ἄλλον ὅμοίως ἑθεασάμην κεχρημενόν τῶ διὰ κανθαρίδων φαρμάκω, και ηὐχαρίστει τὰ μέγιστα, ῥηγνυμένης γαρ της γινομένης ὑπὸ τῦ φαρμάκε φλυκταινης ὑγρὸν ἐξεκρίνετο πολὺ και τέτο συμβαίνοντος ἔφασκεν ὠφελεισθαι τὰ μέγιστα.

"I have seen another patient who, by means of a medicine composed of cantharides, has been cured, for when the vesication occasioned by it was ruptured, there came forth a great quantity of humour, which he said relieved him greatly" ALEX. TRALLIAN.

† Δόκιμόν εςι τὸ φάρμακον καὶ ἐπι πολλῶν πολλάκις ευδοκιμῆσαν ἐπι τῶν τοιέτων διαθέσεων καὶ γαρ διαφορῆι καὶ ἀμύσσει την εφινάειαν, ἕλκει τὲ ἐκ τῦ βάθες τα ἐσφηνωμένα, καὶ διαλύει καὶ την οδύνην εκπλει.

"It is a noble medicine, and frequently tried with success in this species of the complaint, for it excoriates and removes the cuticle, it draws forth that which is deep seated, and relieves the pain."

ALEX. TRALLIAN.

‡ "Radix elaterii ex aceto cocta podagricis illimitur succoque dentium dolori medetur."—PLINII HIST. NAT. DE ELATERIO.—Dioscorides is literally copied in this quotation.

miting

mitting of a considerable quantity of fluid, which from its acrimony was compared to strong mineral acid; added to this, the close analogy which subsists between some forms of dyspepsia in which the presence of acid is indisputably certain, and those symptoms which precede an attack of gout, leave little doubt of its existence also in the latter case.

In a systematic treatise much more might be adduced in support of this opinion; but as I fear I have already trespassed too long upon the patience of the reader, I must remain satisfied with having merely laid the foundation for future inquiry.*

If we admit this fact, the dangerous consequences of an indiscriminate attempt to cure gout by the application of cold water will be obvious. That in many cases the powers of nature are proof against the destructive tendency of this practice cannot be denied, but that fatal instances have occurred in consequence of its employment is equally certain. Upon this point Trallian judiciously observes, "that no astringent or repellent medicines should ever be had recourse to, until the bowels have first been freed of the sordes contained in them.†

* The objections to this doctrine first started by Stahl, and afterwards urged by the celebrated Cullen, are of little weight in the scale when opposed to the host of evidence which may be adduced in its favour. Cullen says, we have no direct evidence of the existence of morbific matter in the blood, and that previous to an attack of gout there appears no marks of any morbid state of the fluids. Granted: but we have strong proof of its existence in the intestines; and we shall have more difficulty in supposing the possibility of its continuance in the bowels without being absorbed into the circulation, than in accounting for the mode of its getting there. The arguments against the existence of this matter, deduced from the various and contradictory accounts of its nature, are too futile to deserve a moment's attention. It can never be deemed an objection to the truth of an opinion, that its partizans have taken wrong measures in its defence. Hence the attack upon the doctrine contained in his 6th objection, founded on the mistaken inferences of its existence, from the hereditary nature and contagious property of the disease, is equally absurd with that last considered. The only objection which remains unanswered is, that the theory is inadequate to explain its frequent metastases from one part to the other. Is Cullen's theory unimpeachable on this score? No. Admitting then that we are not sufficiently informed respecting it to be enabled to explain *all* things *at present*, let us take that which we have as an earnest of that which is to come; and having nothing more plausible to oppose to it, wait with patience until more facts, or some newly discovered analogy, afford the complete and desired explanation.

† Ἐγὼ δέ φημι, μηδὲ τοῖς ςύφουσι καὶ ἀποπρέσθαι δυναμένοις ἐπὶ τῶν πεπονθότων ἐθέλειν κεχρῆσθαι, μὴ πρότερον ὅλον ἀπέριττον ἐργασάμενον τὸ σωμα.

ALEX. TRALL.

That gout is curable by medicine and proper attention to diet and mode of living, without danger of inducing other diseases, I have long been convinced by great attention to the subject; and so fully persuaded am I of this fact, that I should feel no hesitation in affirming that it is so in every case, if the experience of one individual could afford a sufficient warrant for such an assertion.

The administration of purgatives forms a prominent, though not the only feature in the medicinal part of its treatment. Their employment we have shewn to be warranted by facts; they have the voice of reason on their side, for when "the enemy is driven from the citadel, and the gates shut, peace and tranquility *must* be restored." They have the sanction of the most unquestionable authorities of antiquity for their utility; but that they are capable of removing the disease in every case, is more than I dare venture to affirm. Many cases may, no doubt, occur, in which they may not only be inefficient, but dangerous. The discrimination of the practitioner must here be exercised; Elaterium, though in a proper dose a *mild* medicine, will destroy life as well as the Eau Medicinale, and it is only by minute attention to the circumstances of the case, that its employment can be regulated.

As to the identity of any preparation of Elaterium with Husson's remedy, it is, as I hinted above, of too little importance to contend for. Yet, I may observe, that the marked coincidence in effect between these medicines, speaks as strongly in its favour as medical evidence can speak. What pharmaceutical process it should undergo to render it similar in external appearance to that medicine, I shall leave to the consideration of those who are more curious in researches of this nature than I am.

This is a point at which no man of science need be ambitious of arriving. The research is endless. The time which has already been employed in the inquiry, and the varied speculations that have been entered into respecting it, with so little success, will almost justify this conclusion. It appears to me to be a prostitution of talents, implanted in us by the great Author of our being for wiser purposes; for we are seeking for that, which when discovered will add comparatively nothing to the stock of our information.

If I have shielded myself under the authority of men whose names are venerable in the annals of Medicine, I trust I have not suffered myself, by a blind adherence to them, to be drawn into the track where experience does not also lead. The remarks here made might have received support from cases under my own observation, but it is easy to make a tale suited to any theory, and the narratives of some modern writers are

so

so much in opposition to the daily experience of all practitioners but themselves, that I was unwilling to risk an imputation so disgraceful to a man of science.

It is with reluctance that I have been induced to launch out into theory; contrary to my original intention, I have insensibly been drawn into it. If my opinions are opposed to facts, I shall be most happy to cancel them and to acknowledge my error; I have no object in this investigation but truth, and if I have not yet found her, she shall be a welcome guest whencesoever she may come.

JOHN WANT,
Surgeon to the Northern Dispensary.

July 23, 1811.

To the Editors of the Medical and Physical Journal.

Mr. Harrup on Tinea Capitis.

GENTLEMEN,

HAVING of late years met with a considerable number of cases of Tinea Capitis and Ring-worm, I take the liberty of sending you the result of my experience in answer to the note in your last number signed *Philanthropos*.

As the remedies I have employed have proved uniformly successful when duly persevered in, and been used indiscriminately in both diseases, I shall only state a few cases by way of illustration.

In March, 1807, two most inveterate cases of Tinea Capitis in the same family came under my care—the one, a girl of eight, the other, a weak, unhealthy boy about six years of age. The disease had continued upwards of two years, and various remedies had been employed by both regular practitioners and empirics, but without success. Although their heads had been formerly frequently shaved, it was now impossible to apply the razor; the hair was therefore cut as close as possible, and after well washing the parts affected with warm water and soft soap, a lotion composed of two drachms of sulphurated kali, and eight ounces of lime-water was applied night and morning. They also took from eight to ten grains of the hydrarg. cum sulph. twice a day; these remedies were persevered in about three weeks, with two or three doses of calomel and rhubarb in that time, when the parts had so much recovered as to bear shaving. The hydrarg. cum sulphure was continued as usual, and the following liniment, re-

commended by Mr. Earnest in the 17th volume of this Journal, was substituted for the lotion. R. Sapon. mollis ʒiss, potassæ sulphuret. pulv. piper. nig. āā ʒiij. M. ft. liniment. After continuing this plan two months longer the boy's head was quite well, and the girl's exhibited only some slight streaks of scurf, which was soon removed by the daily application of a small quantity of the ung. hydrarg. nitric. oxyd. Oil-skin caps, fitting close to the head, were worn during the whole time of the cure. Not the smallest trace of the disease has appeared upon either of them since.

In July 1808, a nobleman's son, about fourteen years of age, was placed under my care for ring-worm of the head, which had subsisted some time. At the request of a near relation, two different applications, said to be efficacious in such cases, were tried, but with no good effect. The above mentioned liniment was then had recourse to and applied twice a day; he also took a scruple of the hydrarg. cum sulph. daily in the form of an electuary. In 24 hours the parts were nearly well, and the cure was completed in about six days longer, by the application of the ung. hydrarg. nitric. oxyd.

No return of the disease since.

In the latter end of 1809, a child four years old, who laboured under a similar complaint, which had subsisted a considerable time, and for which a great variety of medicines had been unsuccessfully employed, was completely cured in the course of two months by the same means.

Ring-worm made its appearance in a school in this neighbourhood the beginning of last year; several boys were infected, and the school in consequence broke up. Four that remained were put under my care. After some delay their heads were shaved, and oil-skin caps provided. The cure was begun by a dose of calomel and rhubarb, and the hydrarg. cum sulph. from six grains to twelve, were administered twice a day and persevered in. To the parts affected, and indeed over the whole of the head, the following lotion, which is recommended by Mr. Barlow in the 14th volume of this Journal, was applied every night and morning, the parts being previously washed with warm water and soft soap. R. Potassæ sulphuret. (recens pp.) ʒiij. sapon. alb. Hyspan. ʒiss. aq. calcis ʒviiss. spir. vinos. rect. ʒss. M. ft. lotio. In the course of two months they were so much recovered that the lotion was discontinued, and the cure completed by daily rubbing the parts with a small quantity of the ung. hydrarg. nitrat.

The disease has not returned. I consider the exhibition of the hydrarg. cum sulph. as greatly contributing to the cure of these obstinate disorders. In some cases I have tried to effect

a cure

a cure by the external applications alone, but the progress was so slow that I was ultimately under the necessity of having recourse to the hydrarg. cum sulph.; of late I have generally administered it conjoined with a few grains of magnesia or kali nitrat. and in somewhat larger doses than what is usually prescribed.

If the statement of the foregoing cases is deemed sufficient to induce Philanthropos, and others of your numerous readers, to make trial of the means my experience warrants me to recommend; the result, I hope, will be published through the medium of your Journal; and if success be attained, much satisfaction will be afforded to,

Gentlemen,

Your obedient humble Servant,

ROBERT HARRUP.

Chobham, July 13th, 1811.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

I WAS rather surprised in perusing your Journal for April, 1809, page 314, to find the following remark of Dr. Roberton on Spasmodic Stricture: he says, "We are certainly much indebted to Mr. Home for having introduced more generally into practice the use of the large in preference to the small catheter." Mr. Sharp, however, in page 183 of his Critical Enquiry, was rather before him in his opinion respecting the comparative advantage of a large over a small instrument. He says, "a large catheter or sound may sometimes be passed into the bladder when a small one cannot." But that Mr. Sharp was not the first who perceived the superior advantage in many instances of a large in preference to a small catheter, will appear evident from the following passage in the second part of Heister's Institutions of Surgery, where he observes, "Some approve of their being very small, or slender, thinking that thereby they have a more easy passage into the bladder, in which they are much mistaken; because the most slender ones are apt rather to catch and stick in the rugæ and inequalities of the urethra, which often appear very considerable in old men, so that the whole operation may be thereby frustrated, &c. &c." The above quotation is sufficient to sanction what I have advanced, that Mr. Home was not the first discoverer of the superior

superior advantage in many instances of the large catheter; possibly he was unacquainted with the above passage, if so, he claims equal merit with Heister.

I am, &c. &c.

B. E. T.

Hythe, July 12, 1811.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IF you think the following facts worthy of being recorded, I beg you will insert them in your valuable Journal. The veracity of these facts you may depend upon. The gentleman, at whose country residence they happened, is still living in the neighbourhood of the metropolis.

Some years back a dog, in a state of hydrophobia, made his way into a farm-yard belonging to the above gentleman, and there bit a dog, some swine, and a cow; the animals were immediately confined. In about five or six weeks the dog died rabid, the swine in the same state also. The cow, which was known to have been bitten, was, soon after the death of these animals, taken very ill with the like symptoms; it was supposed she must very soon have died had no means of recovery been resorted to. The gentleman had at the time a bottle of antimonial wine in the house, he designed to try the effect of this medicine on the animal, and poured the contents of the whole bottle down the cow's throat. After some time the cow broke out into a most violent perspiration, so much so that the sweat ran off her profusely; the expression made use of when I was made acquainted with the fact was, that the perspiration lay in lakes between the hollow parts of the cow's back. In a short time after this perspiration the cow grew better, and at last perfectly recovered.

I should think from the account given, the complaint was a confirmed case of hydrophobia; but whether this medicine has ever been given in this most dreadful disease, I know not; or if it has been given in sufficient quantity.

I remain,

Your most obedient Servant,

VERITAS.*

Liverpool, July 12, 1811.

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* The Editors generally decline the insertion of extraordinary occurrences upon anonymous authority. For once they have ventured to depart

For the Medical and Physical Journal.

On the Contagion of Inoculated Small-Pox.

(Continued from page 120.)

I AM perfectly in accord with you, gentlemen, that this is an "interesting," I will say, a very momentous "inquiry." I will therefore prove, with your permission, that the other assertion of Dr. Douglass, which attributes the excessive and rapid propagation of the natural small-pox through the town of Boston to inoculation, is not so void of probability as to be considered of "but little value."

In support of this assertion, Dr. Douglass compares the progress and mortality of the last small-pox, with that which had occurred about nineteen years before*.

1st. He tells us, "that in the former small-pox season, nineteen years before, the disease spread gradually; that few, comparatively, were infected at a time; that its progress occupied a considerable space of time, *viz.* from ten to twelve months; that vast numbers escaped the infection altogether; and that the total number of deaths throughout this long period, did not amount to *four hundred.*"

2dly. He informs us, "that the mortality from the small-pox was greatest in the month of December, during which month, *eighty* persons died of the disease."

I do not find, that the accuracy of this statement has been disputed; and when we consider the extreme dread of the small-pox, which was then universal among all ranks of people, and the very great care which was taken to guard against infection, it seems highly probable, that the progress of the disease would be as slow as is here described.

If the number of those who died was mistated, we should surely have found the statement contradicted. It would be the obvious policy of the Doctor's opponents to prove, that the virulence and mortality of the small-pox were as great before inoculation was introduced as afterwards. It is hardly possible that the Rev. Mr. Mather, the great advocate of

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part from their established principle of conduct, with the hope that the gentleman, at whose country residence the case occurred, will confirm the fact. Perhaps accident may some time discover a remedy for this dreadful malady, when theory, science, and reasoning, have failed.

* It can hardly be necessary to inform any of your readers, that the total absence of variolous contagion from particular districts, for a long series of years, was formerly no unusual circumstance.

inoculation

inoculation at Boston, should not have had the means of ascertaining this point; and he, who had been so rudely treated by Dr. Douglass, would, doubtless, have been well disposed to disprove the Doctor's assertions on this head, had the assertions been disputable.

Thus much for the first season of small-pox: of the second, which was on the decline, or nearly worn out, when Douglass wrote, we learn the following particulars.

1st. That the diffusion of the infection was much more general, and the progress more rapid: for, in the *three months of September, October, and November*, they buried *seven hundred and sixty persons, which is nearly twice as many as died of the small-pox, in the whole period of ten or twelve months*, nineteen years before.

2dly, That the mortality was greatest in the month of October, during which month, *upwards of four hundred persons* died, which is *five times as many* as died of the same disease, during the month of the greatest mortality in the former season.

It may be collected from the testimony of the Rev. Mr. Mather, that the progress of the disease and the number of deaths, as given in this statement, was tolerably correct; for he tells us* that, "in little more than half a year, *upwards of five thousand persons* underwent the small-pox," and "near nine hundred died of it:" and he does not contradict what is said of the great mortality in the months of September, October, and November.

Mr. Mather likewise acknowledges, that during the prevalence of this epidemic, "*almost three hundred persons*" were inoculated; the first inoculation being undertaken towards the latter end of June, when the natural small-pox had prevailed about two months; for it commenced at Boston in April. It is evident, therefore, that the rapid increase of the pestilence was coincident with the practice of inoculation.

The question then to be resolved is this. Is the promiscuous inoculation of the small-pox, as a cause, equal to the diffusion of the infection as an effect?

That the inoculation of the small-pox at Boston was equal to produce this effect, is, I think, undeniable; when it is considered that the inoculators unwittingly taught, *that the small-pox by inoculation was not infectious*, and when, of course, little or no care was taken to guard against the infection; or indeed, when, from the promulgation of such an

† Rev. Mr. Mather's Letter, dated March 10, 172½, in "Maitland's Account of Inoculating the Small-Pox vindicated." p. 58.

opinion,

opinion, people were rather courted to run into the way of danger.

If, from *one* child inoculated by Mr. Maitland, the infection spread to *six* persons and *one* died;—

If, from the inoculations of *one* man* who taught his patients, "that the small-pox was not catching from the inoculated," *the whole neighbourhood* became infected and *several* died;—

If, from *one* child inoculated, as we are told, by Dr. Willan†, *seventeen* persons took the infection and *eight* died;—

What reason is there to doubt that an excessive diffusion of variolous infection, and consequent mortality, would be created from the inoculation of "almost three hundred persons," at Boston, where no precautions were adopted to separate the inoculated from those liable to be infected?

Does Mr. Mather deny that inoculation tended to spread the disease? I cannot find that he does; but he urges the necessity of inoculation, because, of the numbers inoculated none, he says, died *of* the disease, and only five or six *upon* it, or *after* it‡.

Does Mr. Maitland deny the infectious nature of the inoculated small-pox? We have already seen what he calls "a *full* answer to this objection;" *valeat quantum valere potest*—but he tells us, that "it would be a most tyrannical encroachment upon the natural rights of mankind, to debar them from the lawful means of securing themselves from the fear and danger of so terrible a plague.§" A sufficient acknowledgement, that considerable apprehensions were entertained by others, of the diffusion of infection from the inoculated small-pox.

As a matter of fact, it has been ascertained, "from a comparison of the Bills of Mortality for a series of years in various places, that a larger proportion of the inhabitants has died of the small-pox, in towns where inoculation is practised, than in the same before it was known, or in others where it is prohibited.‖"

I have now, I presume, demonstrated, that there is much appearance of truth and consistency in Dr. Douglass's assertions; I hope, therefore, it will be conceded to me, that I

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* Baron Dimsdale's Thoughts on General and Partial Inoculations, p. 10, 1776.

† Reports on Diseases of London, p. 18. 1801.

‡ " Maitland's Account of Small-Pox vindicated. P. 58.

§ Ibid. p. 34.

‖ Haygarth's Sketch of a Plan to exterminate the casual Small-Pox. 29. 1793.

have not greatly erred in appealing to his testimony, expressed in very strong, if not in very polite language, in support of the argument, that the infection of the natural small-pox may arise from inoculation. A conviction of the truth of this fact has drawn from the governors of the Small-pox Hospital a peremptory prohibition of *indiscriminate* inoculation, and I sincerely hope, that their example may be followed by the governors of all other institutions, where the promiscuous inoculation of the small-pox is still permitted and practised.

I am sensible, Gentlemen, that I have occupied in this discussion more space than ought, perhaps, to be afforded to an anonymous correspondent; if, however, there is as much danger as I imagine, in having it believed that the inoculated small-pox is *not infectious*, the pages of your Journal will not have been employed to a useless purpose, in pointing out that danger.

As the facts referred to have been long before the public, and as nothing in this letter is advanced solely upon the responsibility of the writer, he still prefers concealing his real name, under the signature

REPREHENSOR.

July 8th, 1811.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IF the following case and observation meet with your approbation, you will much oblige the writer by inserting them in your widely circulated Journal.

Mrs. W. Devonshire-street, Portland-place, aged 40, was attacked, about the commencement of April last, with acute rheumatism, in consequence of taking cold from long exposure to a copious rain. She was of a corpulent make, and had never suffered any previous attack of the disease. Prior to my being requested to visit her, she had been attended by a medical gentleman for about a fortnight, but had experienced no relief, in fact, the disease was gaining ground.

From what I could learn when I first saw her, she had been taking stimulants of the usual kind, but without benefit. She complained of wandering gnawing pains, with swelling and redness about the joints of the fingers, but particularly in the *left knee;* the swelling there was to a great extent, with a *diffused redness*; incapability of moving *that joint* in the least degree; even the motion of moving the other limb, or the shake occasioned by opening or shutting the chamber door,

door, would cause *violent pain*. The distress occasioned by the pain always being *worse at night*, so that the patient received little or no rest. As I stated before, she was of a plethoric habit of body, the skin was very hot and dry, the tongue furred, and every symptom of fever. Had I seen her at the commencement of the disease I should have bled her; this, however, had been omitted. I therefore desired her to relinquish taking any more of her former medicine.

I had before observed in five cases, the *marked good effects* of the combination of calomel and opium in the acute rheumatism, as well as in inflammation of the liver, and I ordered Mrs. W. to take calomel ppt. gr. ij opii pulv. gr. j. every four hours in jelly, followed by a saline draught; this was on the third of April On the sixth day I saw her again, she had taken her medicine regularly, and had passed a more comfortable night than for some time past; she felt considerable less pain, and had much less heat on the skin: her pulse was reduced, and her bowels gently opened by the medicine, and an almost constant diaphoresis was kept up; I ordered this medicine to be continued every four hours, as before. On the 25th I saw her again, she had occasionally slight returns of pain, but with no violence, and for the most part she was easy; the affected knee was lessened in size, and the redness had disappeared. It would now admit of some very trifling motion. I ordered a stimulant embrocation to rub the knee with three or four times a day, and desired her to continue the medicine with calomel and opium in the same doses as before. I visited her the next day, when I found her in no pain, every symptom of fever gone, the knee less swelled and allowing of considerable more motion, the bowels regularly open, but the mouth slightly affected by the mercury. I now thought proper to discontinue the medicine she had been taking, and to substitute a tonic: I directed her to take the decoction of bark with a small dose of opium three times a day. She continued this plan for a week, at the end of which she was sufficiently recovered to undertake a journey to Edinburgh. I have since heard she has had no return of the disease.

To the above case, as well as to others I have witnessed attended with a similar result, I would wish to call the attention, and at the same time to solicit the opinion of medical practitioners on the efficacy of the combination of calomel and opium. It is not with the vain idea of arrogating any novelty to myself, that I would solicit the attention of medical men to the consideration of the subject; the observation has been made by others, but I firmly believe, from my own experience, that calomel and opium given separately will not

act in the same way as when combined. Why should not the combination of these articles produce a marked and particular effect on the constitution as well as the mixture of ipecacuanha and opium? It is well known these two articles given alone will not act in the same manner as in a state of union. To ascertain, exactly, the way in which any medicines act on the constitution, I am afraid, ever will remain a desideratum; but at any rate we are able to ascertain, by the test of experience and experiment, what effect they produce. And if we find that the union of calomel and opium possesses a decided superiority over the exhibition of those articles given separately, it is sufficient for us to know the fact without inquiring how they act upon the constitution, even if the idea I entertain, that there is a specific effect produced by *this* combination, is fallacious, yet there are many advantages derived from the exhibition of this medicine in the disease under consideration. By the calomel you induce a fresh action in the system, which ought to be given till the mouth becomes slightly sore, by this means you are able to suspend the morbid action previously existing; a gentle stimulus is kept up upon the bowels, and by the opium you relieve violent pain, and at the same time prevent the calomel acting as a purgative; thus these double purposes are answered by the exhibition of this medicine, supposing that no specific effect is produced by their union, which, however, I strongly believe to be the case, but which opinion I beg leave to submit, with deference, to the judgment of your intelligent readers.

I remain, Gentlemen,
Your obliged,
D. H. DAVIES.

27, Carburton Street, Fitzroy Square.

Hepatic Disease the Cause of Hypochondriasis.

(Month. Mag.)

It has been considered that the only bodily disease, under which the hypochondriacal patient appeared to labour, consisted in a disordered state of the stomach. That the stomach is generally disordered in such cases is certain, indeed it seems probable that no one of the digestive organs could be materially disordered without the others participating; but it is also probable, when hypochondriasis occurs, that the liver is the viscus, whose functions are principally deranged. Before the publication of Mr. Abernethy's excellent

"Observations

"Observations on the Constitutional Origin and Treatment of Local Diseases," it was thought that there must be some striking peculiarity in the disorder of the digestive viscera, when those remarkable and distressing feelings occurred which have been called hypochondriasis and melancholia; but it never occurred till that work appeared, that such peculiarity might consist in a derangement of the hepatic functions in particular. This seems an important thing to know, because many of those medicines which in other cases would strengthen and evacuate the stomach and bowels, would not restore those organs to a healthy state, while the liver remained the principal seat of the disorder, which might subside after the administration of small doses of *Pil. Hydrarg.** Mr. Abernethy justly reminds his readers, that the terms used by the ancients to express a dejected and irrational state of mind, had all a reference to hepatic disorder. Melancholia from μηλας and χολη, hypochondriasis from ὑπο and χονδριον, as well as the terms *atrabilius* and *manie atrabiliaire*, all signify disorder of the liver.† Indeed the subsisting connection between the state of this organ and that of the mind, was so generally known to the antients, that it was frequently alluded to by their poets, and metaphorical allusions to hepatic disorders were made use of to express mental perturbation. Thus Horace,

"Cum tu, Lydia, Telephi
Cervicem roseam, cerea Telephi
Laudas brachia, væ, meum
Fervens difficili bile *tumet jecur.*
Tunc nec mens mihi, &c."—*Lib.* 1. *Carm.* xiii.

And again,

Quum tibi flagrans amor, et libido,
Quæ solet matres furiare equorum,
Sæviet circa *jecur ulcerosum,*
Non sine questu. *Lib.* 1, *Carm.* xxv.

And Juvenal,

"Quid referam? quantâ siccum jecur ardeat irâ,
Cum populum gregibus comitum premit hic spoliator, &c. *Sat.* i, 45.

Again,

"Rumpe miser *tensum jecur.*"

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* See Surgical Observations on the Constitutional Origin and Treatment of Local Diseases, &c. p. 213.

† Some modern writers have absurdly called this disorder the *spleen*, while others, influenced by the whimsical humoral pathology, have denominated it the *vapours*.

Perseus

Perseus says,

———" *rupto jecore* exierit caprificus?
En pallor, seniumque. O mores," &c. *Satyr.* i. 26.

The following passage is still more to the purpose:

———" nec quicquam extrinsecus intrat,
Quod nervos agitet; sed si intus et in *jecore ægro*
Nascantur," &c. *Satyr.* v. 129.

Ovid, unable to account for a bodily infirmity under which he laboured, and, supposing he could not be bewitched, exclaims,

" Sagave puniceâ defixit nomina cerâ,
Et medium tenues in *jecur* egit acus." *Lib. amor.*

See also some extraordinary assertions about the liver in *Plin. Hist. Nat. lib.* xi. *cap.* 37.

CRITICAL ANALYSIS

OF

RECENT PUBLICATIONS

IN THE

DIFFERENT BRANCHES OF PHYSIC, SURGERY, AND MEDICAL PHILOSOPHY.

Medical Papers, communicated to the Massachusett's Medical Society. Published by the Society. Vol 2. Part II. 8vo. Boston. 1810.

We have great pleasure in noticing the progressive state of this Society. The first number of its papers, containing a selection of important communications, was published in 1790. The second, from want of funds, did not appear till 1806. A third, forming the first volume, was printed in 1808; the first part of the second volume was published in 1809, which this number completes; and from the increasing respectability of the Society, a volume may, in future, be expected annually.

The number before us contains only two papers, the last of which we shall notice the first, being *a Dissertation on the Progress of Medical Science, in the Commonwealth of Massachusetts*, read at the annual meeting of the Medical Society at

at Boston, June 6th, 1810, by Joseph Bartlett. From this ingenious communication, we learn that little is known respecting the earliest physicians in the state, notwithstanding the establishment of Harvard university in 1638, and the various records and traditions of that period. The first medical publication appeared in 1677, and is entitled; "A Brief Guide in the Small-pox and Measles," by Thomas Thatcher, a Clergyman and Physician. About the same time was published, without the author's name, a Letter concerning a good Management, under the Distemper of the Measles.

The beginning of the next century was memorable for the controversies excited by the introduction of variolous inoculation in Boston, by Cotton Mather, a celebrated divine. Most of the clergy strenuously supported the novel practice.

Amongst the most sturdy opponents were Lawrence Dalhound, a Frenchman, and Dr. Douglas, a native of Scotland; whilst the writing of Dr. Boylston had great influence in establishing inoculation. "His experiments commenced with his son in 1720, and in a year he extended the disease to 247 persons, of whom but six died."

Besides the tracts on measles and small-pox, during a century and a half, the only other medical publication, was a tract on pharmacy, written in 1732, by Thomas Harward, a clergyman.

The first medical establishment was an hospital at Rainsford's island, in the harbour of Boston, which, for upwards of a century, has been appropriated to the reception of mariners and others with "contagious sickness." Hospitals for inoculation were opened in the vicinity of Boston in 1764; and in a few years afterwards, at various other places.

"The first information of physicians in an associated capacity, is in the preface to Douglass, which is addressed to a medical society in Boston; but there are no particulars respecting it. A gentleman lately deceased, whose memory included a retrospect of sixty years, and who knew the author, had no recollection of its existence."

In 1771 an anatomical society existed at the university, and "held private meetings for a discussion of medical and physiological questions, and *were in possession of a skeleton;* but their demonstrations were confined to the dissection of appropriate animals, as the examination of the human body was then an extraordinary occurrence with our most inquisitive anatomists."

"Obstetrick attendance, except in the most difficult cases, was seldom by male practitioners, till within the last sixty years; but this part of the profession is now principally conducted by physicians.

"Though some individuals have been celebrated in particular branches

branches of practice, there are no established distinctions, as in other countries; the utility of which has been considered problematic."

The American revolution, and the war consequent upon it, favoured the advance of medical knowledge.

"The establishment of military hospitals afforded extensive opportunities for observations and experiments; important operations in surgery were rendered familiar; whilst the diseases and casualties of camps were constantly occurring. Anatomy was greatly improved by a frequent inspection, without fear of detection, of the organs of the human body; physiology was more accurately comprehended, and a laudable spirit of inquiry was assiduously cultivated."

In 1780, the first course of anatomical lectures in this commonwealth, with dissections and demonstrations, was delivered by John Warren, Surgeon of the hospital at Boston.

The Massachusetts Medical Society was established in 1781, and soon acquired a high degree of consequence in the state; for we find, that in 1789 it "was authorized to point out and describe such a mode of medical instruction, as might be deemed requisite for candidates, previous to examination."

"It was then determined that every pupil should have a competent knowledge of Greek, Latin, the principles of geometry, and experimental philosophy; and that the period of instruction should in no case be less than three years, with attendance on the practice of a respectable physician.* Publications are made triennially of authors to be studied, by which the most valuable modern productions are extensively circulated. The censors meet for examining and licensing candidates once in four months."

In 1803 the constitution of the Society was essentially changed, and its power and privileges extended by an act of the legislature. In 1808, a Pharmacopœia of the Society was published, after the plan of that adopted by the Edinburgh College.

The medical school† at Harvard University, from our author's description, promises to rival the most celebrated in Europe, and has already produced several able physicians.

The improvement of our art is slow and hardly perceptible; but when we reflect on the changes which have occurred in it during the course of the last century, the advance is obvious.

"In May, 1682, notice was given in a London gazette, that as the weather was growing warm, his majesty would not touch any more for

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* No candidate can be admitted to an examination after June 4, 1813, unless he has studied with, and attended the practice of a fellow or honorary member of the Society. By Laws, p. 18,19.

† An account of this Institution is inserted in the Medical and Philosophical Intelligence of our Journal for the present month.

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the king's evil, till after Michaelmas; and, in 1687, an indigent citizen of New Hampshire, having tried every other means without effect, petitioned the legislature for aid to transport him to England, for that efficacious remedy."

The Massachuse ts Humane Society, founded in 1786, was incorporated in 1791, and has 587 members.

Since the year 1799, vaccination has been practised in the state with considerable success, and institutions have been appointed to aid its progress.

Besides editions of ancient and approved medical works, scarcely a publication of importance issues from the British press, without being shortly reprinted, and extensively circulated in America.

We have thus taken a rapid sketch of Dr. Bartlett's interesting dissertation; it has convinced us that the spirit of inquiry which animates our transatlantic friends, will not suffer them to rest satisfied with imbibing their medical principles from European sources; they have now universities, professors, and libraries; enjoy legislative protection, and have perfect freedom from those restrictions and impediments to science, which enacted in a less enlightened age, continue to limit the utility of some of our public institutions.

The article which is placed first in the present number, and to which we now solicit our readers attention, is a *Report respecting a Disease commonly called Spotted or Petechial Fever, which has within a few years been epidemic in various parts of New England.* A Committee* was appointed by the counsellors of the Massachusetts Medical Society, at their special meeting, March 27th, 1810;—

"To frame a series of questions respecting the causes, history, and mode of treatment of the disease now existing in some parts of this commonwealth, commonly called spotted or petechial fever, to address copies of the same to the physicians who reside in places where the disease has prevailed, or does now prevail, and to request the most speedy and minute replies to the same."

The report before us is the result of the exertions of this Committee. The questions framed on the occasion, were highly judicious, and calculated to direct the practitioner in his inquiry concerning the nature of a disease which excited considerable alarm throughout New England. It first appeared in the winter and spring, chiefly in the cold months, in an inland and elevated country, abounding with hills and vallies, ponds, running streams, and fresh water rivers.

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* The names of the committee are, Thomas Welsh, James Jacks, and J. C. Warren.

" In Cambridge-port, the first place near the sea-coast, at which it was observed, it was confined for the most part to the land which was recently salt meadow, and which is now intersected by many foul ditches. In Boston this disease, as also typhus, has occurred most frequently in those parts of the town exposed to the flats and water."

The disease in a large proportion of cases was mild; in some severe; and in a few destroyed life suddenly like the plague. Whether severe or mild, " the symptoms differed only in degree, not in kind." The communications made to the committee related chiefly to the disease in its gravest forms; from their abstract we select the following particulars of its history.

" The invasion of the disease is generally sudden and violent. In its course all the functions of the body are more or less interrupted, and often some of them are entirely suspended. The subject of it is seized in the midst of his usual labour or occupation, and oftentimes is struck down suddenly, almost as by a stroke of lightning. The first symptoms are various, such as local pain or paralysis, delirium or coma, and rarely spasms or convulsions.

" The disease often commences with shifting pains. The patients suddenly feel a pain in one joint or one limb, often in a finger or toe, in the side, stomach, back, neck, or head. Sometimes the sensation is like the stinging of a bee, frequently it is most excruciating pain, which at once arrests and commands the whole attention. This pain moves from place to place without losing its violence, generally approaching the head, and is often confined to one side of the body. It is said that the left side is more frequently affected than the right. The head is more frequently first affected with pain than any other part; and when not affected at the first moment, it almost invariably becomes so in a short time. The pain in the head is oftentimes intolerably severe, so that it is compared to the beating of hammers upon the part; and the patient says he shall become crazy if it continues.

" Partial loss of sensibility and paralysis are, in other cases, the first symptoms, and often occur in the course of the disease, when they do not in the beginning. The powers of sight are affected in various degrees from a slight dimness to absolute blindness." The sensibility of the skin also is diminished, so that a limb is numbed, " or feels as if it had been asleep,"

" In the muscles of various parts, paralysis has been occasionally observed; as in those of one hand or foot, and oftentimes in those subservient to deglutition. In some cases hemiplegia has occurred at the commencement; and it is particularly worthy of remark, that often the greatest weight of disease falls on one side of the body; insomuch that not only the voluntary muscles, but the vascular system has been much more affected on one side than on the other.

" Not very rarely the disease commences with delirium; and very frequently this symptom follows a violent pain in the head in a very early stage of the disease. The delirium is often mild; in some cases, however, where it is attended with flushed face and eyes, great heat in the head, and violent pulsation of the carotid arteries, it produces a

fury

fury which is scarcely to be restrained. 'In a few instances the patient has become blind and raving within half an hour after the attack."

Stupor, coma, convulsions, and spasms, though more frequent in the latter stages, occasionally attend the accession of the disease; and in whatever form it commences, great prostration of strength speedily ensues.

"In some instances the patient is described as almost immediately falling down under the weight of disease. This prostration is accompanied or followed by universal or partial chills; the skin becomes dry and pale, or mottled like one who has been long in the cold; eyes glassy, nose contracted, the face sublivid, with paleness around the mouth, and the countenance expressive of the utmost anxiety and distress, or its features dissolved with a loss of all character and expression; the whole body becomes cold, respiration very laborious, especially in children, pulses very small and feeble, slow at the commencement, but shortly very frequent. If there be neither coma nor delirium, the spirits are very much dejected, the patient suffers extreme solicitude and anxiety, with apprehensions of death, frequent sighs, restlessness, and agitation. He complains of oppression and faintness, with indiscribable distress about the præcordia, and a sensation of fulness at the stomach. Frequently eructation, nausea, and vomiting ensue, and also fainting in the early stages of the disease; and the vomiting occasionally becomes incessant, embarrassing and defeating every effort to give relief by internal medicines, while it exhausts the patients."

The different stages of the disorder have not been accurately distinguished. Diaphoresis usually occurred at an early period, and was followed by a mitigation or subsidence of the symptoms. It is doubtful whether this favourable event was the effect of art, or was a natural termination of the disease.

In general the symptoms became modified in the course of from eight to twenty-four hours; and some patients have died within that period. The second stage may be said to commence, when the pulse becomes more full and regular, the skin warm, countenance flushed, and in plethoric subjects especially, red and florid; respiration short and difficult, but more regular than in the early period of the disease; eye-lids swollen and eyes staring, with a throbbing pain in the head. Light distresses and noise irritates; great restlessness, anxiety, and frequently delirium ensue.

These symptoms usually subside, and the disease terminates within three days; often in one day. Occasionally, after the severity of the disease has abated, it has continued in a milder form, and assumed the character of typhus, in which case, the termination has rarely been fatal.

"Among the varieties of the disease, the following is given as a description of some cases which have occurred especially among females. 'Universal deadly coldness; skin white as polished marble and smooth;

countenance perfectly placid; not one distorted muscle; pulse in the wrist imperceptible; motion of the heart scarcely to be felt; respiration visible only by gasping, and that not frequent; and as it were only a step between this imperfect state of life and death.' Even from this state of deadly stillness patients have been restored to life and health."

Death rarely occurs after the third day.

"The following is a description of the termination of the disease in cases in which it was fatal within two days. After the symptoms of the second stage, as described above, have continued from six to ten hours, the skin becomes pale and cold; pulses very quick, small and irregular; respiration less hurried, but very laborious; countenance fallen; the solids flaccid; and petechial spots of dark colour, violet or livid, suddenly appear on the superior extremities, and immediately over the whole body. At length confusion of mind with constant drowsiness, inability to swallow, respiration more frequent and more laborious, with fluttering pulse, announce the immediate approach of death."

The state of the skin varies considerably; at the commencement of the disease, it is invariably dry, at a later period sweating has usually occurred with an offensive and peculiar odour. The spots on the skin differed much in different cases. Frequently a rash or miliary eruption only appears, or a few florid or red blotches on the extremities.

"An appearance like measles has also been noticed, and likewise vesicles and pustules, which have been compared to the vaccine and variolous eruptions. In some cases these spots and eruptions have appeared at successive periods two or three times in the course of the disease. The vesicles and pustules are frequently torn by scratching; after which or without being torn they are commonly followed by scabs of a brown colour; but occasionally they are followed by ulcerations which do not heal until after recovery. These affections of the skin are often attended with itching; and independent of them, itching very frequently occurs, especially on the third day, when the symptoms become more favourable."

Petechiæ and vibices occur in but few cases, and indicate danger in proportion as they are dark coloured. In the majority of cases, however, whether fatal or not, there are no spots or eruptions of any kind.

"The tongue is usually moist and white through the whole disease, when it terminates within three or five days When it continues longer, the tongue becomes darker coloured, yellow or brown. It is sometimes very clean and red"

The thirst is seldom urgent. The appetite is diminished but not entirely lost. Vomiting, but not bilious, frequently occurs. The bowels are quiet and not readily excited to action. The alvine discharge early in the complaint is dark, resembling tar. The urine is scanty, but not altered in appearance.

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We have now enumerated the leading symptoms of this disease; for those which are occasional, or not of frequent occurrence, we refer to the original publication, from which we have already quoted so largely, that an apology would be requisite, if the work could be readily obtained in this country.

The appearances after death will best indicate the nature of the disease.

"Soon after the patient expires, and in some instances a short time before, the skin assumes a formidable livid colour. This appearance is either generally diffused over the skin, or else it exists in spots, commonly of an irregular form, but occasionally rounded. The lividity is more remarkable at first on the anterior parts of the subject, especially on the fore part of the face, neck, and shoulders, than afterward; for it gradually subsides from these to the posterior parts of the trunk. Whenever the cuticle has been removed by vesication, the skin is almost black and often covered with fluid blood. On the other hand, the petechiæ, which existed during life, become paler, vesicles of phlyctenæ, eruptions and redness of the tunica conjunctiva dissappear."

HEAD.

"When the cranium is separated from the dura mater, this membrane usually discharges a considerable quantity of blood. As soon as the dura mater is cut through, a quantity of serous fluid commonly escapes from under it. The longitudinal sinus is filled with blood, and when wounded discharges a very great quantity of this fluid, which pours into it from the cerebral veins. Having raised the dura mater, we discover an extraordinary fulness of the veins on the surface of the brain, if the longitudinal sinus is still entire. This appearance, however, varies according to the duration of the disease. In those who have perished within the space of twelve hours from the first invasion, the large blood-vessels are excessively crowded, while, in those of twenty-four hours continuance or longer, the minute vessels are more distinct; and the other appearances we are to describe are more conspicuous in proportion to the duration of the disease. The tunica arachnoides and the pia mater are remarkably altered in appearance, by the effusion of an opaque substance between them, which may be called coagulated lymph, or semi-purulent lymph. This substance is frequently of the yellowish colour of pus, with a consistence between the tenacity of lymph, and the fluidity of pus. At other times we see it possessed of the aspect of well characterized lymph. This effusion accompanies the course of the vessels very generally."—"The two hemispheres of the brain adhere to the dura mater, near the longitudinal sinus, and to each other with so much strength, as to require a laceration or incision through the substance of the brain, in order to arrive at the corpus callosum. The medullary substance exhibits a great number of bloody points at the sections of the vessels, while the cortical part seems paler than usual. The lateral ventricles always contain a notable quantity of water: this varies of course. Sometimes these cavities may be seen greatly enlarged, and at others, with not more than three or four times the quantity often found

found in healthy brains. The plexus choroides is often thicker and harder than natural, but always very pale from maceration in the effused water. The membrane attached to the plexus exhibits very considerable alterations from its healthy transparency to a state of morbid thickness and opacity. The membranes at the basis present the same appearances as at the vertex of the brain."

THORAX.

"The heart generally exhibits some appearance of disease. In every instance the small vessels on the surface of the organ are beautifully injected: the external coat is sometimes the seat of a deposition of lymph, and even the inner lining and valves are occasionally altered from their healthy texture. The right and left cavities usually contain a small quantity of black blood, quite similar in appearance and quantity; and even the aorta has been seen gorged with the same dark-coloured fluid. The structure of the lungs is not commonly deranged."

The abdominal viscera rarely presented any marks of disease. The latest period after death when these subjects were examined "was from twenty to twenty-four hours; at which time there was a less offensive odour exhaled from the body than during life, and there were no signs of the commencement of putrefaction."

The treatment most generally pursued, was to produce early and long continued sweating. The remedies chiefly employed for that purpose were ipecacuanha; and occasionally it was combined with opium, and "*cordials*" were also freely administered. These were aided by external applications, as the warm bath, blankets, hot flannels, &c. This treatment often proved successful, although several practitioners strongly objected to the use of the cordials, which they believed were productive of much injury. In the lethargic state, tincture of opium in large doses was very serviceable; in some cases from fifty to a hundred drops of the tincture administered every half hour "almost invariably removed the lethargy." Arsenic was not much employed, but when used proved beneficial.

"At the same time that cordials have been employed internally, and heat to the general surface of the body, cold water, snow, and ice have been applied to the head. These applications have been made, when there was violent pain in that part with heat and flushed face, and when there was violent delirium. The cold applications have, in these cases, afforded great comfort to the patient, and have mitigated or removed those very important symptoms. Sulphuric æther dropped on the head and allowed to evaporate, has produced similar good effects."

Blisters, when applied to the head or contiguous parts, had great influence in abating the violence of the symptoms; and vesication over the stomach checked the incessant vomiting,

mitting, and removed the morbid sensibility of the organ. Cinchona was of little use till the disease was beginning to subside; and, in some instances, preparations of iron were found superior to the bark during the convalescent state. Preparations of quicksilver, especially the submuriate, combined with camphor, ipecacuanha, and opium, and pursued till a slight affection of the salivary glands was produced, were very serviceable, and during the use of these remedies, cordials were not found necessary.

Having recorded the particulars received from their numerous correspondents, the Committee proceeded to make some remarks on the name and character of the disease. The term *spotted* or *petechial* fever has been very properly objected to by most medical men who have considered the subject. The spots, or petechiæ, were not present in a large proportion of cases; when eruption on the skin did occur, the appearance was various in cases where the chief febrile phenomena were very similar; miliary eruptions, blotches, vesicles, and pustules, much oftener occurred than purpura or petechiæ; and the eruptions appeared at uncertain periods of the disease, and were of uncertain duration.

The attempt to solve the question "what is the disease?" is learned and ingenious; from the facts which they have collected and arranged, we think that the Committee have determined correctly, that, *this disease is fever combined with internal inflammation, and the inflammation is commonly erysipelatous.*

The appearances after death clearly established the existence of inflammation of the internal organs, particularly the membranes, and especially those within the cranium. In most instances the inflammation approached nearly in character to the erysipelatous, while in some it corresponded more with the phlegmonous, and was frequently of a character intermediate between the two.

The causes of the disease have not yet been satisfactorily developed.

The treatment pursued by most of the correspondents did not entirely accord with our notions on the subject. The omission of purgatives and bleeding on the accession of the complaint, appeared to us extraordinary. Our apprehensions on the subject, however, were removed by the very rational and, in our opinion, enlightened system laid down by the Committee, with regulations to meet every variety of the complaint; leaving us nothing to add but the testimony of our approbation.

Several cases illustrating the history of the disease are appended.

A Letter

A Letter to Dr. Jones on the Composition of the Eau Medicinale D'Husson. *By* JAMES MOORE, Member of the Royal College of Surgeons, Surgeon to the Second Regiment of Guards, and Director of the National Vaccine Establishment. 8vo. pp. 46. Johnson and Co. 1811.

FROM the attention which the Eau Medicinale has attracted in this country, we are persuaded that most of our readers are sufficiently acquainted with the history of its recent importation, and the powerful effects which it has produced in cases of gout. These have claimed additional interest from the class of persons upon whom they have been chiefly induced. It is well known that the nostrum termed Eau Medicinale, besides acting as an opiate, "often proves powerfully emetic and cathartic," and in some cases has operated with considerable violence; persons of exalted rank seldom experience, in these times, such rough treatment from their polite medical attendants, consequently, its beneficial effects were not likely to be duly appreciated. But since the question has been agitated, various ancient authorities in favour of violent evacuations in gout have been adduced. Had these facts been familiar to us, it is not probable, that the effects of the Eau Medicinale on gout would have excited so much astonishment.

From the treatise of Dr. Jones, and from some private experience, we cannot doubt that the nostrum in question frequently alleviates the severest paroxysms of gout, and restores the sufferer to present health, though it does not secure him from future attacks of the complaint. As the composition of the medicine was concealed, various experiments were instituted to ascertain its component parts, but without success. The author of the letter before us, however, has advanced some very strong claims to the honour of the discovery. The mode in which he proceeded was highly ingenious; not trusting to chemistry alone, which had baffled all former inquirers, he called in the aid of metaphysics; or rather by a kind of transmigration into the soul of Mons. Husson, the original inventor, has, possibly, loosed the mysterious knot. Mr. Moore states, that he was encouraged to make the attempt by reflecting, that Husson was, probably, a man of very moderate acquirements, and that consequently "his medicine might be something very obvious, which more learned men might miss by the profoundness of their researches."

From its smell and taste, and its frequently relieving very acute

acute pain and promoting sleep, Mr. Moore suspected that opium formed part of the composition of the medicine.

" The point (he continues) was to find out what other ingredients it contained; for, it is evident, that there is at least one possessing qualities very different from those of opium. To detect this, I turned in my thoughts the sensible operations of the medicine on the human body; especially this, that in the small dose of two drams, it often acts with considerable violence as an emetic and purgative, notwithstanding the opium which appears to be in the mixture. The vegetable productions which are known to possess most active powers are few in number; that which suggested itself most frequently to my mind was the root of the white hellebore. This root, it appears by your work, (Dr. Jones's) had also been suspected by a French physician, but on examination was rejected."

Mr. Moore remarks, that the emetic and purgative effects of hellebore were known to the ancient Greek physicians; and Pliny describes it as a most powerful remedy, and enumerates a multitude of diseases which he asserts it cures.— " Medetur (Elleborum album) ita morbis comitialibus, ut diximus, vertigini, melancholicis, insanientibus, lymphaticis, elephantiæ albæ, lepris, tetano, tremulis, *podagricis*, hydropicis, incipientibusque tympanicis, stomachicis, spasticis cynicis, ischiadicis, quartanis quæ aliter non desinant, tussi veteri, inflammationibus, torminibus redeuntibus." Mr. Moore has noticed several passages in Husson's work, which strongly indicate that he took the hint of his medicine from Pliny. Thus in page 24, he observes, " Plusieurs experiences prouvent que l'Eau Medicinale guerit l'epilepsie, la folie accidentelle et recente; elle modère et éloigne les accès de celles invetérées." In another place he writes, " Un des effets les plus extraordinaires de ce remede est la guerison de la folie."

" The above quoted passage from Pliny does not comprehend all the wonderful powers of the white hellebore; he concludes by stating: ' Eodem et Phthiriasis emendatur;' which Husson translates freely by ' Elle a la même empire sur les maladies pediculaires.' Thus, by copying Pliny, he bestows upon the Eau Medicinale a power of curing a disease of which there has hardly been an authentic case, since the death of Sylla."*

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* Having witnessed cases of this disease, we cannot admit this assertion: from the authority referred to by Bonetus, Sauvages, Willan, &c. &c. the disease would not even appear to be very uncommon.

In his book de Affectibus Capitis, Bonetus describes *Capitis dolor pruriginosus à pediculorum caterva sub pericranio et intra cranii diploas latitante.*

Having related this curious and distressing case, he remarks, " Totum corpus ejusmodi animalculis in prædam cessisse novum non est,

Quis non paveat Pherecydis fata Tragædi?
Sylla quoque infelix tali languore peresus
Corruit, et fœdo se vidit ab agmine vinci.

Upon consulting various writers on the Materia Medica, Mr. Moore found them all agree in asserting that the white Hellebore is a virulent emetic and purgative. It is stated in the New Edinburgh Dispensatory, that the tincture of White Hellebore is sometimes used for actuating cathartics, &c. " and is an emetic in apoplectic and maniacal disorders." It may likewise be so managed as to prove a powerful alterative and deobstruent in cases where milder remedies have little effect. But a great deal of caution is requisite in its use: the dose at first ought to be only a few drops; if considerable, it proves violently emetic, or cathartic." Mr. Moore also perceived a striking agreement in taste between the tincture and the Eau Medicinale. From all these circumstances he was inclined to hope that he had discovered the medicine in substance though not in form, and determined to attempt the latter, by making a vinous infusion of Hellebore, and having filtered it, mixed some of it with tincture of opium. The mixture resembled the taste and appearance of the Eau Medicinale, but had not its peculiar smell. " The root of the White Hellebore is almost inodorous; consequently, the smell of any infusions of that root must depend upon the wine, or the ingredients with which it may be compounded." It then occurred to Mr. M. that Husson being a Frenchman, was likely to adopt some French form; for as no chemical analysis could detect his medicine, the only way was to endeavour to analyse his mind.

" I therefore, (says Mr. M.) examined Les Elemens de Pharmacie, par M. Beaumé, Maitre Apothecaire de Paris, and there found that the Parisian physicians had adopted Sydenham's prescription for their laudanum; which is an infusion of crude opium with saffron, cinnamon, and cloves, in Spanish white wine. I immediately procured a phial of Sydenham's laudanum, and on mixing it with the wine of Hellebore I found that this mixture approached very near to the Eau Medicinale in colour, in taste, and even in smell; and when the mixture had stood for some time, these gradually formed the same cloudy deposit which is so remarkable in Husson's medicine."

The quantity of laudanum Mr. Moore calculated to be one fourth.

We have now stated the principal facts contained in Mr.

Recentissimum vero exemplum suppeditavit annus 1673, exeunte hyeme: E sexcentis Equitibus, agmen generosis. Marchionis de Lussinge Allobrogis, castra maximi Regum sequuti, componentibus, vix decima pars superstes evasit, plerique non armis cecidere sed dysenteria: Reduces vel pedum gangræna confecit, à diutina in paludoso solo mora, indesinentique ocrearum gestatione; vel *Phtheiriasis:* Adeo ingens pediculorum numerus corpus occupabat, ut paucis diebus fœde et misere illi interirent: Ne ipsis thoracibus bubalinis (familiari Equitum vestimento) pepercerunt, in quibus domicilium quæsierunt, crebrisque effossis cuniculis perterebrarunt et eroserunt."

Moore's

Moore's interesting letter, from which we think that he has at least established an evident resemblance in appearance, as well as in qualities, between the two medicines. Actual experiments upon patients can alone confirm his very probable conjectures, and reasoning upon the subject. Only four cases are stated in the present publication, and in these "the effects of the mixt infusions were precisely the same with equal doses of the Eau Medicinale. In two of the cases where two drams were given, vomiting and purging were produced; and in one case the medicine occasioned constipation, which happens also with the Eau Medicinale; and the gout in all was relieved." Since this letter was published, we hear that benefit has been obtained by the new remedy in several other cases of gout.

To enable our readers to make trial of the medicine, we subjoin the formula as directed by Mr. Moore, and shall hope shortly to receive more information on this truly important subject.

"Take of white hellebore root, eight ounces; white wine, two pints and a half. The root is to be cut in thin slices, and infused for ten days, occasionally shaking the bottle. Let the infusion be then filtered through paper.—The mixture employed for the gout, consisted of three parts of the above wine of white hellebore, and one part of liquid laudanum.

We presume, the dose should be from one to two drams of the mixture, according to the nature of the case, or the operation of the medicine, which varies in different constitutions.

Practical Observations on the Diseases of the Inner Corner of the Human Eye; comprizing the Epiphora, the Tumor Sacculi Lachrymalis, and the Fistula Lachrymalis; with a New Arrangment and Method of Cure. Also, Remarks on Mr. Ware's and Professor Scarpa's methods of treating these Disorders. By Joseph Reade. M. D. &c. &c. &c. 8vo. London, 1811, pp. 105. Underwood.

The object of this Treatise, is to describe the diseases of the inner canthus of the human eye, and to institute, what the author conceives to be, a better method of treatment. Our knowledge of the *Epiphora*, *Tumor Sacculi Lachrymalis*, and *Fistula Lachrymalis*, are confused and obscure, Dr. Reade asserts, in even the best authors. To shew the correctness of this opinion, he gives in his preface an abridged history of the methods of treating the *Fistula lachrymalis* from *Anel* to the present time.

In 1712 Anel being called to attend on the Duke of Savoy, avoided the rude and coarse method of treating Fistula Lachrymalis by cutting, boring, and burning; and introduced a slender probe into the *punctum lachrymalis*, and from thence into the sac, and through the nasal duct into the nose. The obstruction being assumed thus to be removed, he proposed to maintain the opening by injecting tepid water night and morning, or oftener, by an ingeniously contrived syringe; and repeated the introduction of the probe as often as necessary, or until the injection passed freely to the nose, and no purulent matter was discharged either spontaneously, or by pressure, from the lachrymal sac through the puncta. The apparent simplicity of this operation, its occasioning no destruction of parts, and its consonance to nature, gained it, for a time, many partizans. Fantoni, a physician of Turin, Mangetus, Molinetti, Lancisi, Vallisnieri, Morgagni, and Heister, were its panegyrists: but it was very early opposed by F. Signorotti, who published a work expressly against it*; and our countryman Mr. Pott observed, "the passing of a small probe through the puncta has a plausible appearance, but will, upon trial, be found very unequal to the task assigned: the very small size of it, its necessary flexibility, and the very little resistance it is capable of making, are manifest deficiences in the instrument; the quick sensation in the lining of the sac and duct, and its diseased state, are great objections on the side of the parts, supposing that it was capable of answering any valuable end, which it most certainly is not."

Inadequate as the method of Anel was, it had the merit of being founded on a knowledge of the structure of the parts, and in this view led to an improved practice. It was now understood that the disease in the lachrymal sac was occasioned by an obstruction in the *ductus ad nasum*, and all subsequent efforts were directed to restore that passage to its natural state, or to supply it by an artificial opening. To re-establish the natural passage, *Mejan* introduced a seton from the nose into the nasal duct, by means of a needle armed with

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* Those of our readers who may have the curiosity to search into the history of an obsolete, though perhaps, not totally useless practice, we refer to "Observation singuliere sur la fistule lachrymale, dans laquelle on appendra la methode de la guérir radicalement. 4to. Turin 1713. Nouvelle méthode de guérir les fistules lachrymales. 4to. Turin. 1713. Suite de la nouvelle méthode de guérier la fistule lachrymale. 4to. Turin 1714." And a "Dissertation sur la nouvelle découverte de l'hydropisie du conduit lachrymal. 12mo. Paris. 1716."

a silk

a silk thread passed from the punctum into the cavity of the nostril. The difficulty of getting the seton into the duct by this means, the irritation it produced when it was drawn in, as well as that occasioned by the silk thread constantly hanging from the punctum, were insuperable objections to Mejan's project. *Jurine*, an oculist of Geneva, attempted to remove the difficulties which arose in the application of the seton, by pushing a trocar into the sac and so on to the nose: through the canula of this trocar he passed the seton. The failures of Anel and Mejan were followed by various methods of treating this disease of the inner canthus, all of which were now founded on a knowledge of the structure and functions of the parts: and their principle was either to restore the natural duct, and where that was impracticable, to make an opening into the nose, through the *os unguis*. From *Laforet* to *Pott* these are too well known to require recapitulation. M Sebatier details them with much perspicuity; but of his history it must be remarked, that it is totally silent on the elucidation the subject has received from English Surgeons, especially Mr. Pott. This must be referred to one or other of the following causes. M. Sabatier was influenced by nationality, or he was ignorant of what had been done in this country. We are unwilling to load him with the disgrace of the first, and are induced to adopt the latter, because the only Englishman he mentions is *Woolhouse*, a person better known at Paris than in London.*

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* His obscurity with regard to England, and the rareness of his works in London, may render some short notices of J. T. Woolhouse, not quite unacceptable. He was born in London, was occulist to William the Third, but resided the greater part of his life at Paris. He had a warm dispute with Heister on the nature of cataract, and controverted the opinions of Brisseau, Antoine, Coward, Winslow, St. Yves, and Morand. His publications are, 1. *Experiences de differentes operations manuelles et des guerisons qu'il a pratiquées aux yeux. Paris*, 1711. This was translated into Latin with the title of "2. *Quadraginta circiter operationes Chirurgicæ, quas oculis laborantibus administrat, docetque in Collegio vulgô dictô de l'Ave Maria, juxtà Ecclesiam Parochialem Sancti Stephani de Monte, in Universitate Paresiensi.* 8vo. *Francuff.* 1719."

3. "*Dissertations sur la Cataracte et de Glaucome de quelques modernes et principalement de M. M. Brisseau, Antoine & Heister.*' 8vo. *Offenbach*, 1717. This was translated into Latin by Christopher le Cerf, and published at Francfort, in 8vo. 1719, with the title of "*Dissertationes de Cataracta et Glaucomate contra systema Brissæi,*" &c. &c. &c.

"*Catalogue d'instrumens pour les operations des Yeux.*" 8vo. *Paris.* 1696.

"*Observations critiques sur un Livre imprime en Angleterre.*" 8vo. London. 1713.

It

It will be understood from the preceding remarks, that Dr. Reade treats of the diseases of the inner canthus of the eye under the three distinct states or gradations of *Epiphora, Tumor Sacculi Lachrymalis, and Fistula Lachrymalis.* These he "nosologically defines" in the following manner:

"*An Epiphora* is a flow of tears, mixed with either pus or mucus, coming from the surface of the eye and falling over the cheek, or pressed by the finger through the *puncta lachrymalia*, without any manifest distinction or relaxation of the sac, and might be divided into two stages, the simple Epiphora, commonly pellucid, composed of tears and lymph; and the muco-purulent Epiphora, opaque and yellow, composed of tears, mucus, and pus.

"*The Tumor Sacculi Lachrymalis*, generally occasioned by the Epiphora, or a lodgment of tears and mucus, sometimes mixed with pus in the lachrymal sac, by which it is evidently distended and relaxed."

"The *Fistula Lachrymalis*, when from an over accumulation of the contents of the sac, inflammation takes place, and the sac bursts, forming a fistulous opening, through which tears, mucus, and pus, are constantly evacuated, sometimes accompanied with a caries of the Os unguis."

In the chirurgical treatment of these diseases of the lachrymal appendages, or rather the different stages of the same disease, the novel method promised by Dr. Reade applies to the *Tumor Sacculi Lchrymalis.* It consists in maintaining a permanent opening at the upper part of the tumid, inflamed, and relaxed lachrymal sac, through which the tears, morbid mucus, or pus accumulated in that sac, are to be frequently discharged by pressure. The history of the author's own case will explain both the principle and practice, and present to our readers a specimen of the style of his pamphlet.

"About ten years ago," he says, "I was attacked whilst at College, with a severe ophthalmia, which, after some time, yielded to the usual remedies; but by degrees a distention and relaxation of the lachrymal sac took place, preceded and accompanied by an Epiphora, soft and easily yielding. Whenever occasion required I pressed out a limpid tear, partly through the puncta, and partly through the nasal canal: however, when I neglected this for a few days, the tears instead of being limpid as usual, became inspissated, and put on the appearance of purulent matter, similar to the discharge in catarrh; the palpebræ and meibomian glands were certainly inflamed from the commencement, not only of the tumefaction, but of the Epiphora. In this stage of the complaint I consulted Dr. Monro, sen. and several other surgeons of eminence in Edinburgh, who were of Mr. Benj. Bell's opinion, that whilst I found what they called little inconvenience or pain from pressing out the contents of the sac, I should not submit to any operation: for some years these symptoms remained stationary, but I must say very disagreeable. At length I experienced greater difficulty and some pain in pressing out the fluid, the sac became more distended and hard. Having read Mr. Ware's treatise, I determined to put myself under his care, and in May 1808,

1808, after having consulted some Dublin surgeons, proceeded to London. Before I arrived the puncta, ducts, and sac, became inflamed and considerably tumified; in some days, however, those symptoms having subsided, I applied to Mr. Ware, who having endeavoured, without success, to inject some warm water into the nose, made an incision into the sac with a spear-pointed lancet, and having discharged the thickened tears and mucus, he introduced a probe into the duct with very little difficulty, and then inserted a nail-headed cylindrical stile, about an inch and a quarter in length, through the nasal duct into the nose; in a few days I was much pleased to find little inconvenience and no pain, being able to withdraw and replace the stile at pleasure. After a week, during which Mr. Ware every second day injected warm water for the purpose of keeping it clear, I returned to Cork, and remained perfectly well for some months, at the end of which time I found great inconvenience and difficulty in introducing the instrument, particularly where it enters through the bone at the bottom of the sac. It occurred to me that this obstruction might be removed by substituting a conical stile, the small end easily passing, the increasing diameter would preserve the duct in a permeable state, and facilitate the introduction. I found this metallic cone to answer the purpose so well, that in operating I have since used it from the commencement; for although slight the improvement might appear at first sight, it oftentimes obviated the necessity of a second operation, especially to those patients remote from surgical assistance, who, after much uneasiness of mind, and inflammation of the parts, from repeated, but nugatory trials, were unable to accomplish the introduction. Having worn this conical silver stile for a year, the parts being perfectly healthy, I determined to discontinue it, my mind cheered with the confidence of a perfect and permanent cure. For one short month all went on in unison with my most sanguine expectations, the tears passed freely into the nose, and I wrote to Mr. Ware a letter of thanks; but in some time I became very uneasy at finding the angular tumor again forming, and that I was obliged to press out the tears through the puncta as formerly: thus from my own case, and several others on whom I operated, and who had again applied to me to relieve returning symptoms, I was concerned to be obliged to form the opinion already stated, that like all others, Mr. Ware's operation is no more than a palliative remedy, and gives relief only as long as the stile is worn.

"At this particular crisis a young lady applied to me to have her ears bored, who five years before had undergone a similar operation, but since that time had not had rings introduced. I was not a little surprised on examination to find the foramina perfectly open, without the least discharge or inflammation; from this circumstance a thought occurred, that a similar orifice might be made in a superior part of the relaxed lachrymal sac, through which the tears might be pressed *ad libitum*, the sac converted into a reservoir, a weeping eye and the deformity of a silver headed stile prevented. Actuated by this opinion I opened the sac of my right eye, at that time very much enlarged and tense, before a looking-glass with a sharp spear-pointed lancet, and introduced a bit of leaden wire, nearly the diameter of a small pin, and about half an inch in length, bent at the top, which remained out of the orifice to prevent it from slipping into the duct. This I wore for a few weeks until all inflammation

flammation subsided, and the orifice became fistulous; I then withdrew the leaden wire, and to prevent the orifice from closing, gently pressed out the tears every three or four hours; I say gently, least pressure might induce inflammation and consequent adhesion. At present it is more than a year since I adopted this plan, and now have seldom occasion to squeeze out the tears more than two or three times a day; from this almost imperceptible orifice, the *ductus ad nasum* is perfectly free, as I have as copious a discharge from the corresponding nostril as from the other, and my eyes are remarkably acute and strong, although I am in the habit of nocturnal study.

"Since I discovered this method of cure, I operated in a similar manner on several, in all of whom it has succeeded, from which I think I am authorized to draw the following conclusions.

1st. "That the Tumor Sacculi Lachrymalis is only to be relieved by an operation, and that Mr. Ware's is, at best, but a palliative one.

2d. "That the disease was neither occasioned, at least in this case and many others, by inflammation and a purulent discharge from the palpebræ and meibomian glands, as Scarpa asserts, nor from any primary obstruction in the nasal duct, but arose from atony and distention of the sac, which being thus deprived of its healthy contractile power, allowed the tears to be collected and inspissated, thereby producing a mechanical obstruction. Neverth less, I by no means mean to say, the disease may not, in some instances, be occasioned by other obstructions in this duct.

3d. "That a conical is preferable to a cylindrical stile, and that a small and almost imperceptible orifice in the superior part of the sac is better than either, producing no deformity, being less troublesome than a nail-headed stile placed in the corner of the eye, which is constantly liable either to fall out of the orifice, if too free, or to excite inflammation by the introduction, if too confined; and finally, that when the sac is thus made a reservoir, by placing the orifice at the top, pressing out the tears two or three times a day is as little troublesome as blowing the nose."

Authors have often made that complex and obscure, which in nature is simple and clear. Epiphora, Tumor Sacculi Lachrymalis, and Fistula Lachrymalis, are but symptoms of a disease which has not received a technical appellation. By an accumulation of inspissated mucus obstructing, or by inflammation contracting the *ductus ad nasum*, of tenwe believe, in the latter case, occasioned by Erysipelas about the face, and by Small-pox, the exit of the tears from the eye is denied by the natural passage. The first and direct obvious effect is an accumulation of the lachrymal fluid in the eye, until it passes over the lid and runs down the cheek. This is Epiphora, a symptom* of obstruction in the nasal duct. After a longer

* Epiphora, not symptomatic of the obstructed state of the *ductus ad nasum*, may exist, and is connected more simply with a want of balance between the action of the lachrymal gland, and the apparatus for carrying

or a shorter time, influenced by attempts injudiciously made to remove the complaint, by accidents, or by idiosyncrasy, the *saccus lachrymalis* becomes distended with accumulated tears, now opake in that portion of them collected in the sac, and approaching to purulency in appearance, being mixed with the diseased mucus of the parts. Pressure on the sac, at this period, will discharge its altered and apparently purulent contents, at the *puncta lachrymalia*. This constitutes the disease denominated *Tumor sacculi lachrymalis;* another symptom of the obstructed or diseased state of the nasal duct. At an indeterminate period, influenced also by the circumstances above stated, the distended *sacculus lachrymalis* inflames, ulcerates, and opens externally. This is the famed *Fistula lachrymalis*, for which, when the structure and functions of the part were not understood, the cautery, both potential and actual, was employed. The bones were injured often by this process; exfoliation followed caries, the delicate *os unguis* was destroyed, and extensive opening into the nose ensued, which maintained itself, and the disease was sometimes cured.

The obstructed state of the *ductus ad nasum* is the original complaint, and the cause of all the other morbid appearances, which exist but as evidence of that obstruction. They are removed by restoring the natural passage into the nose, or by making a new one through the *os unguis*. Modern Surgery very well supplies the means, and Dr. Reade's book may be

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ing off the tears which have washed the eye. Thus, certain states of mental feeling always; the application of cold sometimes by constricting the puncta lachrymalia, perhaps; and inflammation of the eye, by diminishing the capacity, or closing the puncta, produce watery eye. It is plain that this is the disease that Prof. Scarpa describes as proceeding from a purulent discharge from the palpebræ and meibomian glands. It will be seen that this variety of Epiphora will not produce that state of the sac which has been denominated Fistula lachrymalis. In this variety of Epiphora the tears cannot get into the lachrymal sac; in that variety of Epiphora connected with Fistula lachrymalis, the tears are confined to the sac by obstructions in the nasal duct. When the obstruction is in the ductus ad nasum, disease in the sac ensues; when the obstruction is in the puncta or duct leading to the sac, that cavity is secure. The pathognomonic mark will be the absence or presence of accumulation in the sac. If on pressure applied to the sac, there is no regurgitation of the fluid by the puncta, the conclusion will be, that the obstruction is above the sac: if regurgitation by the puncta follows pressure on the sac, the conclusion will as necessarily be, that the obstruction is below the sac, and in the ductus ad nasum.

usefully perused with this view. We cannot, however, admit with Dr. Reade, that the method by restoring the natural passage or by making a new one, is only palliative. If a radical cure ever occurs, this is the method by which it must be effected. But Dr. Reade's proposition is in its nature palliative only. As a dernier resource it may sometimes be convenient, but thus far and no farther can it go.

Report of the National Vaccine Establishment. 8vo. London. 1811. pp. 20.

The Board of the National Vaccine Establishment must necessarily take a lively interest in whatever promotes or retards the progress of Vaccination, and in whatever tends to elucidate the actual properties and powers of that practice. With these feelings, they could not look with indifference on the occurrence of Small-pox after what had been deemed successful Vaccination. Instances of this kind have recently happened in London, and the Establishment, with a candour and liberality that decidedly shews its disposition to ascertain and promulgate truth, has published a detail of two cases, which have come immediately under the observation of several of its members. These happened in the families of the Earl of Grosvenor, and Sir Henry Martin. The particulars of the case of the Hon. Robert Grosvenor, third son of the Earl of Grosvenor, are given by Sir Henry Halford, and Sir Walter Farquhar, who attended him, and by James Moore, esq. Director of the Vaccine Establishment, who occasionally visited the patient during the progress of the disease.

"On Sunday, May 26, 1811, the Hon. Robert Grosvenor, who was recovering from the Hooping Cough, became much indisposed and threw up his dinner. Fever followed, and he complained most particularly of excruciating pain in his back. He dwelt on this symptom until Thursday, when he became delirious, and there were observed on his face about twenty spots.

He had been vaccinated by Dr. Jenner, in his infancy, about ten years ago, and the mark left in his arm indicated a perfect disease.

On Friday morning, the eruption had not increased materially in point of number, but the appearance of the spots and the previous symptoms, suggested strongly a suspicion that the disorder was the Small Pox.

"Sir H. Halford had occasion to go to Windsor in the afternoon of Friday, and did not see Mr. Robert Grosvenor until the Monday following, (June 2d) but he learned from Sir W. Farquhar, who attended him most carefully during Sir Henry's absence, (and subsequently) that the eruption had increased prodigiously in the course of Friday; that

that on the evening of that day Mr. Robert Grosvenor began to make bloody water, and that he continued to do so until Monday morning.

" On the tenth day of the disease, the pustules began to dry upon the face, which was swollen to a considerable degree, but not to the extent of closing his eyes, and was attended by a salivation which lasted several days. Petechiæ had occurred in the interstices of several of the spots, particularly on the limbs, and there was that particular smell from the whole frame which is remarkable in bad Cases of confluent Small Pox.

" It was obvious that the first symptoms of which Mr. Grosvenor complained, were such as indicated a violent disease about to follow, and Sir Henry confesses that he entertained a most unfavourable opinion of the issue of such a malady, when it was fully formed: having never seen an instance of recovery under so heavy an eruption attended by such circumstances. It seemed however that the latter stages of the disease were passed through more rapidly in this case than usual, and it may be a question whether this extraordinary circumstance, as well as the ultimate recovery of Mr. Grosvenor, were not influenced by previous Vaccination."

During the illness of Mr. Grosvenor, the other children of the Earl, who had formerly been vaccinated, were exposed to the contagion of the Small-pox, under which their brother was suffering, and were also submitted to Small-pox Inoculation without effect.

The Case of Mr. Martin is given by Dr. Heberden, who attended him with Mr. Tegart of Pall-Mall. In the preceding pages of this number of our Journal Mr. Tegart has given, with much precision, the progress of this case from its commencement to its termination.

It is admitted by the Board that the case of the Hon. R. Grosvenor was a case of confluent Small Pox. That the attack and progress of the disorder were attended with symptoms which almost invariably announce a fatal termination.

" But they observe, that the swelling of the face which is generally so excessive as to close the eyes, and is considered as a favourable symptom, was slighter than usual, that on the tenth day the pustules began to dry upon the face, and that from that time the disease passed with unusual rapidity through the period, when life is generally esteemed to be in the greatest hazard.

" Those who are acquainted with the nature of the confluent Small-pox, are aware that this peculiarity cannot be attributed to the effect of medical treatment.

" The case of the son of Sir Henry Martin exhibits a mild form of distinct Small Pox, occurring after Vaccination.

" In most cases of Small Pox which have succeeded to Vaccination the pustules have been observed to dry more rapidly, and the disorder has concluded at an earlier period than usual.

" If allowance be made for the relative periods in which the confluent and distinct Small-pox complete their course, the rapid progress towards

recovery through the latter stage of confluent Small-pox, as exhibited in the case of Mr. Grosvenor, may be compared with the rapid desiccation of the pustules in the distinct and peculiarly mild form of the disorder which is considered as Small Pox modified by Vaccination. Both forms of the disorder proceed in the usual course, the one attended with violent, the other with mild symptoms, till they arrive near to the height, when they appear to receive a check, and the recovery is unusually rapid.

"From this correspondence of circumstances, the Board are induced to infer that in the case of Mr. Grosvenor which has been more violent than any yet submitted to them, the progress of the disease through its latter stage, and the consequent abatement of symptoms, were influenced by an antivariolous effect, produced upon the constitution by the Vaccine process.

"The occurrence of Small Pox after Vaccination has been foreseen and pointed out in the Report on Vaccination made to Parliament, by the College of Physicians in the Year 1807, to which the Board are desirous of calling the attention of the Public; wherein it is stated that,

"'The security derived from Vaccination against the Small Pox, if not absolutely perfect, is as nearly so as can perhaps be expected from any human discovery, for amongst several hundred thousand cases with the results of which the College have been made acquainted, the number of alleged failures has been surprisingly small, so much so as to form certainly no reasonable objection to the general adoption of Vaccination; for it appears that there are not nearly so many failures in a given number of Vaccinated persons, as there are deaths in an equal number of persons inoculated for the Small-pox. Nothing can more clearly demonstrate the superiority of Vaccination over the Inoculation of the Small-pox than this consideration; and it is a most important fact, which has been confirmed in the course of this inquiry, that in almost every case in which the Small-pox has succeeded Vaccination, whether by Inoculation or by casual infection, the disease has varied much from its ordinary course; it has neither been the same in violence nor in the duration of its symptoms, but has, with very few exceptions, been remarkably mild, as if the Small-pox had been deprived by the previous Vaccine disease of its usual malignity.'"

With the preceding instances of Small-pox after Vaccination, four cases of that disease after variolous Inoculation and the casual disease came before the public. These were the cases of the Rev. Joshua Rowley, Miss Booth, John Godwin, and Peter Sylvester.

Mr. Rowley was inoculated in 1770, by the late Mr. Adair, when he had a considerable eruption of pustules. He was again attacked with the disease on the 5th of June last. The eruption was distinct but numerous; about 200 pustules in the face, and a proportionable number on the trunk and limbs. The statement is from Mr. Guy of Chichester.

Miss Sarah Booth of Covent-garden Theatre, was inoculated when five years old, had the disease in a satisfactory manner,

manner, was seized with fever on the 20th of June last, which proved the precursor of an eruption of distinct Small-pox. The disease went regularly through its stages, was accompanied with sore throat, and much general disorder.

Peter Sylvester was inoculated by Mr. Ring in 1799, and had the disease in a most perfect manner. On the 24th of June last this boy was seized with fever, and on the 27th the variolous eruption appeared. It proved a distinct but severe case of Small-pox.

John Godwin, born in 1800, had the Small-pox at six weeks old, and has undergone the test of Small-pox inoculation, without taking the disease. A few weeks since at the age of eleven, this boy had casual Small-pox, from which a child was inoculated, and had distinct variolous eruption.

These accidents, occurring nearly at the same period of time, have led to a comparison of the security afforded by Small-pox Inoculation and Vaccination, not disadvantageous to the latter. On this subject the Report remarks ;—

" The peculiarities of certain constitutions with regard to eruptive fevers form a curious subject for Medical History. Some individuals have been more than once affected with scarlet fever and measles, others have been through life exposed to the contagion of these diseases without effect ; many have resisted the Inoculation and contagion of Small Pox for several years, and have afterwards become susceptible of the disorder, and some have been twice affected with Small-pox.

" Among such infinite varieties of temperament it will not appear extraordinary, that Vaccination though so generally successful should sometimes fail of rendering the human constitution unsusceptible of Small-pox, especially since it has been found that in several instances Small-pox has occurred to individuals over whom the Small pox Inoculation had appeared to have produced its full influence."

The varieties of temperament or idiosyncracies here noticed, are very properly said " to form a curious subject of Medical History." With regard to the influence of temperament over the action of variolous contagion, the history is not only curious but important. Peculiarity of idiosyncracy has given rise to anamolies which the ignorant and the prejudiced formerly opposed to *Inoculation:* and in the present enlightened time, we see these anomalies produced as arguments against VACCINATION. Before the promulgation of Dr. Jenner's discovery, in the course of a moderately extensive practice in the casual and inoculated Small-pox, it had happened to us to observe three conditions of the human frame in which Small-pox was either stopped in, or deviated from, its accustomed course. These conditions were of opposite properties : they consisted of permanent insensibility to variolous Contagion, of tempo-

rary

rary insensibility, and of unusual aptitude to receive infection.

We have seen an extraordinary insensibility to the contagion of Small-pox exist permanently, in the eldest sons of one family, and have strong evidence to prove that this peculiarity acted for three generations. That is, the grandfather, we trace no further back, being an eldest son, was insusceptible of variolous Contagion all his days, while the brothers and sisters were, with regard to this disease, as others are. The eldest son of this person was also exempted from the effects of this contagion; but his brothers and sisters were not. The eldest grandson enjoyed the same privileges, but his brothers and sisters all took the disease, either casually, or by inoculation. During the period in which we had an opportunity of observing this family, or hearing its history from the sober and sedate individuals of it, we inoculated, at distant intervals, the last of these privileged persons, four times, without any impression being made on his constitutional invulnerability.

We have seen this insensibility to Small-pox contagion exist for a time only. T. C. a respectable farmer, was inoculated for Small-pox about 1790, with others in the same family. A pustule arose on his arm in the place of the puncture, but continued too short a period, and was unaccompanied with any general derangement or febrile state. He slept with those who had the eruption upon them, but did not take the disease. He was considered to be secure. For twelve years he was occasionally exposed to infection, never avoiding those in the disease. At the end of this period he was infected, the case was confluent, his eyes were closed ten days, and his life was put into great hazard.

The following instances of unusual susceptibility to the action of the contagion of Small-pox, both casual and inoculated, we know are perfectly correct.

The mother of P. F. had a severe case of Small-pox when this female child, at six months old, was at her breast. The child had the mother's disease in its severest form, was much marked on the face, and lost an eye.

Nineteen years after this we attended the younger branches of this family, some in the casual disease and others under inoculation, to whom this person, P. F., then between nineteen and twenty years of age, became nurse. During the progress of these cases P. F. sickened with fever, the pustular eruption appeared on the third day, the crop was large on the face and over the surface generally: she was confined to her bed, the face swelled, and the remaining eye was closed for some days.

If

If this peculiar idiosyncracy which renders a person liable to receive the Small-pox a second time, even in the casual or as it has been called natural Small-pox exists, we shall not be surprized to find some instances of insecure inoculated Small-pox, from the same constitutional susceptibility to renew the disease. In the course of our professional avocations, we have inoculated upwards of 6000 persons for Small-pox. Among these we found the individuals of one family, irregularly susceptible of the disease. The name of this family was Taylor, and in the daughters only did we perceive this peculiarity. Fourteen years before the time of which we speak, this family was inoculated: they all had the disease with a severity unusual in the inoculated Small-pox. The subjects of these remarks, two daughters, had the disease to a degree that marked their faces, and indelible vestigia of the operation remained in their arms. The accession of younger branches, and the appearance of Small-pox in the village where they resided, brought the family again under inoculation. These young women then became nurses to their junior brothers and sisters, and both again received the disease; not in the slight and evanescent form in which it has been observed to occur to nurses, but with active fever, a plentiful crop of pustules, and tumor of the face, though not to absolute closing of the eyes.

We could relate a great number of cases wherein Small-pox, either casual or inoculated, had, within our own knowledge, succeeded to former inoculations. But we consider these to have arisen, generally, from negligent or improper employment of the infecting material; and that the disease not having taken place in the first instance, these persons were left the same as if no inoculation had been attempted. In the histories we have given, the facts are marked with a distinctness that shews the actual existence of idiosyncracies, which would if they were sufficiently general, abrogate the established and well understood laws of this disease.

The cases of permanent insensibility to variolous contagion are applicable to vaccination no further, than as they shew the existence of a peculiarity of frame not subjected to the general laws which are known to govern the morbid actions in variola.

The case shewing the existence of a temporary insensibility to variolous contagion, where the person was inoculated while this peculiarity continued, and resisted then and for twelve years afterwards its impression, and at length took the disease in its severest form, applies, by no forced analogy, to the phenomena of Vaccination. If an insensibility to the action of variolous contagion exists for a time, and then subsides,

sides, it may surely be allowed that the comparatively mild fluid of the vaccine vesicle may, at one period of time, be resisted by a similar idiosyncracy, which afterward subsiding may leave the system highly sensible to that, or to Small-pox contagion. Had the case of Mr. C—— occurred in the early period of Small-pox inoculation, it would have been used to shew the insecurity of that practice.

The cases of increased sensibility to variolous contagion, subjecting certain persons to have that disease twice, indiscriminately from either casual or inoculated Small-pox, will shew, very plainly, the fallacy of inferring the insecurity of Vaccination from solitary instances of Variola occurring after that practice.

It will appear from the preceding statement, the circumstances of which have fallen under our particular cognizance, that one person in three thousand has received the infection of Small-pox after what must have been pronounced successful inoculation. The occurrence of Small-pox after Vaccination does not, we apprehend, exceed this ratio. We are aware that a fallacy in conclusion may arise out of the plainest premises. In the present instance, we go no further in our induction than our own facts warrant. The comparison with failures in Vaccination is an assumption; but we fully believe that Small-pox has not succeeded to Vaccination in the proportion of one in three thousand.

Though our observations on this short pamphlet have extended beyond the bounds usually allotted to such productions, we cannot refuse to quote its concluding paragraphs as expressive of the opinions of men whose reputations place them above the suspicion of sinister motives.

"The Board are of opinion, that Vaccination still rests upon the basis on which it was placed, by the Reports of the several Colleges of Physicians and Surgeons of the United Kingdom, which were laid before Parliament in the year 1807. That the general advantages of Vaccination are not discredited by the instances of failure which have recently occurred, the proportion of failures still remaining less in number than the deaths which take place from the Inoculated Small-pox. They are led by their information to believe, that since this practice has been fully established, no death has in any instance occurred from Small-pox after Vaccination—That in most of the Cases in which Vaccination has failed the Small-pox has been a disease remarkably mild, and of unusually short duration; and they are further of opinion, that the severity of the symptoms with which Mr. Grosvenor was affected, forms an exception to a general rule.

That absolute security from the natural Small-pox is not even to be obtained by Small-pox Inoculation, is sufficiently evident from the annexed Cases, and the board are enabled to state, that they have been made acquainted with instances of individuals who have twice undergone the natural Small-pox.

Under

Under all these circumstances, the Board feel justified in still recommending and promoting Vaccination, and in declaring their unabated confidence in this practice.—Since, in some peculiar frames of constitution, the repetition of Small-pox is neither prevented by Inoculation nor casual infection, the Board are of opinion that in such peculiar constitutions, the occurrence of Small-pox after Vaccination may be reasonably expected, and perhaps in a greater proportion, but with this admision they do not hesitate to maintain, that the proportionate advantages of Vaccination to individuals and the public, are infinitely greater than those of Small-pox Inoculation.

They are anxious that the existence of certain peculiarities of the human frame, by which some individuals are rendered by nature, more or less susceptible of eruptive fevers, and of the recurrence of such disorders, should be publicly known; for they feel confident that a due consideration of these circumstances, and a just feeling of the welfare of the Community, will induce the public to prefer a mild disease like Vaccination, which where it fails of superseding the Small-pox, yet mitigates its violence, and prevents its fatal consequences, to one whose effects are frequently violent, to one which often occasions deformity and blindness, and when it is contracted by casual infection, has been supposed to destroy one in six in all that it attacks. And it must not be forgotten, that in a public view this constitutes the great objection to Inoculation of the Small-pox, that by its contagion it disseminates death throughout the Empire, whilst Vaccination, whatever be the comparative security which it affords to individuals, occasions no subsequent disorder, and has never by the most violent of its opposers been charged with producing an epidemical sickness.

A Letter respectfully addressed to the Commissioners for Transports, Sick and Wounded Seamen, &c. &c. &c. on the Subject of Operation for Popliteal Aneurism. Illustrated with Cases, and the Description of a new Instrument. By Alex. Copland Hutchison, M. D. Surgeon to the Royal Naval Hospital at Deal. 8vo. Callow. London. 1811. pp. 19. Plate.

The operation for Popliteal Aneurism, as it used to be performed, was so generally followed by an unfortunate termination, that Surgeons of great judgment considered amputation of the limb to be the preferable resource. Mr. Hunter obviated much of this hazard by operating on the fore part of the thigh, and cutting down on the sound artery by the inner margin of the Sartorius muscle. Though it appears that Dominique Anel, who lived in the early part of the 18th century, had performed something like this operation in aneurism of the brachial artery, yet it is probable Mr. Hunter was the first surgeon who adopted this mode on prin-

ciple; and to him the Surgeons of the present time are indebted for their success in operating for Popliteal Aneurism.

The principle was suggested by Mr. Hunter, but the operation has been improved since his time. In cutting down upon the inner margin of the Sartorius, the Vena saphena major will generally be divided, as will the principal lymphatics of the leg. Two inconveniences will arise from the division of these vessels. The flow of blood from the vein will greatly embarrass the operator, and the discharge of lymph will retard the healing of the wound. To avoid these accidents, it has been proposed to cut upon the artery by the outer margin of the Sartorius. Mr. Charles Bell first advised this method of bringing into view the femoral artery, but assigned no reason for it. Dr. Hutchison briefly states its advantages.

"There are no large veins or lymphatics in the way of the knife, and the operation will be finished in as short a time, with as little pain to the patient, and certainly with much greater satisfaction to the operator, from his not being embarrassed by hæmorrhage; a circumstance so frequently occurring, when operating on the part as directed by Mr. Hunter. In the first of the two cases here related, not more than half an ounce of blood was lost, and the greater part of that came from a minute cuticular artery. In the last there was not more in all than two drachms."

Dr. Hutchison very candidly states the objections to this method of operating.

"As the artery may be said to be nearer the inner than the outer margin of the Sartorius, and the muscle will necessarily be more disturbed in the operation when the incision is made on its outer margin; its cellular connexions with the subjacent parts will be deranged to a greater extent, and consequently the formation of larger collections of pus more favoured, and which will not have so ready an exit from the incision being less dependent."

This objection, which at first sight seems well founded, is best answered by the success of the cases related, and which we shall here quote as illustrative of the practice.

Case 1.—"Serjeant Froadsham, of the Marines, aged forty-eight, came under my care, from his Majesty's ship Bellona, on the 26th June, 1810, with a large aneurismal tumor situated on the fore part of the thigh, occupying one-third of its whole length from the inner condyle of the femur upwards, in the direction of the artery. The disease was of nearly five years standing, brought on by a long and fatiguing march to headquarters with a deserter. According to the account given by the patient himself, he felt something snap in his thigh as he was ascending a hill, which produced considerable pain at the time, but after two or three days rest this pain subsided, and he walked about as usual—three or four days after this the pain returned, and on his examining the part, he

he discovered a small pulsating tumor, not larger than the size of a hazel nut.

"On his admission into the hospital the circumference of the thigh over the aneurismal tumor was five inches greater than the opposite one at the same point; and although the integuments over it were greatly distended, there was neither inflammation or any other morbid appearance of the parts, save that of a small ecchymosed spot, the size of the point of one's finger, which did not appear to me to have any connection with the disease in question. The blood in the sac was fluid, and the pulsations of the tumor were strong—his leg and foot were slightly œdematous—he had considerable pain in the knee, and had not been able to walk for many months—he was of a very irritable habit, and had laboured under an asthmatic cough for upwards of fourteen years. His bowels were opened—℥xvi. of blood were taken from the arm, and on the 5th July the operation was performed in the following manner:

"A tourniquet being loosely applied round the upper part of his thigh, and a flannel roller passed round his foot and leg, the patient was laid upon the table in the operation-room, with the muscles, on the anterior part of the thigh, a little relaxed by means of pillows placed under the outside of the knee; an incision, nearly four inches in length, was made with one stroke of the scalpel down to the outer margin of the sartorius muscle, terminating at the commencement of the tumor: the muscle being thus exposed, was separated from its bed by the handle of the scalpel, fully half way across its width; the femoral artery became then apparent, beating in its sheath; with a pair of dissecting forceps I raised the sheath, and made a small opening into it, which was enlarged to the extent of three-fourths of an inch, by means of a probe-pointed bistoury. The artery was carefully detached from the femoral vein and saphena branch of the anterior crural nerve with my fingers and the handle of the instrument I had last used; a double ligature was then passed under the artery, with the aneurismal needle in common use, and the upper one tied as high as the vessel had been insulated; when all pulsation in the tumor at that instant ceased: in like manner the other was tied below, and the artery divided between them—both ligatures were laid out immediately opposite their respective nooses—the sides of the wound were brought in contact by the dry suture, and the thigh was surrounded with a twelve-tailed bandage, which I found to be the most convenient, as the wound could then be examined without the slightest disturbance to the position of the limb. The patient was then carried to bed—the limb placed as during the operation, and in two hours its heat was equal to that of the sound one---no numbness, pain, or irritation, succeeded to the operation; but the patient complained of a sense of trickling round the knee and throughout the whole course of the tibia; which was readily accounted for, by the blood forcing its passage through the circumflex and collateral branches, in greater quantity than they had been accustomed to carry. In the evening he was prescribed an anodyne draught, consisting of Tinct. Opii. gtt. xlv.

"2d. day---Slept five hours during the night, and no bad symptom this morning---tumor sensibly dimished, and the blood in the sac coagulated.

"4th day---His cough has been very troublesome during the last

thirty-six hours, accompanied with pain in the chest, slight dyspnœa, flushed countenance, and a full pulse, not exceeding ninety-five in a minute; ℥xx. of blood were therefore abstracted from the arm, and as his bowels were constipated, a dose of magnesia vitriolata was immediately directed to be taken; but which, however, proved inert till assisted by a purgative injection. The opiate was ordered to be repeated at bed time.

"Next morning (the 5th) he was free from complaint, with the exception of the trickling sensation mentioned above, which, he said, produced a slight degree of pain. This day the wound was examined, and adhesion found to have taken place throughout its whole extent, excepting where the ligatures came out: from these small openings there was rather a copious discharge of serous thin pus; some degree of tension and inflammation also surrounded the wound, but which yielded in twenty-four hours, to the constant repetition of emollient cataplasms laid over the parts every three hours; and, at the expiration of that time, the discharge was found much improved in quality.

"No other bad symptom occurred during the remainder of the cure, but the discharge of well secreted pus through the ligature-openings continued until the 14th day, when the last ligature came away. From this period until the 2d or 3d of August the discharge gradually diminished, and the wound was cicatrised on the 7th.

"The tumor continued to decrease daily, until his discharge from the hospital.—It was then barely discernable. I heard of him within the last month, when the accounts were so favourable, that, to use his own expression, there was no vestige of the tumor left, and he could then walk without the least *limp*, which, he said, he had not been able to do for years before.

"I am strongly inclined to believe that the pneumonic symptoms which immediately succeeded the operation, had been principally instrumental in favouring the extraordinary formation of matter found under the muscle during the cure. The patient's asthmatic complaint was aggravated by this attack, to such an extent, that whenever he coughed, the affected leg and thigh, with the whole frame, were so violently agitated, as to occasion great apprehensions of an hæmorrhage, by detaching the upper ligature from the extremity of the divided artery, during these vehement muscular concussions."

Case 2.—"Burnett Allan, seaman, aged thirty-two, was admitted into the hospital for Popliteal Aneurism, on the 9th November, 1810, from his Majesty's hospital ship Gorgon.

"The disease, as near as could be calculated, was then only of three months standing, and for the production of which the patient could assign no ostensible cause. When first the tumour was discovered, it had reached the size of a small walnut, and continued gradually to increase until the day of the operation, at which period it exceeded half the size of a large lemon, longitudinally and equally divided. Its pulsations were strong, but unaccompanied with pain, except when he walked—the integuments were healthy, and the leg and foot, as in the former case, were slightly œdematous—his general health was good. He was a short muscular man, of a plethoric habit of body; of a mild, patient disposition, never desponding.

"During

"During his residence in the Gorgon, the surgeon of that ship requested the opinions of the physician and surgeons of the fleet, with respect to the propriety of performing the operation on board, in the then incipient state of the disease; but these gentlemen advised the operation to be postponed, till the collateral branches should become sufficiently dilated, to ensure a due supply of blood to the limb below, when the great communicating channel should be wholly cut off.

"From the opinions of such a respectable body of my professional brethren, at that time, concurring with my own; I delayed the operation, upon the same principle, until the 19th of February following.* Six weeks previous to this, the patient was kept upon low diet. He was bled on the 18th, and his bowels were freely opened.

"The operation was then performed in the same manner as described in the foregoing case. The incision, by the outer margin of the sartorius muscle, was three inches in length, and the femoral artery was tied about an inch above where it pierces the tendon of the triceps. There was an embarrassing circumstance, however, attending this operation, which did not occur in the former, and which I think worthy of notice. After having slit open the sheath, and in detaching the artery from the vein and nerve, I discovered a perforating branch, of considerable magnitude, going off from the posterior part of the artery, exactly in the centre between where the two ligatures were to be applied, which, if the utmost caution had not been observed, (with the assistance I obtained from the finger instrument and the ivory handles of the scalpel and bistoury) the dissection might have been spoiled, by the profuse issue of blood, and the operation not completed in a desirable manner.

"The only difference occasioned by this circumstance was, that it protracted the operation somewhat longer than it otherwise would have been, and necessarily compelled me to pass the aneurismal needle twice under the artery, *viz.* above and below the perforating branch.

"It might have been advisable, perhaps, to slit open the sheath a little more downwards, so as to enable me to apply both ligatures below the perforating branch, and thereby preserved the aid of so considerable a vessel, in affording nourishment to the inferior parts of the limb; had not the femoral artery been partly insulated above the branch in question, before it was discovered. I conceive a secondary hæmorrhage, after this operation, is the grand point to be guarded against; and when it does occur, it is, in nine cases out of ten, owing to ulceration of the coats of the artery, from having its cellular connexions to the surrounding parts destroyed above the ligature, which deprives the denuded vessel of its usual supply of nourishment.

"Having now exceeded the limits which I originally proposed this paper should extend to, I shall conclude by merely acquainting the reader, that throughout the cure there did not occur one untoward symptom. There was no discharge, excepting what arose from the superficial line of the incision, until the 21st day, when the last ligature was removed, which was followed by two or three drops of pus.

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* Had Mr. Ramsden's valuable observations on this subject sooner met my eye, I might not have delayed the operation, after the patient's admission, longer than was necessary to prepare him.

"All

"All perceptible pulsation had ceased in the aneurismal sac, from the completion of the operation; and, at the period of his dismissal from the hospital, the tumor had entirely disappeared, leaving the limb in full possession of its customary functions."

One of the objects of Dr. Hutchison's pamphlet is, to describe an instrument which is employed to retract one side of the wound; and which, occupying less space than an assistant's fingers, was found extremely convenient in a deep incised wound, at the bottom of which the surgeon has to tie the femoral artery. The most laboured description would not make our readers fully comprehend this instrument; we refer them, therefore, to the plate which accompanies the pamplet.

The value of a book is not always to be estimated by its extent. This small pamphlet clearly states practical facts of great importance; and the result of the method of operating for Popliteal Aneurism employed by Dr. Hutchison was so completely successful in the cases related, that we cannot recommend it too forcibly to the consideration of our chirurgical readers.

A Posological Companion to the London Pharmacopœia. By JOHN NOTT, M. D. of Bristol Hot-Wells; and Member of the Royal College of Physic, in London. The third edition, adapted to the last reform of the College. 18mo. pp. 109. Callow. 1811.

THE object of this neat publication is to assist the young physician in the art of prescribing. "From the most respectable authorities, and from some experience, are given the doses of all the articles of the Materia Medica, and of the several medicinal preparations; the relative proportion of the principal ingredient in each preparation is also now first pointed out. Such articles and preparations, in the former, as are rejected in the present pharmacopœia, are beside comprised; some of them are excellent, and still in favour with many practitioners, notwithstanding the judicious emendations that distinguish the last labour of the College; the principal merit of which is, that of having now made the chymist and pharmaceutist to speak the same language in science with the rest of his brethren on the continent." We can safely say the author has not promised more than he has performed, and have no hesitation in recommending his little work to those who may require its aid.

MEDICAL

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

ROYAL SOCIETY, July 4.--A paper by Dr. Wells was read on vision. The purport of the Author's observations was, that the focal distance of the eye depends chiefly on the contractability of the muscles, and that the latter is much greater in youth than in advanced age. In youth the eye is capable of accommodating itself to the light and the distance of external objects, but in old age this contractile power of the muscles ceases, and the focal distance of the eye becomes shorter, and more fixed to a determinate point. From experiments made with the Atropos Belladonna, it appeared that this plant increased the action of the ocular muscles in the young, but not in the old subject. From these observations it is inferred, that short sight is less owing to the prominence of the eye, than to the flexibility of the muscles which direct it.

From the following Circular, it appears that a Medical School has lately been established at Boston, New England ; where, also, it is in contemplation to build a new hospital, and the State has agreed to contribute 40,000 dollars towards it.

Boston.

" Sir,—The medical institution which has heretofore existed in Cambridge, has lately undergone such important alterations, that we have presumed some information of its actual arrangements might be agreeable to you and useful to some of your friends.

" Every physician in New England has, no doubt, been aware of the difficulty in obtaining a good medical education in this part of the United States. This difficulty has arisen principally from two sources. The first was the want of long and minute courses of lectures. The second, the deficiency of opportunities for exhibiting to students actual cases of disease ; and the practice employed for them, in medicine and surgery.

We expect to be able to remove these embarrassments in future. The Honourable and Reverend Corporation and Board of Overseers of Harvard College have established a medical school, in the town of Boston. The professors, all of whom except one reside there, will be able to devote a longer time to the lectures, than they formerly did, and thus to render them more minute and more instructive. The second source of difficulty has been obviated by the liberality of the Honourable Board of Overseers of the poor of the town of Boston, who have committed the charge of the hospital department of the Alms House to such of the medical professors of the university, as have been recommended by the Corporation. This department contains about fifty patients, afflicted with a variety of diseases, which are the objects of both medicine and surgery. Operations in surgery also occasionally present themselves. These will afford very important practical advantages, all which will be accessible to the medical students.

" The

"The following courses of lectures will be commenced in Boston, on the first Wednesday in December.

"Anatomy and Physiology, Surgery and Midwifery, by Dr. Warren, Sen. and Dr. Warren, Jun.

"Theory and Practice of Physic, by Dr. Waterhouse.

"Chemistry and Materia Medica, by Dr. Dexter, and Dr. Gorham.

"Clinical Medicine, by Dr. Jackson.

"The number of lectures will probably be about fifty, certainly not more than sixty, during the present season. This number will be gradually increased till it equal that given in the most respectable seminaries in the United States. The lectures will be delivered daily.

"The object of the new Professorship of clinical medicine is, 'to point out at the bedside of such sick persons, whose cases may be suitable for the purpose, the symptoms of the diseases under which they may labour, and to lecture upon the nature of such diseases and the indications of cure and methods of treatment, which have by experience been found most successful in similar diseases.'

"In addition to the lectures on surgery, the professors of that branch will exhibit to their students, at stated periods, the cases of surgical diseases in the hospital of the Alms House; also the operations in surgery, which may occur in publick or private practice.

"Some other important practical advantages will be accessible to the students. These cannot be specified at present.

"The medical students or others will be allowed to attend either one, or more of the above named courses, as they may think proper. Those, who desire to obtain a medical degree, must attend two courses in each branch. The degrees will be conferred, as formerly, at the University.

"The professors possess a very valuable collection of anatomical preparations, which will greatly aid their demonstrations on recent subjects. They have a chemical apparatus, which is extensive and adequate to the performance of the experiments, which should illustrate lectures on chemistry. These are to be deposited in commodious apartments in a building, now preparing for the purposes of the institution. There is also an excellent library, established by the munificence of Ward Nicholas Boylston, Esq. the use of which will be enjoyed by the students.

"It is believed that the price of living in Boston will not greatly exceed that in country towns, at least to those who are willing to make some temporary sacrifices to the acquisition of knowledge, which will be permanently profitable to them. The professors will be able to point out suitable houses, where the students may be lodged and boarded. They will also endeavour to render the situation of the students comfortable, and to promote their improvement in medical learning, by every means in their power.

"Private pupils will be received by the professors on the usual terms.

"It is not thought necessary to state minutely the reasons, which have caused the establishment of this medical institution in the town of Boston, or to urge the superior advantages of a medical school, placed in a populous town. Boston contains from thirty to forty thousand inhabits, and is closely surrounded by the large towns of Charlestown, Cambridge, Ruxbury, and Dorchesser. The opportunity among

so

so great a number of people, of observing the diseases and accidents incident to mankind, must be very extensive. The consequent collection of a large number of able practitioners, with whom the student may have an important literary intercourse, and the necessary concentration of medical knowledge, are advantages not to be overlooked. It is obvious that all these sources combined may afford to students a portion of useful information, in the course of three or four months, which they would in vain seek for in a long period of practice in the country.

The subscribers have founded an expectation on these circumstances that students will resort to Boston from every part of the country; that thus they shall be enabled to enlarge the institution in various ways, so that this shall become, what it ultimately should be, the Medical School of New England.

"We are Sir, with respect,

"Your very humble servants,

"JOHN WARREN,
"BENJAMIN WATERHOUSE,
"AARON DEXTER,
"JAMES JACKSON,
"JOHN C. WARREN,
"JOHN GORHAM."

Case of Small Pox after Vaccination.—Miss Reynholds, of King-street, Portman-square, now ten years of age, was vaccinated when three weeks old, by Mr. Griffith, of St. George's Hospital. Mr. Croft, of Burlington-street, and Mr. Forbes, of New-street, Hanover-square, with Mr. Griffith, pronounced the Vaccination to have regularly gone through its stages; and the cicatrix now remains in her arm, where the vaccine vesicle had been.

On Friday, August the 9th, 1811, Miss Reynholds was very unwell all the day, was feverish, and probably had been disordered the night before. She continued ill with the usual symptoms of fever till Sunday morning, when on getting out of bed eruptions were seen, which continued to increase all that day and following night. Dr. G. Pearson saw her for the first time (by desire of Mr. Forbes) on Tuesday. She was then much relieved of the fever, but had a considerable number of eruptions like the Small-pox. On Friday the 16th, when Dr. Pearson saw her again, the eruptions were ascertained, most unequivocally, to be those of Small-pox: most of them seemed to be already in a suppurated state, with an areola at their basis. On the face they were partially confluent. The preceding night, Thursday, she had been feverish, with quick pulse, and foul tongue; but without alarming symptoms.

On Tuesday, the 20th, the 12th day of the disease, and the 8th of the eruption, the pustules were scabbing, and many of them had already gone through that process on the face, but were still distinctly purulent on other parts. Notwithstanding the eruptions were very numerous, but little secondary fever had happened, and not much swelling of the face.

Saturday, the 24th, the 16th day of the disease, when Dr. Pearson visited the patient in company with Mr. Royston, most of the scabs had fallen off, leaving, as usual, distinct marks.

Miss Reynolds was seen by Dr. Domier, Mr. Croft, and Mr. Forbes, as well as the gentlemen before mentioned; and no doubt was entertained by any of them but that the disease was a case of genuine Small-pox.

Case.—A. S. a boy two years and eight months old, of a rachitic habit, was attacked with fever on the 24th of August, manifested by quick pulse, hot skin, and flushed face. There was no extraordinary restlessness, pain, or other indication of local affection as connected with the febrile state. On the 25th the action of the circulating system was considerably lessened, and at 12 o'clock his disease had so evidently decreased as to promise its speedy subsidence. At four in the afternoon his mother believed he suffered from pain in his bowels, which had not, however, been constipated during his indisposition, and he was unable to bear the erect position. Two hours after this, at six in the evening, enormous perspiration came on, especially from the scalp, and a night-cap was completely wetted in five minutes; the pulse was rapid, and had become feeble; the face pale and sunk; and the extremities cold. He vomited several times between seven and twelve, and at two in the morning of the 26th, expired.

An examination of the body by Mr. Brooks, the anatomist, took place 16 hours after death. The abdominal viscera was without inflammation, the intestines were in so fresh and perfect a state as to show, with great distinctness, the *glandula solitaria* and *agregata*, but in two places of that canal very complete introsusceptio had taken place without inflammation. Elsewhere there was no mark of disease. Did these introsusceptiones take place at four in the afternoon of the 25th, and is that derangement in the intestinal canal capable of producing the symptoms that followed, and so speedy a dissolution, without intervening inflammation? Is the sudden and excessive perspiration which here occurred, and particularly on the slalp, with rapid decrease of vital energy, indicatory of this peculiar derangement in the intestine?

Lacerta agilis.—In 1787, the common lizard was a popular medicine at Geneva for cutaneous complaints. The President of the Linnæan Society, who was then in that city, says that Dr. Butine, sen. a candid and well informed man, mentioned this circumstance to him. The muscular parts only of the animal were taken raw in a bolus, and proved violently sudorific. This remedy was, however, considered to hurt the lungs; occasioning coughs and spitting of blood.

Dr. Hosack, of New York, has begun to publish a periodical work, to be entitled the "American Medical Philosophical Register," from which much is expected. One of its principal objects will be to establish the line of distinction between those diseases which are of foreign growth, and such as are engendered at home: this will necessarily involve an investigation of the theories and opinions which have been disseminated on the yellow fever.

Process

Process of making Sulphate of Magnesia, as employed at Lymington in Hampshire.—At Lymington advantage is taken of the greater heat of the climate, to concentrate the sea water by spontaneous evaporation to about one sixth its bulk, before admitting it into the boilers. One kind of salt is chiefly prepared there, which most resembles in grain the stoved salt of Cheshire. The salt is not fished (as it is termed) out of the boiler, and drained in baskets; but the water is entirely evaporated, and the whole mass of salt taken out at once, every eight hours, and removed into troughs with holes in the bottom Through these it drains into pits made under ground, which receive the liquor called *bittern* or *bitter liquor*. Under the troughs, and in a line with the holes, are fixed upright stakes, on which a portion of salt that would otherwise have escaped crystallizes and forms, in the course of ten or twelve days, on each stake, a mass of sixty or eighty pounds. These lumps are called *salt-cats* They bear the proportion to the common salt, made from the same brine, of 1 ton to 100.

From the mother brine, or bitter liquor, which has drained into the pits, the sulphate of magnesia is made during the winter season, when the manufacture of salt is suspended, in consequence of the want of the temperature required, for the spontaneous evaporation of the sea-water. The process is a very simple one. The bitter liquor from the pits is boiled for some hours in the pans which are used in summer to prepare common salt; and the impurities which rise to the surface are removed by skimming. During the evaporation, a portion of common salt separates; and this, as it is too impure for use, is reserved for the purpose of concentrating the brine in summer. The evaporated bitter liquor is then removed into wooden coolers eight feet long, five feet wide, and one foot deep. In these it remains twenty-four hours, during which time, if the weather prove clear and cool, the sulphate of magnesia, or Epsom salt, crystallizes at the bottom of the coolers, in quantity equal to about one eighth of the boiled liquor. The uncrystallizable fluid is then let off through plug-holes at the bottom of the coolers; and the Epsom salt, after being drained in baskets, is deposited in the store-house. This is termed *single* Epsom salts, and after solution and a second crystallization, it acquires the name of *double* Epsom salts. Four or five tons of sulphate of magnesia are produced from a quantity of brine, which has yielded 100 tons of common, and one ton of cat salt.

Case of Aneurism of the Aorta, which burst into the Pericardium.—A robust man, 30 years of age, had been afflicted for five months with an extreme difficulty of respiration. He had a slight cough and a constant expectoration of thin frothy mucus. His pulse was frequent, but did not intermit. No increase during this time was observed in the symptoms, when after eating a very hearty meal, he gave a deep groan and instantly expired Upon dissection, a large aneurism wss found to occupy the whole of the arch, and a great part of the ascending aorta, beginning about half an inch above the semi-lunar valves. The sac extended in every direction, but more particularly downwards, and its origin above the valves was bounded by the pericardium, into which it had burst by an aperture large enough to admit three fingers. The large brahches of the arch went off from the superior part of the sac,

which contained about a pint of clotted blood, and a considerable quantity of lamellated coagulum. The trachea adhered firmly to the sac, and the pericardium was full of blood.—*Lond. Med. Rev.*

Poison of the Upas.—This vegetable poison, whether introduced into the system by the blood-vessels or the lymphatics, by the intestines or by wounds, was equally fatal; the animals dying universally convulsed. From experiments made by Messrs. Majendie and Delisle, it appeared particularly to affect the spinal marrow, and to enter the system only by means of the circulation. It seems to act very indirectly on the brain, and shews an independence between it and the spinal marrow, not indicated by anatomy.

Messrs. Vauqelin and Sage have found that juice of belladonna, when swallowed by animals, produces in them a delirium similar to that occasioned by opium.

The effect of different gasses injected into the blood-vessels has been examined by Dr. Nysten, of the French Institute. Atmospheric air, oxygen, nitrous oxide, carbonic oxide, sulphuretted hydrogen, nitric oxide, and nitrogen, were not deleterious. Oximuriatic, ammoniacal and nitrous acid gasses appeared to act by violently irritating the right auricle and pulmonary ventricle. Sulphuretted hydrogen, nitric oxide, and nitrogen, were injurious to the contractability of these parts. Some others so changed the blood, that respiration was unable to convert it from venous to arterial.

For the sting of the weever (Trachinus draco Linn.) and against the effects of the poison of the tarantula, M. Sage on a paper expressly on the subject, recommends the internal and external use of the volatile alkali.

THEATRE OF ANATOMY, Great Windmill-street.—The following Lectures, given in this School, commence in October, and terminate in May: the hours of delivering them are so arranged as not to interfere with each other, or at the time of attendance at the hospital.

Chemistry, every morning, from eight until nine o'clock; by William T. Brande, F.R.S.

Materia Medica, twice in the week, from nine until ten o'clock in the morning; by William T. Brande, F.R.S.

Theory and Practice of Physic, by John Cooke, M.D. F.A.S. and Philip Roget, M.D., and late Physician to the London Hospital; from nine until ten o'clock, four mornings in the week.

Anatomy, Physiology, Pathology, and Surgery, by James Wilson, F.R.S.; and B. C. Brodie, F.R.S.; from two till four o'clock in the afternoon as usual. The Anatomical Lectures commence on the first of October, at two o'clock.

Surgery, by B. C. Brodie, F.R.S. Assistant-Surgeon to St. George's Hospital, from seven until eight, three evenings in the week.

A room for Practical Anatomy is open every morning, from eight o'clock until two in the afternoon, under the direction of Mr. Wilson, and Mr. Brodie; where a regular demonstration of the dissected parts is given daily, from one until two o'clock.

Twelve Gratuitous Lectures, on the principal Operations of Surgery, are given to the Pupils of St. George's Hospital during the Season, by Everard Home, Esq. F.R.S. Serjeant-Surgeon to his Majesty, and Surgeon to St. George's Hospital.

ST. THOMAS'S AND GUY'S HOSPITALS.—The winter Courses of Lectures at these adjoining Hospitals will commence the first week of October; viz.

At St. Thomas's.—Anatomy and the Operations of Surgery, by Mr. Cline, and Mr. Astley Cooper.

The Principals and Practice of Surgery, by Mr. A. Cooper.

At Guy's.—Practice of Medicine, by Dr. Babington and Dr. Curry.

Chemistry, by Dr. Babington, Dr. Marcet, and Mr. Allen.

Experimental Philosophy, by Mr. Allen,

Theory of Medicine, and Materia Medica, by Dr. Curry and Dr. Cholmeley.

Midwifery and Diseases of Women and Children, by Dr. Haighton.

Physiology, or Laws of the Animal Œconomy, by Dr. Haighton.

Structure and Diseases of the Teeth, by Mr. Fox.

These several Lectures are so arranged, that no two of them interfere in the hours of attendance; and the whole is calculated to form a Complete Course of Medical and Chirurgical Instructions.

Mr.

Mr. Armiger, Surgeon Extraordinary to his Royal Highness the Duke of Kent, and Surgeon to the Eastern Dispensary, will commence a Course of Lectures on the Operations of Surgery, on Monday, September 2d, at three o'clock

These Lectures, of which it is the principal object to demonstrate the manner of performing the operations, will be continued every day at the same hour till the end of the month.

On Tuesday, the first of October, Mr. A. will commence his Autumn Course of Anatomy and Surgery.

Mr. Stevenson will commence his Autumnal Course of Lectures on the Anatomy, Physiology, and Diseases of the Eye and Ear, on Tuesday, October 22d, at seven o'clock in the evening, at his house, Great Russel Street, Bloomsbury Square.

Anatomical Theatre, Bristol.—Mr. T. Shute will commence his Winter Course of Lectures on Anatomy, Physiology, and the Principles of and Operations in Surgery, on Tuesday, October the first, at eight o'clock in the morning.

London Hospital.—Dr. Buxton's Autumnal course of Lectures on the Practice of Medicine, will be commenced on Wednesday, October 2d.

Dr. Clutterbuck will begin his Autumn course of Lectures on the Theory and Practice of Physic, Materia Medica, and Chemistry, on Monday, Oct. 7, at Ten o'clock in the morning, at his house, New Bridge Street, where they will be continued daily at the same hour: viz. Theory and Practice, on Mondays, Wednesdays, and Fridays; Materia Medica and Chemistry, on Tuesdays, Thursdays, and Saturdays.

Clinical Lectures will be given occasionally during the Winter, on the most remarkable cases that occur in the practice of the General Dispensary. Pupils preparing to pass the Medical Boards will be admitted to private Examinations.

Dr. Reid's next course of Lectures on the Theory and Practice of Medicine, will commence, at nine o'clock in the morning, on Monday, the Fourteenth of October, at Dr. Reid's house, Grenville Street, Brunswick-square.

Dr. Tuthill's Lectures on the Practice of Physic, and on the Laws and Operations of Chemistry, will commence on Monday, the 7th of October. For particulars *vid. Cover of the Journal.*

Dr. Adams's course of Lectures on the Institutes and Paactice of Medicine, will commence about the beginning of October, at his house, Hatton Garden. Syllabus and Prospectus to be had of the different Medical Booksellers, and at Dr. Adams's residence.

Medical

Medical and Chemical Lectures, George-street, Hanover-square, and St. George's Hospital.—The Medical Lectures will recommence as usual, the first week of October, at eight in the morning, and the Chemical at a quarter after nine o'clock; by George Pearson, M. D. F. R. S. Physician in Ordinary to their Royal Highnesses the Duke and Duchess of York, and their Household; Senior Physician of St. George's Hospital; of the College of Physicians; Fellow of the Imperial Medico-Chirurgical Academy of St Petersburgh, of the College of Physicians, &c. &c. &c.

Clinical Lectures are given on the patients registered in St. George's Hospital, every Saturday morning at nine o'clock.

Lectures on Midwifery, Theoretical and Practical, including the Diseases of Women and Infants as connected therewith, will commence on Monday morning, the 14th of October, at half past ten; and on Tuesday evening, the 15th, at seven; by Dr. Clough, Physician Accoucheur to the St. Marylebone General Dispensary, &c. at his Lecture room, 68, Berners' Street, where a Syllabus and Prospectus may be had.

Dr. Clarke, and Mr. Clarke, will begin the Winter course of their Lectures on Midwifery, and the Diseases of Women and Children, on Friday, October 4th.

The Lectures are read every day at the house of Mr. Clarke, Upper John Street, Golden-square, from a quarter past ten o'clock in the morning till a quarter past eleven, for the convenience of Students attending the hospitals.

The Students will be provided with cases when qualified to attend them.

Mr. Moor, Surgeon-Dentist to her Royal Highness the Duchess of York, will commence a course of Lectures on the Structure and Diseases of the Teeth, on the tenth of October; in which will be explained the complete practice of a Dentist.

Dr. Ramsbotham will commence his Lectures on the Science and Practice of Midwifery, on Monday October 7, at his house in the Old Jewry.

A Gentleman may be accommodated as house pupil.

Dr. Thynne will commence his course of Lectures on Midwifery, on Tuesday, October the first, at the Theatre, Bartholomew's Hospital, and in Berners' Street.

Theatre, London Hospital.—Dr. Dennison, and Dr. Byam Dennison, will commence their first course of Lectures on the Theory and Practice of Midwifery, and the Diseases of Women and Children, on Tuesday, October 8th, at eleven o'clock.

An

An Account of Diseases in an Eastern District of London, from the 20th of July, to the 20th of August, 1811.

ACUTE DISEASES.		Menorrhagia	4
Typhus mitior	5	Dysuria	3
Scarlatina	3	Leucorrhœa	6
Scarlatina Anginosa	5	Hæmorrhagia Intestinalis	2
Rheumatismus acutus	3	Rheumatismus Chronicus	6
CHRONIC DISEASES.		PUERPERAL DISEASES.	
Tussis	7	Menorrhagia Lochialis	7
Dyspnœa	4	Ephemera	3
Tussis cum Dyspnœa	5	Mastodynia	4
Hydrothorax	3	Dolor post partum	6
Phthisis Pulmonalis	4	INFANTILE DISEASES.	
Peripneumonia notha	3	Ophthalmia Purulenta	5
Pleurodyne	2	Dentitio	6
Ascites	1	Hydrocephalus Internus	1
Diarrhæa	5		

For several weeks past there has been a very frequent recurrence of febrile diseases, which, as it was remarked in a former report, had very seldom appeared during a few preceding years. Scarlatina has been a prevailing disease amongst children. It has appeared more generally in the surrounding villages than in the metropolis. Where it has found admission into families consisting principally of young children, it has generally spread through the whole of them, and, in many instances, has proved fatal in its consequences. When this disease appears with milder symptoms, and without any affection of the throat. it frequently gives way to a moderately cooling treatment; but when a high degree of fever prevails with considerable swelling of the tonsils, attended with difficult and painful deglutition, a more strictly antiphlogistic treatment is necessary, especially at the commencement of the disease. To what extent this part of the medical practice should be carried, can be determined only by the urgency of the symptoms and the various circumstances under which they occur. It is by a proper discrimination in some of these critical cases, and by an accurate decision, that the sagacity of the medical attendant is discovered.

In a disease which sometimes makes a rapid progress through its stages, and is ultimately attended with symptoms of putrescency, it has perhaps been too common a practice, in order to obviate these, to commence the cordial plan of cure too early, and thus eventually to accelerate the progress of symptoms which it was designed to retard.

BOTANICAL REPORT.

The second volume of the Hortus Kewensis, which has been published since the ever-to-be-lamented death of Mr. Dryander, appears by

by its contents to have undergone, throughout, the revision of that eminent botanist. We observe, however, in many parts, marks of haste; and doubts or difficult cases are frequently slurred over without that careful investigation and lucid determination which was to have been expected from his abilities, and which would, most certainly, not have been wanting, had he entered upon his task con amore.

Professor Wildenow's Species Plantarum is generally followed, and, as being the completest catalogue, and now in the hands of every botanist, there is certainly a considerable convenience in this; yet we cannot help regretting, that the references to Linnæus's own edition of the Species should not have been preserved, the more especially, as these have been so frequently omitted by Wildenow himself.

In the Asclepiadeæ, Mr. Brown's Genera, as published by him in the transactions of the Wernerian Society, are adopted, which makes a considerable change in the arrangement of the species belonging to that natural order. Something was necessary to be done, and perhaps the author could not do better than to follow the system of Mr. Brown, who has taken great pains with it, and made more observations upon this order than any other botanist. Linnæus had distinguished his genera by the form of what he called the nectaria, but many of the species unknown in his time, would not arrange under any of his genera, it became therefore necessary either to increase the number of genera, or to find different characters that would include such as had nectaria variously formed. If the difference had appertained to these organs only, the latter would have been the most proper plan. But an essential difference in the form of other parts of the plant being conjoined with the variation in this organ, nature seemed to point out a real generic distinction, and Mr. Brown has accordingly increased the number of genera, correspondent with the variety of forms in these essential parts. And we are satisfied that, in the end, this change of names, however much to be deprecated when made unnecessarily, will both promote the science and ease the labour of the student in his researches. We should have been glad, however, that means could have been found, of limiting, in some degree, the number of genera, in those cases especially where the species are not numerous. Several of Mr. Brown's genera consist of only one species as far as appears at least by this extensive catalogue. Thus Periploca is limited to two species, the *græca* and *lævigata*. *Indica* and *Secamone* are both separated into distinct genera, the latter under the name of the species, the former under that of Hemidesmus. Ceropegia, *sagittata* has the name of Microloma; Cynancum *viminale* that of Sarcostemma; *C. extensum* that of Dæmia; *C. erectum* that of Marsdenia. Asclepias *procera & gigantea* are raised into a genus under the name of Calotropis; A. *undulata* is called Xysmalobium; A. *carnosa* Hoya, after Mr. Hoy, gardener to the Duke of Northumberland, at Sion-house, an enthusiastic botanist, who, with proper encouragement, would do much for the promotion of the science. On the other hand Stapelia, an overgrown genus, containing four and forty

species, remains as it was, though many of the species are so different in the form of the nectarium, that they might as readily be separated into well defined genera as any of the natural order. But Mr. Brown does not seem to have had any thing to do with this genus; the Linnean character is preserved, and the term nectarium used, which Mr. Brown, in imitation of Jussieu and other French botanists has laid aside. The term he has used for this organ in the asclepiadeæ is *corona staminea*. In the rest of the class Pentandria there is little more of novelty; few species even that do not occur in Wildenow are recorded.

In the class *Hexandria* there is a greater accession of new matter, which chiefly arises from the attention Mr. Ker has paid to these plants, and the number that through him have been brought forward in the Botanical Magazine. But Mr. Dryander has, for the most part, arranged the species under the genera, in Wildenow's species plantarum, and has not paid the same regard to the observations of Mr. Ker, as he has done in the plants belonging to the natural order of ensatæ. This, we imagine, has arisen from a dislike on the part of Mr. Dryander, to take the trouble of framing new specific characters, which he must have done had he followed Mr. Ker, whose verbose descriptions could not be permitted to supply the place of Linnean definitions. Jacquin's genus Strumaria is adopted, and Wildenow's Hæmanthus *spiralis* referred to it; but, by an oversight, not Amaryllis *crispa*, which undoubtedly belongs to it, as observed by Ker. We observe that Narcissus *calathinus* of the Botanical Magazine is referred to *odorus*, and the *odorus* of the latter work is made another species for which Salisbury's name of *lætus* is adopted; so *trilobus* of Ker is said not to correspond with the description of Linnæus, and Haworth's name *nutans* is adapted for it; no *trilobus* however occurs in the genus.

Pancratium *rotatum* of Ker is preserved, and a new specific character applied to it, as also to P. *Amancaes* of the same, which Ruez and Pavon had referred to Narcissus, probably for no other reason, than its having yellow flowers. P. *caribæum* of Botanical Magazine is referred to *speciosum*.

Amaryllis *advena* of Ker, is admitted with a new character. A. *ornata* has likewise a new character, and the African and Ceylon plants considered with Ker as varieties, but A. *gigantea*, which the latter botanist had also considered as a variety, is excluded. We are inclined to think them all three distinct species. Brunsvigia of Heister is adopted from Ker, and A. *multiflora*, *marginata*, *radula* and *striata* referred to it.

Curculigo *orchioides* β of Ker is made a distinct species, and named *brevifolia*. Gethyllis plicata of Jacquin is referred to this genus, and two more new species are added. Aletris *fragrans* of Wildenow is referred to Dracæna after Ker; and the genus Tritoma of the latter author is adopted; so that the genus of Aletris is reduced to a single species, the *farniosa*. Smilacina is not separated from Convallaria, and Dracæna *borealis* of Wildenow, is retained; no reference, however, is made to the first edition of Aiton's Hortus Kewensis, where a figure of it was given; nor is even the distinction

distinction of a variety given between this and the one figured in the Botanical Magazine, which Mr. Ker has since confessed to be a distinct species, and has applied Michaux's name of *umbellata* to it. Convallaria japonica of Wildenow is after Ker, separated under the name of Ophiopogon.

Ornithogalum *altissimum* is retained, though Ker without hesitation has referred it to Drimia.

In the genus Hyacinthus, Wildenow is exclusively followed; even Scilla nutans of Dr. Smith is retained, as Hyacinthus *non scriptis*; and H. *corymbosus* is not referred to Massonia with Ker. Scilla *romana* of Botanical Magazine remains with Hyacinthus; nor is Muscari separated. H. *serotinus* is with Wildenow referred to Lachenalia.

In Lachenalia *tricolor*, p. 288, a. 15. the trivial name is by accident omitted. L. *quadricolor* α and β of Botanical Magazine, are both referred to pendula, but we think they are more nearly allied to *tricolor*; indeed Mr. Ker has shewn that it is really the original *tricolor* of Hortus Kewensis.

In the genus Aloë Haworth's monograph in the Linnean transactions, is more especially followed in all the species which are not in Wildenow, but a different division of them into sections is followed, from the shape of the corolla only. We were rather surprised to find that the English name of *Cob-web* Aloe should be retained for A. Arachnoides, after Mr. Ker had pointed out that the name was derived from the similarity of the termination of the leaf to a spider's feet; and not, as in Sempervivum, from fine hairs spread over them like a web, of which there is not the smallest appearance in any of the varieties of this Aloë.

In the class OCTANDRIA occurs the immense genus erica, consisting of no fewer than one hundred and eighty-six species. Mr. Dryander appears to have taken more pains with this genus than any other in either volume of this work. He has arranged the whole under sections so well defined, that his specific characters, all of which are new, are beautifully concise and luminous. We consider it as the best example for illustrating an extensive genus, that is any where to be found. There is an inconvenience, however, attending the mode of printing the definitions of the sections, which being done in the same type, and in lines beginning parallel with the numbers of the species, are not easily caught by the eye. On this account we think we shall be rendering a service to our botanical readers by bringing the whole of the sections under one view, referring to the page in the work before us. We shall likewise translate them into English, with the intent of adding to the general utility of this synoptical table.

1.—*Macrostemones* (having large stamens). *Anthers* exserted, *i. e.* protruded beyond the corolla, and in all unarmed, *i. e.* having no appendix at the point of the filament. Page 360.

A. *Filaments* longer than the corolla, closely connivent (converging to a point), the part beyond the corolla of the same colour as the anthers. *Leaves* ternate (growing by threes). *Bractes* close

to

to the calyx (which Linnæus calls an imbricate calyx) in all except in E. Plukenetiana. *Limb of Corolla* erect, in all except E. Banksii. [This section contains Sp. 1– 8.]

B. *Filaments* nearly as long as the corolla (in E. umbellata, somewhat longer than corolla). *Flowers* terminal. *Leaves* ternat. *Flowers* ternate in all except E. bruniades and E. umbellata. [Sp. 9—18.]

C. *Anthers* exserted. *Flowers* axillary. *Leaves* linear in all except E. latifolia. *Bractes* remote from the calyx. *Limb of corolla* erect in all except in multiflora and grandiflora. Filaments erect in all except in staminea. [Sp. 19—26.]

2.—LONGIFLORÆ (Longflowered). *Corollas* cylindrical or club-shaped, exceeding half an inch in length. Page 368.

A. *Anthers* aristate (awned) *i. e.* having two linear or subulate appendages at the point of the filament, with an entire or a serulate margin. [Sp. 27—37.]

B. *Anthers* unarmed, *i. e.* having no appendages at the point of the filament. *Leaves* terminate. *Flowers* terminal. [Sp. 38—42.] Page 371.

C. *Anthers* unarmed. *Leaves* by fours (4—6 in E. concinna. 3—4 in E. flammea.) *Flowers* terminal; few varying from one to eight. [Sp. 43—52.]

D. *Anthers* unarmed. *Leaves* by fours. *Flowers* terminal, by fours, pressed closely into a square head. [Sp. 53—56.]

E. *Anthers* unarmed. *Leaves* by fours or more (frequently by sixes). *Flowers* axillary. *Bractes* close to the calyx. [Sp. 57—62.]

F. *Anthers* unarmed. *Leaves* by fours or more (frequently six.) *Flowers* axillary. *Bractes* two close to the calyx, and one distant. [Sp. 63—67.]

G. *Anthers* unarmed. *Leaves* by fours or more (frequently six). *Flowers* axillary. *Bractes* distant from the calyx. [Sp. 68—72.] Page 378.

3.—CONIFLORÆ GRANDES (large cone-flowered). *Corollas* dilated downwards, exceeding half an inch in length. Page 380.

A. *Anthers* awned. [Sp. 73—78.]

B. *Anthers* unarmed. *Flowers* terminal. (In E. tetragona the flowering branches together with the flowers, being shorter than the leaves, the flowers appear to be axillary. [Sp. 79—91.]

4.—CALYCINÆ (having large calyxes. *Calyx* as long as the tube of the corolla, or of the whole corolla, or even longer than the corolla; coloured (not green) in all except in capitata, in which they are yellowish green. Page 385.

A. *Anthers* cristate or combed (*i. e.* having roundish or oblong appendages sawed at the edge.) *Leaves* by threes in all except in E. squamosa. [Sp. 92—99.]

B. *Anthers* armed. [Sp. 100—103.]

C. *Anthers* unarmed. [Sp. 104—111.]

5.—BREVIFLORÆ (short flowered). *Corollas* exceeding a quarter but not more than half an inch long: *Tube* longer than the calyx. Page 390.

A. *Tube*

A. *Tube of Corolla* nearly globular. *Anthers* cristate in all except in E. odorata. [Sp. 112—118.]

B. *Tube of Corolla* urseolate (pitcher shaped.) *Flowers* axillary. *Bractes* close to the calyx. [Sp. 119—121.]

C. *Corollas* dilated downwards (conical or ovate) or oblong and contracted at the mouth. [Sp. 122—133.]

D. Corollas cylindrical or dilated upwards. [Sp. 134—144.]

6.—PARVIFLORÆ (small-flowered.) *Corollas* not exceeding a quarter of an inch in length: *Tube* longer than calyx. Page 398.

A. *Anthers* cristate. *Calyx* erect in all except in E. Bergiana. [Sp. 145—155.]

B. *Anthers* awned. *Leaves* by threes. [Sp. 156—164.]

C. *Anthers* awned. *Leaves* by fours or more. [Sp. 165—174.]

D. *Anthers* unarmed. *Leaves* linear in all except in E. cordata and hispidula. [Sp. 175—186.]

This division, although artificial, brings together for the most part such as appear by their habit to be nearly allied. It is not however to be supposed but that some new species may be discovered, which will not very readily arrange under any of these divisions. Some inconvenience will, we doubt not, be felt by a reference to a positive measurement of the corolla; as some species may vary, so as sometimes to be below and sometimes to exceed half an inch. We regard this as the greatest defect in this arrangement, which is nevertheless most excellent.

NATURALIST'S MONTHLY REPORT.

JULY.

FRUITING MONTH.

Now comes July, and with his fervid noon
Unnerves the hand of toil. The mower sleeps—
The sun-burnt maid rakes feebly—the hot swain
Pitches his load reluctant—the faint steer,
Lashing his sides, draws heavily along
The slow encumber'd wain.

The weather has, on the whole, been more than usually cold during the present month, owing in a great measure to the general prevalence of northerly winds. On the 1st the wind was north-east; on the 2d variable; on the 3d and 4th north-east; on the 5th, 6th and 7th, variable; on the 8th north-east; on the 9th north-west; on the 10th variable; on the 11th and 12th north-west; on the 13th, 14th and 15th, westerly; on the 16th, 17th, 18th and 19th, south-west; on the 20th and 21st northerly; on the 22d, 23d, and 24th, westerly; on the 25th north-west; on the 26th north-east; on the 27th and 28th variable; on the 29th south-east; on the 30th variable, and on the 31st easterly.

There were strong gales on the 3d, 14th, and 22d, and fresh gales on the 4th, 12th, 13th, 16th, 17th, 18th, 19th, 23d and 25th. We had rain, more or less, on the 2d, 3d, 10th, 15th, (St. Swithin) 18th, 19th, 20th, 21st and 22d. On the 2d the showers were excessively heavy

heavy, and accompanied with thunder; this, however, was the only thunder-storm we had during the whole month.

July 3d. The young swallows begin to leave their nests. The bloom of the lime tree drops off.

July 4th. Apricots are ripe. In this part of the country fruit of almost all kinds is now extremely scarce, owing to the frosty nights which occurred during the time in which the trees were in bloom. Gooseberries and currants are nearly the only kinds which do not appear to have suffered injury. The apples in several parts of Hampshire are fewer in quantity than have been known for many years past.

July 8. A lamprey (*petromyzon marinus* of Linnæus) was this day brought to me. These fish, although in some places held in the highest esteem for the tables of the opulent, are here entirely neglected. No one, in this neighbourhood at least, appears inclined to risk the fate of our King Henry the first, who died in consequence of a surfeit by eating too voraciously of them. Lampreys are inhabitants of the sea, but come up the rivers, in the spring of the year, for the purpose of depositing their spawn. It is about the months of June and July that in our rivers they are usually caught, but as they are in no request, the fishermen seldom expose them to sale.

July 11th. The mackarel fishers have been very unsuccessful, except during a few days at the commencement of the season.

July 14th Bank martins (*hirundo riparia* of Linnæus) have left their nests and fly about.

Common dodder (*cuscuta Europæa*), bog pimpernel (*anagallis tenella*), marsh cinquefoil (*comarum palustre*), hare's foot trefoil (*trifolium arvense*), hoary cinquefoil (*potentilla argentea*), jointed rush (*juncus articulatus*), hard rush (*juncus inflexus*), wild teasel (*dipsacus fullonum*), bull-rush or reed-mace (*typha latifolia*), great bind-weed (*convolvulus sepium*), and yellow stone-crop (*sedum reflexum*), are now in flower.

July 15th. St. Swithin. The omen of rain for forty successive days, by rain having fallen on the commemoration day of the Winchester saint, has this year entirely failed.

July 20th. The rye is nearly ripe. The barley and wheat are now quite yellow; and the crops for the most part extremely abundant, notwithstanding the outcry respecting a blight, which has been with great industry spread abroad by a few of the farmers, for the purpose of enhancing the price of the grain now on hand.

July 23d. A salmon of considerable weight, which it is supposed had been struck by a porpoise, was caught by one of the bathing women within a few yards of the shore. It was still alive.

July 26th. Field peas are cut. Morella cherries are ripe.

July 27th. I this day heard, for the first time, the shrill, continued crinking of the large green locust (*gryllus verrucivorus* of Linnæus).

July 31st. Oats, rye, and wheat have been cut.

The swallow tribe appear to be congregating much earlier than usual. This, however, I presume, is entirely owing to the cold weather which has of late been so prevalent; and no doubt, when the weather again becomes seasonable, they will again disperse, until the regular period of their migration approaches.

Hampshire.

METEOROLOGICAL TABLE.

From July 28, to August 26.

D	Therm.			Barom.		Hygrom. dry		Hygrom. damp			Winds.	Atmos. Variation
◐ 28	66	81	71	30	29^{9}	—	15 —	22	—	5	E . S . E .	F... — .... — ....
29	68	78	68	29^{9}	30	—	1 —	15	—	2	N . .	F .... — .... — ....
30	64	69	66	30^{1}	—	—	5 —	8	—	3	NE . .	C . . F ... — ...
31	61	67	65	30^{1}	30			10	2	5	E .	F ... C . . — ...
1	60	72	67	30	—	—	1 —	10	—	10	NE . SE .	C . . F .... C . . F . .
2	63	75	64	29^{9}	$-^{8}$	—	25 15	10	—	—	S . W . SW .	F ... — .... — ....
3	65	75	65	29^{7}	$-^{6}$	—	10 —	2	—	2	SW . .	F ... — ... R . .
○ 4	59	68	61	29^{7}	$-^{8}$	—	12 9	5	—	—	W . .	F... R . C . . R... in N
5	60	67	61	29^{6}	$-^{7}$			14	4	5	NW .	R . . F .... C . . F ....
6	60	63	59	29^{7}	$-^{5}$			15	26	40	SW . .	C . . R ... — . . F . .
7	57	69	64	29^{7}	—			40	38	4	NW . .	F ... R . F .... R . .
8	58	62	56	29^{5}	—			16	20	21	N . . W . .	R . . — .... F...
9	55	60	56	29^{5}	$-^{6}$			24	19	22	NW . .	F . . R ... — ...
10	53	60	53	29^{6}	$-^{8}$			22	17	15	N . .	F . . R . F ....
◑ 11	51	60	54	29^{9}	30^{1}			17	7	9	NE . .	F .... — . . —....
12	52	63	58	30^{2}	---			15	10	18	NW . .	C . . F ... C ...
13	60	70	63	30^{1}	—	—	3 5	30	—	—	W . .	R . F ... C . . R . .
14	59	67	57	30^{2}	$-^{3}$	12	— —	—	10	15	NW .	F ... — .... C . .
15	56	67	56	29^{3}	$-^{2}$	—	4 —	22	—	22	NW . .	C ... F ... — ....
16	58	65	58	30	—			22	36	15	W . .	C . . R . F ....
17	55	70	62	30^{1}	$-^{2}$	—	19 —	27	—	5	W . .	F ... — .... — ....
18	59	73	63	30^{2}	30	—	11 —	10	—	5	E . SE .	C . . F .... — ....
◐ 19	63	67	60	29^{8}	$-^{7}$			10	22	20	W . . SW .	R . . — . . F ....
20	60	68	56	29^{8}	30	—	24 12	22	—	—	SW . .	R . . F ... — ....
21	59	67	—	30^{1}	—	—	15 —	5	—	10	NW . .	F .... C . . F ... C ....
22	62	67	64	30^{1}	30			21	33	27	W .	C ... R . F ... R . . F . .
23	60	67	63	30	29^{8}			22	—	—	SW .	C ... — ... F ....
24	61	68	64	29^{8}	$-^{6}$			30	19	22	SW .	C ... F ... — ....
25	63	66	60	29^{5}	$-^{6}$			25	33	25	SW .	C . . R . . —. . F ....
26	56	69	61	22^{7}	$-^{9}$	—	— 8	27	15	—	W . .	F . . — .... C ...

The quantity of rain from July 28 to August 26, 1 inch and $\frac{75}{100}$.

8th. Thunder in the middle of the day, with heavy rain.

19th. Thunder with rain at nine A. M. Frequent distant thunder in the forenoon.

Both the thermometer and barometer have had an extensive range in this interval. On the 28th of July the thermometer at 2 o'clock P. M. stood at 81; on the 9th, 10th, and 11th of August it stood at 60, at the same hour. The mercury in the barometer has risen to 30^{3} on the 14th of August, and sunk to 29,5 on the 6th, 8th, and 9th of that month. It may be observed that rain has regularly followed the depression of the mercury, and fair weather its elevation, The hygrometer has been remarkably fluctuating, and has indicated the approaches of rain or fair weather very faithfully. The humidity of the mornings and evenings has been considerable, when the air at noon has been very dry. There has been one exception to this. On the 26th of August, notwithstanding the atmosphere was clear, and apparently dry, the hygrometer indicated much humidity; but on the cloudy evening of that day threatening rain, it rose to eight degrees of dry.

Princes Street, Cavendish Square.

MONTHLY CATALOGUE OF MEDICAL BOOKS.

Quincy's Lexicon Medicum. A new Medical Dictionary, containing an Explanatich of the terms in Anatomy, Physiology, Practice of Physic, Materia Medica, Chemistry, Pharmacy, Surgery, Midwifery, and the Various Branches of Natural Philosophy connected with Medicine. Selected, arranged, and compiled from the best authors. By Robert Hooper, M. D. Longman and Co.

Popular Directions for the Treatment of the Diseases of Women and Children. By John Burns, 8vo. Longman and Co.

The London Dispensatory, containing the Elements and Practice of Materia Medica and Pharmacy, with a Translation of the Pharmacopœias of the London, the Edinburgh, and the Dublin Colleges of Physicians: many useful Tables; and Copper-plates of the Pharmaceutical Apparatus; the whole forming a Synopsis of Materia Medica and Therapeutics. By Anthony Todd Thomson, Surgeon. 8vo. Longman and Co.

An Essay on the Uterine Hæmorrhage which precedes the delivery of the full-grown fœtus; illustrated with cases; fifth Edition. By Edward Rigby esq. F. L. S. 8vo. Johnson and Co.

Practical Remarks on Insanity; to which is added a Commentary on the Dissection of the Brains of Maniacs, with some account of Diseases incident to the Insane. By Bryan Crowther. 8vo. Underwood.

In September will be published, Fasciculus 2d, of Anatomico-Chirurgical Views, intended to illustrate the Anatomy of the Cavity of the Male and Female Pelvis and their contents, the Muscles of the Perineum as they appear upon Dissection, and the external organs of Generation in both subjects; together with appropriate explanations and references. By John James Watt.

NOTICES TO CORRESPONDENTS.

A Correspondent, who signs Medicus, desires to be informed of the process for dissolving the Elastic Gum (Caoutchoc) in æther.

We have been favoured by a gentleman who signs himself a "Constant Reader, but a New Correspondent" with the following recipe for Ring-worm. R. Ferr. Sulph. ʒss. Aq. Rosæ ʒj. M. ft. Lotio. This applied to the part two or three times in the day, our correspondent has found to be a never-failing remedy.

Mr. Thomas F. Rance requests through the medium of the Medical Journal, to thank Mr. Hamilton of Ipswich for his communication on the subject of Scarlatina, in which he recommends venæsection; it accords with the principles of practice which Mr. Rance has found most beneficial, and when a suitable case occurs, he purposes to adopt it.

We have received Communications from Dr. Ramsbotham, Messrs. Woodham, an Essex Practitioner, J. H. J.—Mr. Sur's Letter, acknowledged in a former Number, cannot be found.

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THE

Medical and Physical Journal.

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To the Editors of the Medical and Physical Journal.

GENTLEMEN,

I AM truly sorry to find that the Puerperal Fever has shewn itself in the neighbourhood of London, and from the proximity of it's approaches there is reason to apprehend, that it may be imported into the metropolis, and rage epidemically, as it did about twenty years ago, when its fatality must be in the recollection of many of your readers. The danger and occasional insidiousness of this disease demand our closest attention, either to avert its effects, or even, in some cases, to ascertain its presence. The treatment, which has been of late the most successfully adopted in opposing its ravages, is so different from that of some years past, so apparently consonant to the nature of the disease shewn by dissections, and likewise so well established (at least in certain distant parts of the kingdom) by the practice of a most eminent Surgeon, Mr. Hey of Leeds, and by that of Dr. Gordon of Aberdeen, that I trust I shall be excused taking up a few pages of your widely circulated Journal on a subject interesting to every medical man.

I am, Gentlemen,
Your most obedient servant,
JOHN RAMSBOTHAM.

Old Jewry, August 26th, 1811.

On Wednesday, August 21st, about noon, I was requested to see, as soon as possible, a young woman dangerously ill, who had lain in a week, in a village a few miles from town. Upon my arrival, I found my patient in the last stage of Puerperal Fever, in a state indeed affording not the least hope from medical assistance; with the Hippocratic countenance, laborious respiration, low delirium, a rapid tremulous pulse, and a swelled belly. I was informed that she had been put

to-bed of her first child the Wednesday preceding, after a lingering hard labor, that she seemed to go on well until the Sunday following, about the middle of which day she had been seized with a considerable rigor, succeeded by heat upon the skin, quick pulse, and pain and tension of the belly. On the Sunday morning previous to the rigor, her medical attendant had very properly given her a common opening medicine, which had operated smartly, and to its effects were improperly attributed by the people about her the subsequent symptoms. The milk had not been properly secreted in the breasts, and though the child had been applied to them, the natural desire to suckle seemed inconsiderable: the abovementioned symptoms, *viz.* the quick pulse, heat upon the skin, pain and tension of the belly gradually increased in spite of blisters, salines, and opiates; the lochial discharge disappeared, a low muttering delirium came on, the urine was secreted in small quantity, and with difficulty evacuated, and I found her three days after the first attack, as above described. In the course of the following night she expired.

Leave was obtained to inspect the body on the following day, and those appearances which have been so frequently described by various authors, presented themselves to our notice. Upon making an incision into the abdominal cavity, a considerable quantity of a serous fluid, having white flakes of coagulated lymph, or a puriform substance swimming in it, escaped; some of it also remained in the pelvis. There was a vivid blush of inflammatory action upon the whole surface of the peritonæal covering of the intestinal canal, as well as upon that lining the abdominal cavity. The stomach and intestinal canal were fully inflated with an offensive gas which escaped on puncture; to this general inflation seemed owing in a great measure the size of the abdominal swelling. The omentum was shrivelled up or wasted, and in several parts of its substance a larger quantity of the above puriform matter was deposited in a more solid state. The uterus was soft and flaccid in its structure, and by no means well contracted for the time which had elapsed since delivery. The right ovarium was much enlarged in size, and was found in a state of suppuration: the left ovarium was also considerably enlarged. Both the Fallopian tubes were of a dark red, almost amounting to black. The peritonæal surface of the uterus had here and there patches of inflammatory action; its inner coat was quite black. The liver was apparently healthy, with its gall-bladder tense with bile. The chest and head were not examined.

My medical friend, who had attended this patient, informed

formed me, that another woman lay dead in the village within a very short distance of the same disease, whose body he had also permission to inspect, and requested my presence. This woman was thirty-four years of age; she had been safely (apparently) put to bed on the Tuesday morning about four o'clock of her fifth child, after a remarkably easy labor; she was attacked with shivering succeeded by the usual symptoms on the following morning, (Wednesday) about two o'clock, and died on Thursday morning about five. The symptoms were violent and rapid, so that she was a corpse within forty-nine hours after delivery. The body was inspected on the Thursday evening.

Nearly similar appearances presented themselves as in the former case: There was not the quantity of serous fluid, nor of the puriform matter observed in the former case. The stomach and intestinal canal appeared equally inflated, and the redness upon the peritonæal coat was thought somewhat more vivid; our light was, however, but indifferent. The uterus was more firm in its structure, and more contracted; the ovaria were not observed to be enlarged. The liver was also healthy, and the gall-bladder turgid with bile.

Various have been the opinions of most respectable practitioners respecting the nature of that disease which bears the name (though, perhaps, by no means explicit or correct) of Puerperal Fever, and as various has been the treatment recommended and pursued; but surely, in so dangerous, and too frequently, so fatal a disease, it behoves the profession to attain some degree of certainty in their practice, if certainty be at all attainable. The difference of sentiment, which has hitherto prevailed on this subject, is, I apprehend, partly to be attributed to the natural difference of constitution and habits of life of those women whom this disease assails, and partly, to the sudden transition, from symptoms of high action and excitement, to those of irritation and debility in its progress. Hence we have two distinct sets of symptoms, those of increased action and those of irritation, running into one another, mixing with each other under a variety of forms, or rapidly following each other, thus producing those complicated and varied appearances which are described by numerous authors as different diseases, and in actual practice confounding the judgment of the most sagacious practitioner.

The most simple, and at the same time, in my opinion, the most correct mode of viewing this dangerous disease, is to consider it, at its first onset at least, as one of an active inflammatory description; in short, as nothing more or less than peritonæal inflammation variously modified, and attacking a puerperal woman under different existing circum-

stances; but afterwards, when this inflammatory action has existed in a part so delicate in structure till the system is somewhat exhausted, or till effusion into the abdominal cavity has taken place as its necessary consequence, the disease can be no longer considered in the same light; the appearances will have changed, and the symptoms present will be those of irritation, languor, and debility. If this view of the disease be at all correct, in which I think I am borne out by the first and subsequent symptoms, by the appearances on dissection, and by that treatment which has of late been successfully pursued at Leeds by the most eminent of the faculty there, and first pointed out by Dr. Gordon of Aberdeen, in his excellent Treatise on the subject; it will immediately determine our practice, and shew the necessity of watchfully looking for the attack and first onset of this dangerous disease, in times of its epidemical ravages, that we may embrace the only opportunity we possess of early checking its malignant effects.

The period after delivery at which the Puerperal Fever makes its attack, is universally acknowledged to be very uncertain; occasionally it will shew itself within the first twenty-four hours; most commonly about the third or fourth day; most frequently within the first week, and now and then after that period: it is, however, a general observation, that the more early after delivery it assails the patient, the more rapid is its progress, and the more dangerous its effects. Its commencement is usually announced by more or less of rigor; sometimes this symptom is scarcely observable, the disease making an insidious progress; at others it is violent. Both before and after the rigor the pulse is unusually quick, and afterwards acquires a degree of velocity peculiar to this disease. Indeed in those cases in which there has been no marked rigor, the pulse is preternaturally quick, and soon becomes rapid. In some instances, the patient, when apparently going on well, is suddenly attacked with acute permanent pain in the lower part of the abdomen, which presently becomes tender to the touch, or painful upon motion, accompanied with frequent respiration, quick pulse, and shortly after by tension of the belly with pain upon pressure. The pain at first is described as confined to a particular part, but it soon becomes general over the whole belly: if relief be not speedily obtained by the means of art, many of the above symptoms regularly increase in violence; the pulse becomes more hurried, and is diminished in strength in proportion to its rapidity; the abdomen grows more tender and tense; respiration is performed frequently and laboriously; the tongue becomes furred or glossy; the urinary secretion is diminished in quantity, and is evacuated with difficulty; the countenance

countenance has a strongly marked dejectedness and anxiety; a low delirium is observed at intervals, and death soon closes the scene. In acute cases the disease will prove fatal within twenty-four hours from its first attack; in common ones in four or five days, though some are protracted beyond that period. In a very few instances suppuration has been known to have been effected through the abdominal parieties, after which recovery has ensued. If the disease occurs after the secretion of milk has been established, that nutritive fluid is quickly absorbed from the breasts, and the secretion afterwards becomes suppressed. The common lochial discharges also disappear after the disease has commenced its career.

The symptoms preceding recovery are, a diminution in the velocity of the pulse, of the pain and tension of the belly, refreshing sleep, and change of posture.

The diagnostic symptoms are, more or less of rigor in a puerperal woman, preceded or succeeded by considerable velocity of pulse, which is seldom less than from 120 to 140 strokes in a minute; pain upon pressing the belly is soon complained of, with a degree of fulness and by and by tension. This pain will readily be distinguished from after-pains by its situation and permanency, and particularly by its being diffused over the whole external surface of the belly; so that after the disease is established, no one part of the abdominal surface can be touched ever so lightly without adding to the uneasiness; and, towards the close of the disease, even the pressure of the bed-clothes becomes troublesome. The appearance of the countenance is soon characteristic of unspeakable dejection and anxiety; and this symptom seems to me particularly to accompany this disease.

The proper treatment of so dangerous a disease as Puerperal Fever always proves itself, must be a point of first-rate importance to every gentleman interested in midwifery, since the very existence of his patient is wholly dependent upon his well timed exertions. The inherent powers of the human frame, so frequently successful in resisting the attack and progress of many diseases, are not to be relied upon in this; so that the conflict between those natural powers and the progressive ravages of Puerperal Fever must be decided by the judicious efforts of the medical art. What those efforts ought to be, and how and when, to be successful, they ought to be applied, have been so fully detailed by Dr. Gordon in his Treatise, that it might seem almost superfluous in me to say more than refer the reader to that pamphlet for ample information, had I not the judicious practice of a most eminent surgeon in corroboration of its propriety and utility. The grand points of the practice consist of free and copious blood-

blood-letting, to twenty or twenty-four ounces, within a short period after the attack of the disease, and afterwards of most liberal purging. Mr. Hey (whose name stands so justly celebrated in the volumes of surgery) informs me, that the extraction of twenty or twenty-four ounces (the quantity thought sufficient by Dr. Gordon) is not always effectual to subdue the disorder. "I have lately," says he, "in two cases, and those not the most severe, bled three times in one day, and have taken in the whole thirty-seven or thirty-eight ounces of blood with complete effect; at the same time purging the patient freely." Mr. Hey further observes, "that the bleeding ought always to be performed on the first day of the attack." It must be understood that this practice is to be entered upon decidedly and resolutely within a few hours after the first symptoms of the disease, (the earlier after its attack the better) or it will most undoubtedly fail, and only hasten the destruction of the victim. If considerable symptoms of irritation and debility have shewn themselves, or if effusion into the abdominal cavity has taken place, such treatment must necessarily be unsuccessful and will get into disgrace. It is not, however, from bleeding a patient sparingly, or from a confined orifice, that any good is likely to result: blood must be taken away liberally and in a full stream, and I think a practitioner would be justified in opening a vein in both arms, that the full effect of bleeding might be accomplished, with the least general loss to the constitution. When the abstraction of blood is either not well-timed, or the operation itself is not properly managed, it would, perhaps, have been more to the credit of the art, if it had been entirely omitted; under such circumstances it cannot produce the expected relief. After liberal bleeding, the intestinal canal must be evacuated in the first instance by a full dose of calomel and jalap, and repeated dejections are afterwards to be encouraged by a solution of any of the neutral salts, with or without antimonials. The general principle will be assisted by the application of a number of leeches to the abdominal parieties, and the bleeding encouraged by warm stuphs. Repeated clysters injected warm into the rectum, with or without opiates, possess their advantages.

Let it not, however, be supposed, that the practice thus strenuously recommended will be successful in every instance. Some cases seem determinedly fatal from the first onset; in such, we can only regret the inefficacy of our best exertions, and, having performed our duty in properly using those means which reason and experience dictate, calmly submit to the eventful dispensations of Providence.

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In the more protracted states of the disease, palliative means can only be resorted to according to the urgency of the symptoms, but they will seldom be productive of permanent advantage. After attention to the bowels, momentary relief may, perhaps, be obtained by the injection of a small quantity of warm fluid into the rectum occasionally with a proper quantity of opiate: the tension and pain of the belly may, possibly, be relieved by leeching, but as to the application of blisters, they have generally been thought to do more harm than good by the irritation they have produced. Bark and the stimulant plan have been universally found at Leeds prejudicial. Digitalis, given in such doses as to diminish the velocity of the pulse, seems to me to promise more than any other medicine; but I should not place much confidence in this valuable remedy, if bleeding freely had not been premised. As to the beneficial effects of camphor, opiates, antimonials, salines, &c. they appear by no means sufficiently proved as to demand any positive confidence in them; in short, if *nature* does not do a great deal for the patient, art can offer very little effectual service.

In any inflammatory disease, such as common enteritis, peritonitis, or peripneumonia, though the symptoms be ever so disguised by anomalous appearances, an able practitioner does not hesitate to bleed largely from a free orifice, and to repeat the bleeding according to the urgency of the symptoms; neither, if a puerperal woman was attacked with an inflammatory affection of the chest, would he think it right to neglect the same means of relief; ought, then, the puerperal state to preclude the use of that valuable remedy at the very onset of derangement, in that too frequently fatal disease, acute and rapid peritonæal inflammation; but, particularly, as it has been so repeatedly had recourse to with the most decided success? A celebrated surgeon observed to me, that in peritonitis we were frequently satisfied with merely obtaining a fallacious truce to the symptoms.

The attack of Puerperal Fever is, however, occasionally so very insidious, that it shall have made considerable progress before it attracts the attention of the patient, or is recognized by the medical attendant; but with common attention, it will seldom have made such advances, as to do away the necessity of that decisive treatment before mentioned: a double degree of vigilance will be required in every instance of *accouchement* when the disease is prevalent, not merely to recognize, but to detect the commencing symptoms, for reasons too obvious to mention.

There is another point regarding Puerperal Fever to which I wish to draw the attention of your readers; that is, respecting

pecting the contagious nature of the disease. Dr. Gordon has positively, from his own observations, decided that question in the affirmative. Mr. Hey informs me, that he is not certain whether it is infectious or not; but that he thinks it right to act as if it were really so. This certainly is the conduct of a man of prudence: for my own part, besides the impression made on my mind by the relation of authors, as far as one solitary case can be supposed to be convincing, the fact I am going to relate speaks in the strongest terms: the nurse who attended upon the woman first taken ill, went directly from her bed-side to that of the second patient, who was her daughter, when she fell into labor: and observe, that almost as soon as that process is well finished, the second patient is attacked with the disease, and dies within twenty-seven hours from its commencement! I leave every one to make his own comment. If the disease be contagious, every means to prevent its communication from one to another should be adopted, as well as such as promise to destroy the infection itself; as fumigations, lime-washings, and proper care of the linen and bedding. Medical men and nurses will do well to keep in mind, that they may, possibly, convey the infection in their clothes, and pregnant women ought to be cautioned not to visit others under the disease. I am disposed to think from some late occurrences, that there is something extremely prejudicial to the health of women not puerperal, in the malignancy of child-bed fever; but my facts are yet so sparing, that I cannot speak positively upon the subject; I will merely observe, that one of the women in attendance upon the first patient, was within a very few days after her death seized with a most violent erysipelas of both legs, which proved obstinate in cure.

Since the preceding observations were made, I have seen a third case in the same village: this proved of a milder and less rapid kind than either of the former, and did not commence till fourteen days after delivery. Free bleeding and liberal purging were had recourse to before I saw the patient, that I had merely to sanction the proceedings: these means procured early relief, and the patient soon recovered.

I have also seen a case of inflammation of the uterus succeeding the use of instrumental means to hasten the delivery of a woman under Puerperal Convulsions, with an ill-formed pelvis. This woman had been bled liberally during the labor to relieve the convulsions: about twenty-four hours after delivery she was seized with rigor, quick pulse, and pain in the uterine tumor, followed by some tension of the belly. The next morning twenty ounces of blood were taken from a free orifice, and the bowels purged: considerable relief was experienced

experienced by these means, but the night of the day following, there was a recurrence of the above symptoms, when the medical gentleman in attendance took away about fourteen ounces more, and kept up the intestinal evacuations: These means completely checked the disease, and the woman afterwards continued to do well. I have merely further to observe, that the appearance of the blood in the last bleeding was extremely sizy, and the crassamentum deeply cupped on its surface; whereas in the former one, though the blood was lost from a very free orifice, the crassamentum shewed but little of the sizy appearance. The same observation has been made with respect to the blood taken in Puerperal Fever; the blood drawn soon after the attack shall shew but little of the sizy appearance; whilst that taken some time after the disease has been established, shall shew these appearances, with the cup-like cavity on the surface of the crassamentum, in a high degree.

To the Editors of the Medical and Physical Journal.

Theory of Worms.

GENTLEMEN,

ON lately perusing the American Transactions, my attention was attracted by a curious history of a living snake in a living horse's eye, related to Dr. Morgan, professor of physic in Philadelphia. The same story is related in the same volume by Mr. Hopkinson, with this difference only, that the latter calls it a *worm*. That living animals, especially worms, have been discovered in almost every organ of the human frame, is a fact as well established as any in physiology. The numerous cases related by our best authors, from the time of Hippocrates down to the present, sufficiently warrant this conclusion. Our ancestors having left us in possession of the facts, it therefore becomes our duty to arrange and digest them in such a manner, as to elicit their explanation.

Those who have attempted this may be divided into two classes, viz. those who have supported the doctrine of equivocal generation, and those who argue for the production of every animal from an egg furnished by the female and fecundated by the male. Harvey stands distinguished as being among the first supporters of this doctrine, which is now so

well established as to require no further explanation, the former being justly exploded.

The ovarian doctrine being therefore admitted, I adopt the premises, and proceed to the explanation of the phenomena of worms being found in the different organs of animals. Their most common abode is in the stomach and intestines, but they are also found in almost every organ, as the following cases prove. The history of a jointed worm near twenty inches long and three broad, found in the liver of Mrs. Holt, related in the Essays of the Society of Physicians of London. A similar case is published in the second volume of the Edinburgh Medical Essays. The celebrated Ruysch has related many cases of worms found in the lungs, kidneys, arteries, liver, cystic duct, biliary pores, gall bladder, and even in the brain itself. Old authors have distinguished them by the names of the organs in which they have been found, as dentales, gingivales, pulmonarii, cardiaci, sanguinarii, cutanei, umbilicales, hepatici salivales, &c. &c.

It being already granted that these insects originate in eggs, I shall now endeavour to point out the manner in which they arrive at the respective organs in which they have been found.

There are only two ways by which they can arrive at the respective organs mentioned above. The one by or through the skin, the other by the ova being received into the stomach with the food, and from thence proceed through the medium of the circulation (as explained below) to the respective organs in which they are discovered. The guinea worm forms an example of the first, it being generally found in the legs, where the parent deposits its egg. This is sufficiently corroborated by Linnæus's history of his own case.

It is impossible, however, for the ova of insects to pass in this manner into the viscera contained within the abdomen or thorax, we must therefore have recourse to the circulation.

I therefore suppose these ova are received with the food into the stomach, and in proportion to their minuteness pass either through the lacteals with the chyle, or into the lower intestine with the fœces. Those with the chyle enter the circulation at the thoracic duct, and these remaining in the intestine, generally find a nidus in the villous coat or in the duplicatures of the colon, where they may not only arrive at maturity, but also greatly augment their number, each being endowed with male and female organs.* This may account for their being found more frequently in the intestines than any of the other viscera. Passing thus with the circu-

* Viz. Teres, tenia, and lumbricus, possess this power.

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lation these ova are deposited by the blood in some appropriate organ, where they receive that degree of warmth and nutrition necessary to call forth their organic existence. According to this theory the produce of these ova are liable to be found in every part of the human frame, especially in the abdominal viscera, which receive the blood more immediately from the center of circulation and in larger proportion, owing to the functions those organs have to perform, as the liver, kidneys, &c. &c. How these ova escape digestion on being received into the stomach shall now be examined. The best experiments and observations we possess on this subject are those of the celebrated John Hunter. He found several substances insoluble in the gastric juice, as horn, husk, shells of all ova, and the essential oils of animals and vegetables. He says, "these oils, although indigestible, are miscible or soluble in the gastric juice or chyle, by which means they become medicinal from their stimulating power." A little farther on he says, "the essential oils of vegetables, but more particularly that of animals, would seem to pervade the very substance of those animals whose food contains much of this oil; thus we find sea birds, whose constant food is fish, taste very strongly of fish."

Mr. Hunter mentions also fluids as being difficult of digestion from the minuteness of their particles and want of solidity. We have, therefore, only to suppose that the size of the ova, which pass with the chyle, are equal in minuteness to the particles of a fluid or the oils above noticed, which was found to have pervaded every part of the system. Those who are at all conversant with the history of insects will readily grant this supposition.

The fact that the greater number of worms are discovered in the intestines, sufficiently indicates that few ova only are of such a degree of minuteness as to be absorbed by the lacteals. Those larger passing into the intestines escape digestion, either from the gastric juice having no action on their horny shells, or their being possessed of vitality. In this manner we daily see the skins and husks of various kind of fruits pass off with the fœces without undergoing the least alteration.

The ova which pass into the intestine with the fœces are either nurtured in the duplicatures of the colon, or expelled by the rectum. I mentioned that should any of these insects be possessed of vitality, that alone prevented their digestion. This I conceive to be sufficiently proved from the dissolution of the stomach itself, by the gastric juice after death, and more especially by the large living worms found in this viscus. The objection to this, that we are daily swallowing living oysters which are soon digested, is of no weight, as

these oysters must soon die, being lacerated and deprived of their shell, when digestion will of course follow.

Ruysch says, "I have had reason to doubt whether, as Harvey and his followers affirm, all animals are produced out of eggs, from worms being found in the arteries of living horses, and in the parenchymatous or glandular substance of the liver, &c." Neither analogy nor the invariable laws of nature can lead us to suppose these organs endowed with a self generating power, capable of producing new species of animals without parents. We must therefore adopt the above doctrine, which, without straining facts, satisfactorily explains this phenomenon, as we can scarcely suppose that the parent can gain access to deposit her eggs in these internal organs. It may be asked why young people are more subject to worms than adults? This is true, only so far as relates to intestinal worms, the increase of which, at this period, I have heard attributed to the greater succulency of our juices. It is however more probably owing to the larger quantity of food, especially vegetable, which is consumed about this time.

Vallisnieri has sufficiently proved that the intestinal worms propagate their species in the intestine, from which he concludes that they are generated there, and not received into the circulation with the food, &c. This doubtless accounts for their great increase, but does not explain the production of the parent. Worms have not only been found in infants but even in fœtus's. This, in my opinion, is an incontestable proof of their being received into the circulation of the mother, and from thence proceed through the same medium to the fœtus.

Several cases of worms being voided with the urine have lately been published. This is another strong proof of the present theory; it being well known that a very large quantity of blood circulates through the kidneys with remarkable celerity.

Having thus shewn that the eggs of insects not only enter the stomach and alimentary canal, but are also absorbed undigested by the lacteals, after which they must enter the circulation with the nutrition of the food, and be deposited with the same in some appropriate organ; the explanation of worms being discovered in every part of the animal frame becomes equally easy, all parts being duly supplied with blood.

W. HAMILTON, Surgeon.

Ipswich, July 26, 1811.

To

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

SINCE the case of Acute Rheumatism inserted in your last Number, I have met with an occurrence in my practice which I think may in some measure tend to elucidate and confirm the observations there suggested, and which may likewise serve to point out several useful hints, not so much to medical men, as to the unprofessional public.

A short time since I was requested to visit Mr. C. a young man about the age of 28. He had for years been a sufferer from disease, but was particularly subject to attacks of inflammatory Rheumatism; even in the periods of comparative health, he was never entirely free from this troublesome complaint; he always felt wandering pains about him, and on the least occasion of cold he generally experienced a very severe attack. Wearied with his uncomfortable and wretched kind of life, and having tried the prescriptions of regular and empirical practice, without any real benefit or amendment, he in a manner became desperate, and at the instance of a friend, who had been ordered by a medical man to rub in mercury for a complaint, the symptoms of which he conceived exactly resembled his, he commenced rubbing in a quantity of *ung. hyd. fort.* of the size of a *large nutmeg* every night and morning, a quantity which I conceive to be about ʒij, or nearly so, of the ointment. He continued persevering in this plan for about four or five days without any very visible effect, except a slight affection of the mouth; but on the seventh day from the commencement of his using the ointment, the most violent effects were produced, apparently of a sudden. Very copious spitting came on, the breath became extremely fœtid, the mouth and lips were swelled to a very great extent, the eyes had a sunk, hollow appearance; a compleat hoarseness, so that the voice was scarcely distinguishable, occurred; the throat was extremely sore; large evacuations of blood were frequently made from the mouth, and the whole countenance assumed a hideous appearance. This was the period when I first saw him. I ought to have previously observed, he commenced using the mercury when he was labouring under a very severe attack of rheumatism, and though previously tormented with pain, he never experienced a single return of it after the mercury had begun to affect his mouth. When I saw him he was excessively *reduced and debilitated*, not only from the immediate effect of the mineral, but, if I am allowed to use the

the term, from a mechanical cause, he being incapacitated from taking nourishment almost of any description from the state of his mouth; I therefore requested the attendants to give him as much nourishment as possible in the form of broth, soup, &c. directed him to take the decoction of bark with tincture, and to gargle the mouth frequently. Perseverance in this plan, with attention to keeping the bowels perfectly open, gradually produced convalescence, and he is now perfectly recovered. Since the period of the mercury affecting his constitution, he has not felt the least return of rheumatic pains. He is now gone to Margate in order to bathe, where I hear he continues perfectly free from any vestige of his former complaint. Time will determine, but I firmly believe he is *permanently cured*, through the influence of a most violent yet useful medicine. The conclusions that may be drawn from this case are very evident. First, it is clear that the mercury cured the disease by inducing a different action in the system, and suspending or rather eradicating the previously morbid one: Secondly, the random and unwarrantable way in which the application was used, and the unpleasant consequences that followed, ought to serve as a useful lesson to the unprofessional part of the public not to tamper with important medicines, as the consequences attendant when made use of in improper doses, and in diseases that do not require their use, is often dangerous, and likewise that their exhibition ought to be always superintended by a medical man. Thirdly, I think it is in this case clearly evident, that a slight but at the same time a satisfactory affection of the mouth, answers every purpose, in inflammatory diseases, of a *perfect ptyalism*; as it is to be observed, that every trace of the disease vanishes upon the appearance of this criterion of the medicine having affected the constitution. Sincerely hoping the above remarks may prove useful, I leave them to the consideration of your readers.

Your obliged,
D. H. DAVIES.

27, *Carburton-Street,*
Fitzroy-Square.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

I YESTERDAY met with Mr. Brodie's account of the experiments which he has made on animals, with a view to ascertain the influence of the brain on the action of the heart, and

and on the generation of animal heat, as given in the Number of your Medical Journal for July last; and I have taken the liberty of troubling you with the following observations on that publication, thinking that you will not find them unworthy of a page in your valuable work.

Mr. Brodie has drawn the following conclusions from the experiments which he made.

1st. That the influence of the brain is not directly necessary to the action of the heart.

2d. That when the brain is injured or removed the action of the heart ceases, only because respiration is under its influence, and if under these circumstances respiration is artificially produced, the circulation will still continue.

3d. When the influence of the brain is cut off, the secretion of urine appears to cease, and no heat is generated; notwithstanding the functions of respiration and the circulation of the blood continue to be performed, and the usual changes in the appearances of the blood are produced in the lungs.

4th. When the air respired is colder than the natural temperature of the animal, the effect of the respiration is not to generate, but to diminish animal heat.

More than these conclusions it would be unnecessary to extract, as so late a publication can be most easily referred to; the observations which I have made on them were suggested to me by the perusal of the experiments made by Mr. Brodie, and I regret that it has not been in my power to make some additional ones.

As it appears, that notwithstanding the continuance of respiration and circulation, the heat of the animal diminishes in a proportion greater even than if it was simply dead, and as the secretions seem to be suspended at the same time, it is by no means improbable that they are very closely connected together, that they depend upon the same cause, or even that *the former is only one of the phœnomena attendant upon the production of the latter.*

The heart, although not *directly* under the influence of the brain, *is so in a considerable degree*; the contrary of which it would be absurd to suppose; but it is absolutely proved, by the decline of its powers, from the time that the connection of that organ with the rest of the system is destroyed. The increase in the frequency of the pulsations, which in one or two cases took place, may be considered either as convulsive motions, of which there were many instances in the other muscles, or as more frequent and at the same time more feeble actions of the heart.

The nervous power residing in the muscular system seems not to be so immediately dependant upon the brain, as that which

which appertains to the system of secretion, &c. for long after the latter seems to be abolished, the former is abundantly manifested by the continuance of the pulsation of the heart and arteries, the evacuation of the fœces, and the movements of the voluntary muscles. Before, however, this conclusion can be fairly established, it ought to be more fully proved that the secretions are suspended; and it would be desirable to ascertain by more experiments whether or not this is the case; to see whether the digestive process could not be carried on during this state of artificial life, or whether actions, at any rate analogous to secretion, could not be excited by the application of vesicatories of different kinds, &c.

The usual changes in the blood took place in the round of the circulation, yet no effect was produced by this, either on the secretions or the generation of heat; but is it likely that no effect whatever was produced? To me it seems extremely probable *that the alteration which still took place in the blood, when it passed through the lungs, was calculated to supply a necessary stimulus to the arterial and muscular systems,* (the former of which indeed may be considered as a branch of the latter) for these were the only ones which remained in a state of activity, and on these only could the materials gained from the atmosphere be expended; for as the secretions were at an end there is reason to suppose the process of nourishment was also; and if so, the change wrought in the blood could only be to benefit the systems before mentioned.

There is another reason which induces me to think that the red blood is the natural stimulus to the arterial system, and that the changes which take place in the lungs are principally subservient to this end; and I principally found this opinion upon the phenomena which take place in consequence of suspended respiration, in which case I conceive the destruction of life proceeds from the failure of the action of the arterial system, (its proper stimulus being withheld) and not from the influence of the black blood on the brain, producing an abolition of nervous power, as has been strongly maintained of late.

If an animal lies apparently dead in consequence of obstructed respiration, what are the means resorted to in order to restore life?

We first produce an artificial respiration, by which the blood which has not as yet lost its vitality becomes converted from black to red; but although by this means a quantity of blood has been produced fit for the purposes of life, yet it is not applied to the heart, it is not in motion; in order to effect this also, we set on foot an artificial circulation, by pressing the blood from the extremities towards the heart,

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this gradually displaces that, which was before stagnant in the right cavities, which entering the pulmonary system in its turn pushes forwards successively into the left cavities, first that which occupied the pulmonary veins, and afterwards that which had undergone the proper changes in the air cells; when *this* reaches the left cavities it stimulates them to action, which at first is feeble, but gradually becomes stronger.

But it may be argued, that the restoration of life is not owing to the red blood being again forced into the left cavities of the heart, but by a continuance of the process into the brain; this is possible, but I should ask, how does the circulation cease when its cessation proceeds from causes operating on the brain? I believe it is generally admitted, from the muscles of respiration first ceasing their action, and in consequence the heart failing to receive its supply of blood. Now, of course, we must suppose if the circulation were re-established, through the agency of the brain, that the actions would recommence first in the organs of respiration, which are more immediately under its influence, and then in the heart; the reverse however of this is the case, for the heart begins to pulsate before the respiration is renewed; therefore we are warranted in concluding that life began where it first ceased, that it ceased from red blood being no longer brought to the heart, and that it recommenced from that supply being restored.

A very simple experiment however would suffice to set this question at rest; for if instead of changing the air which is used in the artificial respiration, we were to continue to use the same over and over again, after the communication between the brain and the system at large has been cut off, by removing the animal's head; if the pulsations were to cease, (as they most probably would) from the circulation of black blood, then it would be proved that this cause acted on *the heart, and not on the brain.*

These, Gentlemen, are the few observations which I have been induced to make on this subject, by which it will appear that I have no wish to controvert the conclusions which Mr. Brodie has drawn; but rather to carry them further than he has, and to suggest some new experiments which might perhaps cast fresh light on this intricate subject.

I have the honour to be,

Yours, &c. &c.

J. H. J.

Exeter, Aug. 23.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

ALLOW me to say a few words in reply to Mr. Fogo's Remarks on the Case of Twins which I sent for publication in your Journal for June last. He begins by a misstatement in saying that I called myself an "inexperienced practitioner." I acknowledged myself a young man, and that confession surely ought to have disarmed criticism of any unusual severity. It was the first case in which I had attended the delivery of twins; I never before delivered a fœtus with the forceps, nor had my hand till then been introduced into a uterus for the purpose of turning and delivering by the feet. I was alone; no medical man resided within five miles of me, and the only resource left me was my own immatured judgment, and Denman's Introduction to Midwifery which I had taken with me. "I condemned myself for rashness" because Denman writes as follows: 'Without regard to those who are fond of speculative opinions, or the determination of those who are guided by practice alone, I have concluded that we may safely, and ought to wait *four hours at least* after the birth of the first child, before we deliver a patient *by art* of a second child, if there be no particular cause for delivering her sooner; by this decision we shall avoid many unnecessary operations without detriment to the patient, without increasing our own difficulties, or hazarding our reputation.' And, further, I was not convinced that any particular symptom rendered immediate interference necessary. The woman was very languid and low before labour-pains first came on; some circumstances made her situation peculiarly distressing; herself and friends were placed in a middling station of life, and she had been seduced under a promise of marriage, and, at an advanced period of pregnancy, arrangements were concluded for the celebration of the nuptials; even a dinner for the occasion was prepared, and the friends of the young woman had assembled in order to accompany her to church; at this moment the young man receded from his engagements, and left the poor girl a prey to wretchedness and remorse. Surely, then, such a peculiarity of situation would account for "great languor" and dejection of spirits without any other cause; and was that sufficient ground for the immediate delivery of the second child? I waited two hours after delivering the first, "during that time (says Mr. Fogo) the woman was losing blood; but being prevented

prevented from passing the os externum by the placenta of the first, and by the body, membranes, and waters of the second child, it did not, nor could not, make its appearance." He also takes it for granted, that during this period a great pool of blood was accumulating from the detachment of the first placenta, which was confined, as before mentioned, till a passage was opened for it. Now had this really been the case, I must have met with these obstructing causes on introducing my hand; on the contrary, neither the placenta, membranes or coagula were to be felt either at the os externum or the os uteri; that part of the uterus which had contained the child delivered was unoccupied, at least so much so, that my fingers passed some distance from the os uteri before they were opposed by the membranes of the second fœtus; the placenta which Mr. F. has so conveniently placed at the os uteri was not to be found. I traced the chord till it was lost behind the membranes, enveloping the remaining fœtus. The entire absence of pains during the delivery of the first child, and subsequent to it, accounts for the uterus being in this state; it appeared to have lost its usual powers of contracting; one or both placentæ adhered to the uterus, which rendered separation with my fingers necessary. I cannot now state whether they were united; this is an omission for which regret is now useless. The hæmorrhage was truly such as I had never witnessed. I stated the loss of blood was six or seven pounds; I spoke within bounds: the expression "in a few moments," I admit was indefinite and vague; it was thrown out with great rapidity, and continued to flow till she sunk without any appearance of life. One of the children is now alive, the other lived several months. I pretended not (as Mr. Fogo insinuates) to the knowledge of discovering a twin case prior to the birth of the first child; surely there was no vanity in stating that the child which I had delivered with the forceps being a little undersize, connected with the large appearance of the woman, led me to judge there were twins. I can also assure Mr. Fogo that I have attended a respectable teacher, (Dr. Haighton,) and that I have also read respectable books on the subject of midwifery. As I advance in years I hope to add to my small share of knowledge; his criticisms will, perhaps, stimulate my exertions, but at present they fail to convince me, that I delivered the woman "but just in time to save her life," or that if I had delivered her two hours sooner I should have been justified by both "Theory and Practice."

I am, Gentlemen,

Your most obedient servant,

AN ESSEX PRACTITIONER.

August 10th, 1811.

P. S. I shall expect, with impatience, Mr. Fogo's Observations on the "Retrograde" State of the Obstetric Art, and on the "Absurdity of Guarding the Perineum." If it is really necessary for us to "unlearn" that which has cost most of us much expence and labour to acquire, the sooner we begin the better.

To the Editors of the Medical and Physical Journal.

"The motions of life are not more inexplicable than that of bodies towards each other, as in the gravitation of the solar system; yet, in this case, we do not call in the aid of a *fluid* to render the motion more complicated, but wisely confine ourselves to a statement of the *fact*. We are conscious of certain feelings, and we have uniformly found some of these feelings succeeded by muscular motion; but though, by the future improvement of our optical instruments, a subtile fluid were shewn to us, and its vibrations, or vibratiuncles, or direct motion pointed out; we should, indeed, have traced another *link* in the series of *changes*, but we should not be justified in regarding the *motions* of the *fluid* as constituting our *feelings*." BROWN.

GENTLEMEN,

I HAVE been induced to trouble you with the above quotation from a truly philosophical writer, as well as to subjoin the following remarks, in consequence of a very ingenious paper which appeared in your number for June last, entitled "Theory of Sensation," by Mr. Smith of Bristol.

The author commences his essay with objecting to the common, as well as to the Darwinian theory of sensation; he then states his own, *viz.* "Sensation is felt when an action attempted by the vital power is, in any degree, obstructed or interrupted; or, in other words, when an action performed is less than the power exerted;" and after producing his proof says toward the conclusion, "it is not difficult to conceive that an active intelligent power should *feel* when its motions are interrupted." I would, therefore, beg leave to ask the ingenious writer, as he has not defined it, what he understands by the term vital power? Does he understand by it the nervous fluid of Cullen, or the spirit of animation of Darwin? And if either of these, in what sense has it any claim to be considered as *intelligent?* Mr. Smith's theory appears to me to labour under the same defect as that of his once celebrated predecessor; for granting the existence of this fluid or spirit, (at present a mere hypothesis) it would, I conceive, be highly unphilosophical to call it *intelligent*, or the obstruction or

interruption of its motions *sensation*. Intelligence is mind, and sensation a mental affection, *consequent* to the impression of a body on an organ of sense; and however mysterious or incomprehensible be that "subtle feeling which elevates us to the rank of gods, or degrades us below the dull insensibility of the earth on which we tread," it is not, I think, accordant with the principles of sound philosophy, though it has the sanction of modern physiology*, to ascribe it to a system of organized matter.

I am, &c,
JAMES WOODHAM.

Blackfriars, August 28th, 1811.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

YOU did me the honour some time ago to insert some remarks of mine upon a paper by Mr. W. Simmons, a surgeon of Manchester, in your valuable Journal; and I then pledged myself to communicate, through the same useful medium, my experience of the use of the knife in Lithotomy, as recommended by those distinguished operators, Mr. Cooper, Mr. Blizzard, Mr. Gibson, and Mr. Lawrence; I am not, however, as yet prepared to offer the result of such a number of cases as I could wish, so many opportunities not having lately fallen to my share. You will, therefore, be pleased to consider my communication upon that subject as still in reserve, and in the mean time allow me to present a few observations upon a pamphlet of Mr. Simmons which only lately was made known to me. As it contains conclusions and sugges-

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* "Le cerveau-c'est le centre sensitif qui voit les couleurs, *entend* les sons, &c. * * * * * * * * * *
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Le cerveau agit sur les impressions que les nerfs lui transmettent, comme l'estomac sur les alimens que l'œsophage y verre; *il les digère à sa maniere*, ébranlé par le mouvement qui lui est communiqué, il réagit, et de cette réaction naît la *sensation perceptive* ou la perception."

RICHERAND.

"The *impression* produced on any organ by the action of an external body, constitutes *sensation*. This sensation, transmitted by the nerves to the brain, is *perceived*, that is *felt* by the *organ* (the brain), the sensation then becomes *perception*."

"An *idea* is only a sensation *transformed* or *perceived* by the *cerebral organ*." HOOPER.

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tions upon the subject of lithotomy, which do not accord with my experience or that of many eminent writers, I hope you will favour me by communicating to the public my practical deductions upon Mr. S.'s cases and hints. In my former paper I took the liberty of addressing a few plain queries to Mr. S. which I thought that gentleman could have had no objection to have readily answered, for my information; since I had little doubt, from the general statement of his own success with the gorget, that his particular replies would have tended to support his general assertions upon that head. It appears, however, that Mr. S. either thinks it unnecessary or unpleasant to answer my inquiries; I must therefore look for similar information to another source; at the same time, I cannot help concluding both from Mr. S.'s silence and from the well-known failure of the operation in the hands of that gentleman, that his operations with the gorget have not been more exempt from accident and embarrassment than those of operators in general; and I am the more strongly confirmed in this conclusion, from the statement which Mr. S. himself has given of his total want of knowledge for many years of the situation of the membranous part of the urethra. So late as the year 1806, Mr. S. thought the acquirement of this knowledge a discovery worth communicating to the public, in a pamphlet entitled, "Hints for the more ready and safe Performance of the Operation for the Stone, &c." Such a title certainly raised hopes in me, which the contents of the pamphlet have failed to realize, for Mr. S. has divulged no new expedients to overcome the obstacles presented in those cases which he has related, and has failed to draw some conclusions from them, which appear to me both obvious and highly instructive. I trust therefore, by commenting upon them with candour and delicacy, my remarks will find a place in your valuable pages.

In his first case Mr. Simmons informs us, "that the membranous portion of the urethra was exposed by the *first* incision, and penetrated by the *second*, and that this part of the process did not occupy more than *half a minute*. But that the efforts employed in extracting the stone (which broke) and in using the scoop occupied about *half an hour*. The patient died about *fifty hours* after the operation." The bladder, when examined, was found "oblong in its shape, and reduced in its size to the thumb of a glove, and so thickened in its coats, as to excite rather the sensation of a solid piece of flesh, than a hollow viscus." The inner surface of the bladder, in short, exhibited strong appearances of irritation and inflammation. The hints which this case furnishes

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to the profession are, in my opinion, very important; viz. that a surgeon should pay particular attention to divide, with the accuracy and deliberation of dissection, the external muscular parts concerned in lithotomy, instead of attempting to divide them by a single flourish of the knife. Mr. John Bell has, long ago, clearly explained how great an impediment this neglect of a proper division of the muscular parts forms to the extraction of a stone, and how apt a hard stone is to slip from the grasp of the forceps, or a soft stone to be crumbled to pieces by its blades. The extraction of a stone, however, after a careful division, will generally be performed without its breaking in the forceps, although it may be friable, nor will it be necessary to search in the bladder, with the scoop, for half an hour, in order to remove its fragments. The fatal symptoms which occurred in this case will likewise be avoided, as far as possible, as well as the risque of the after formation of a second stone, should the patient survive.

Mr. Simmons's second case contains no remark of greater importance than this, that in a case where no impediment was presented during the operation, symptoms of peritonæal inflammation may supervene, which an operator cannot account for, unless it be admitted that cold weather and a smoky town may have some influence in promoting these symptoms, even where "those material points of regard, the distension of the bladder and elevation of the nates, were attended to." I shall therefore pass on to the third case, in which Mr. S. informs us, that "the symptoms (of stone) were so violent as not to admit of delay, which otherwise would have been desirable, on account of the patient's recent escape from a severe attack of typhous fever, and of his still labouring under a white swelling of the knee joint, which had suppurated. Mr. Simmons's practice in this case appears singular, in as much, as it is a rule scarcely ever deviated from by judicious practitioners, "*not to perform the operation of lithotomy whilst the symptoms of what has been called a fit of the stone are urgent.*" Mr. Bromfield in his surgical remarks justly observes, "that if, during a fit of the stone in the bladder, the patient be cut, from the violent inflammation of the parts affected, it is not very improbable that the parts would sphacelate." Mr. S.'s case, therefore, practically furnishes us with a useful hint, that such a rule ought not to be deviated from, particularly under the previous and existing circumstances of the present case. For the probable consequence of this deviation was, that a few days after the operation "the patient's appetite began to fail him, he became hot and restless, his pulse quick and tongue foul, and the

the wound, then on the point of healing, assumed an unfavourable aspect and shewed a disposition to spread." All these symptoms Mr. S. attributes, indeed, to the influence of smoke upon wounds, in confirmation of which he adds, "that no sooner had the coach, in which the patient was conveyed to country lodgings, passed without the (magic) circle of the smoke, which hung over the town, than the colour came into his lips." Whatever may be thought of the propriety of attributing these symptoms to such a cause as smoke, rather than to the debilitated and diseased state of the patient, and to the circumstance of operating during a fit of the stone, Mr. S. has certainly conveyed a very useful hint to all hospital surgeons, who were not fully aware of the fact before, viz. *that a private patient in the country is a much more eligible subject for lithotomy, than a patient in the hospital of a smoky town.*

Mr. Simmons's fourth case explains the inefficacy of attempting to turn out at once a stone from a contracted bladder, with the index of the left hand, and the impropriety of attempting to extract a stone so situated, by merely laying hold of its hither extremity, because (as in the present case) it may snap off. Why the contraction of the bladder, in this instance, should be spasmodic, because it appeared from the aspect of the stone extracted to have been of long standing, Mr. S. does not inform us.

I have thus taken the liberty of drawing a few conclusions from Mr. Simmons's cases, because I thought they would add considerably to the sum of information, which the relation of such cases convey to the public; and I shall now proceed to make some observations upon what Mr. Simmons calls his "Hints for the more ready and safe performance of the operation." Mr. S. first regrets that the descriptions given by practical writers of the true position of the membranous portion of the urethra are not very precise; "and perhaps less so, than the subject itself is susceptible off." To remedy this want of precision, Mr. S. after objecting to Mr. Earle's double staff, thus proceeds: "On taking a nearer view of the situation of these parts, it will be seen that in the erect position of the body, the membranous portion of the urethra lies under the center of the arch of the pubis, at a little distance from the symphysis, having the bulb situated at its anterior and the prostate gland situated at its posterior extremity. Making allowance, therefore, for any alteration of the parts from their natural position, occasioned either by the posture of the patient during the operation, or by the projection of the staff in perinæo, and aiming at the urethra on a line with the inner (quere *under*) surface of the symphysis

symphysis pubis, that part of the membranous portion of the urethra, which lies contiguous to the prostate gland will be penetrated, and the incision may then be enlarged in the customary manner, so as to give an easy admission to the beak of the gorget into the groove of the staff. *Since this view of the subject presented itself to my mind, and which I first put in practice in the case of Devil and Pollit (in the year* 1806*) I have become possessed of a degree of confidence and comfort, while performing the operation of lithotomy, to which I was before a stranger. For the most part the membranous portion of the urethra has been nearly, if not entirely, exposed by the first incision, &c.*"

As Mr. Simmons promulgated this, because he thought he was thereby conveying a useful piece of information to the profession, it was certainly praise-worthy in him; and as the knowledge of the true position of the membranous part of the urethra was not conveyed to Mr. S. by any of the numerous surgical or anatomical writers who have pointed it out to a hair's breadth, nor had been ascertained by himself by dissection, Mr. S. would realize all the pleasure of a discoverer, in addition to the comfort and confidence, which, I confess, he would most naturally feel, from obtaining the knowledge of a point so absolutely indispensible to the performance of the operation of lithotomy, with any degree of safety. But, I apprehend, that it was totally useless to proclaim the circumstance, (as a hint for the more ready and safe performance of the operation,) which was so well known and had been so often explained. One proof of this out of many will suffice. It is selected from Mr. Earle's works, which Mr. S. had probably read, as he objects to Mr. Earle's double staff. "The bulb of the urethra," observes that accurate anatomist, "hangs pendulous before the arch of the pubes; the membranous part of the canal is a continuation of the urethra from the bulb to the entrance of the prostate gland; it is in length about three quarters of an inch, *and passes beneath the arch of the pubes*, unsurrounded by any thing, except cellular membrane. The membranous part of the urethra is not, however, in contact with the bone, but lies about three quarters of an inch beneath the arch, being connected to it by intervening cellular membrane." This description of the position of the membranous part of the urethra is somewhat more precise and clear than that given thirteen years afterwards by Mr. S., for it was published in the year 1793. It is, therefore, truly unfortunate, that Mr. Simmons did not chance to have read Mr. Earle's works, and made himself acquainted with a piece of anatomy so very essential to the "ready and safe

performance of the operation," if, indeed, he performed the operation before the year 1806, which it is hardly charitable to suppose. If, however, he really operated in a few instances, it is easy to be conceived how much at random and how indecisive must have been the incisions of such an operator, and how entirely he must have depended upon the projection of the staff in perinæo; a guide which Mr. S. accordingly much extolls, although it is declared by the best operators to be a false guide, whose only tendency is effectually to derange the natural position of the parts in question. This derangement seems to have added a farther embarrassment to Mr. S.'s operations, and is erroneously attributed by him to the posture of the patient during operation. But, it may be asked, how can the posture of the patient derange the position of the membranous part of the urethra, or of the prostate gland? or how even derange the position of any of those muscles which arise from the pelvis itself, and are connected with parts which also are attached to the pelvis, although the patient, during Mr. S.'s operations, should writhe and twist his body ever so much?

This description of the position of the membranous part of the urethra conveys the only hint, which I can discover, in Mr. S's, pages, connected with the safe and ready performance of the operation; it was certainly a most essential piece of information, a most important discovery to an operator, the singularity of whose situation unfortunately consisted in the ignorance of it for many years. The knowledge of this fact, however, has lead Mr. Simmons to adopt and recommend a practice, as mischievous as any of those blunders which might be committed by an ignorance of it. For he ventures to inculcate the propriety of dividing (or rather attempting to divide) all the external parts at one incision! that he may penetrate the membranous part of the urethra, thus laid bare throughout the whole extent, or nearly so, by a second incision! Mr. S. may call this dexterous dispatch, if he pleases, but a well-judging, judicious operator, will rather calculate the time necessary to perform the operation by the comparatively deliberate steps necessary to that accurate dissection which the parts require, than by the movements of a stop watch. A steady operator will delight to rise from his seat rather with the substantial internal consciousness of having, by proper deliberation, insured the "safe and ready performance" of the operation, than with the transitory and mischievous gratification of having performed the most dangerous and most delicate of all operations, in a few minutes, with passing dexterity. I have been the more particular upon this point, because even Mr. S.'s example may tend to seduce

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some young and thoughtless practitioner from the unostentatious paths of a steady operator, into an affected display of manual dexterity, so much to be deprecated in all surgical operations.

I have thus made a few observations upon Mr. Simmons's pages, which, I trust, will appear deficient neither in candour nor utility. For the instruction which I may have derived, he has my thankful acknowledgments, and I hope he will pardon the liberty I have taken, when he knows that my motives have been to render his communication more generally useful.

I remain, Gentlemen,

Your much obliged and obedient servant,

THOMAS SMITH.

Carlisle, July 3d, 1811.

For the Medical and Physical Journal.

*On the Study of Botany.**

SOME individuals will climb the highest mountains, descend into the lowest valleys, and wander on the edge of the most frightful precipices, to discover a few solitary plants to describe in a herbal. There is no disputing about taste; every one is drawn by his pleasure. Botanists will cross seas, traverse desart regions, and brave a thousand dangers, to acquire vegetable productions. Wherever they go, they neither see nor acknowledge any empire but that of Flora. Men, customs, and governments are open to their view, but the leading passion makes them indifferent to the most instructive parts of the moral world. This class of enthusiasts is numerous and powerful; their works are eagerly sought for, and richly patronized.

Natural history, exempt from the absurdities which some of its zealous followers have connected with it, is one of the most agreeable sciences that can be cultivated for amusement. Who can behold without emotion the richness spread with profusion over the country? How beautiful are the commonest flowers! How dazzling their colours! What an astonishing variety they exhibit! Other vegetables, again, have more or less affinity to our wants; wherever we go, even amongst the snows of the Arctic Pole, we find them ornament-

* We have inserted this lively Essay at the request of a correspondent, who translated it with some alterations from the French of Jondot, in a recent number of the Esprits des Journeaux. EDIT.

ing the habitations of man, contributing to his comfort or his luxury.

Let us admire the wisdom of that Providence who, in producing vegetables, has so amazingly diversified their organization. It is the hand of divinity alone that has planted the earth with innumerable buds, whose fruitfulness is inexhaustible; for when one dies, another springs up from its remains; a truth that the younger Racine has well expressed:

> Toute plante, en naissant, renferme en elle
> D'enfans qui la suivront une race immortelle.

Flowers and plants are also worthy our notice, as being the most ancient monuments of our globe; immortal by the laws of reproduction, they survive the destruction of empires, and rise on the wreck of cities. The most successful conqueror cannot destroy them: some Dutch captains attempted once to annihilate several kinds of trees at the Moluccas, to concentrate the harvest of their fruits in the island of Amboyna, but in vain; they exercised their tyranny upon the natives and the plants, their cruelty succeeded with the former, but they could not extirpate the latter; the birds, unconscious of the deed, planted them again. The senseless Europeans declared war against these new enemies and destroyed them; but the winds, which they could not overcome, propagated the seeds of the spices, and they reappeared in spite of the jealousy, the avarice, and the cruelty of the colonists.

The impossibility of discovering the principle of life in plants, is a proof of the weakness of the human mind. In vain have modern ages produced a Tournefort, a Ray, a Cowley, a Vaillant, a Jussieu, a Geoffroi, a Linnæus; these indefatigable observers have found their wisdom baffled by the lichens and the humble hyssop, as much as by the oak or the cedar. The secret of the operations of nature, in the growth, the nourishment, and the unfolding of the least shrub, escapes their knowledge; every thing leads the religious mind, struck with the mysteries of nature, to adore that sublime Being who created so many wonders.

If the vegetable kingdom alone can cause such admiration of the supreme Creator, what will our feelings be when we attempt to consider the whole of his works? The imagination confounded recoils from the infinitude that oppresses it; although we know not the thousandth part of terrestrial productions, those that we are totally unacquainted with are incalculable; the ocean conceals an innumerable multitude in its vast abyss. We regard as fabulous the histories given by the Icelanders and the Norwegians of the kraken and other

fishes

fishes of huge size, but these fables, however absurd they may appear, are always founded more or less upon truth.

In examining the pursuits of botanists, it is curious to observe the contentions which this science, that of all others ought to inspire a pacific disposition, has caused. For some time they have assumed all the pride and the presumption of men of letters, although the study of flowers and plants simply directed to public utility, contains nothing that is difficult to attain. Every man, with a little patience, is capable of succeeding in it; even though deficient in ability for other sciences, he has before him a career that he may pursue with honour. We have almost from our birth an irresistible propensity to examine the richness and beauty with which the earth is ornamented, and a personal interest which invites us to contemplate it.

Natural history, limited to the study of vegetables, is truly a popular science, and the greatest part of botanists are not essentially different from common gardeners; only the former enjoy the privilege of inventing systems, methods, classes, and composing books; to load each plant with four or five names from the Greek or Latin languages, and to cover them with hieroglyphic characters, which merely serve to embarrass the memory. The gardener calls them by their vulgar names, and is contented with knowing their ordinary properties. The botanists go much farther, they write upon the loves, the manners, the habits, the sleep, the great sensibility of flowers, and discover every day admirable secrets. These gentlemen are as much moved at the sight of a cabbage as at one of their fellow-creatures; and it were to be wished that many of these enthusiasts, deaf to the voice of nature, blind witnesses of the wonders she displays, did not forget the sublime Author of all! Of what use are their extasies at the sight of a plant, since the whole universe is nothing to them but a picture plunged in original darkness.

Linnæus certainly did not give them such an example, for this learned botanist made his reason subservient to the truths of christianity, and was truly religious. There is nothing new under the sun; the fanaticism we have just noticed may be traced back to the remotest antiquity.

Empedocles believed in the sexes of plants, and celebrated with enthusiasm the marriage of flowers; superstition well worthy of a philosopher, who, wishing to be thought a god, threw himself into the burning crater of Ætna.

Without doubt it is necessary to know something of this vast vocabulary of modern botanists, a barrier that must be overcome before we can enter upon vegetable physiology; but mode ought not to be taken for substance, nor the science

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of words suppress that of things. Gardeners, manufacturers, and labourers may well be excused from acquiring this learned jargon of Greek and Latin terms. Buffon himself ridicules this wish for giving names which obscure the judgment and render the commonest of all sciences inaccessible. If we desire to know the properties of plants, of what use are those voluminous dictionaries which detail their organic form? Botanists may display the pomp of a ludicrous erudition, but mankind is not benefited by such learned trifling. "The only books that can instruct us," says Fontenelle, "have been spread all over the globe;" let them consult these books, let them clear them of unnecessary things, and penetrate into the only knowledge useful to mankind. Esculapius, Podalirius, Machaon, and Hippocrates of the ancients, did not amuse themselves by inventing systems, nor in composing works on the sex and loves of plants; no, their conduct was more commendable, they consecrated their time to discover the medicinal qualities of vegetables, to find the useful parts, and apply them to the cure of diseases.

In France, as well as in England, the botanists have not to reproach themselves with the ridiculous sentiments and absurd admiration which distinguished those of the last age. They labour unceasingly to increase the natural riches of their country, by introducing a great number of exotic plants. In the one country, the Jardin des Plantes, and in the other, the Garden at Chelsea, will soon inclose an abridgment of the universe, and through the industry of a few individuals, and the protection of the government, we have an opportunity of viewing the productions of all climates.

Contemplating these magnificent treasures of nature, we feel an agreeable surprize, and are most grateful to the authors of these benefits, and to those who are every day endeavouring to collect new objects of curiosity. The ancients never offered a spectacle of this kind to the admiration of the people. They lived always in solitude, and their researches were confined to a country whose natural riches were very limited. When the Romans discovered the cherry-tree, it decorated the triumph of Lucullus, and they were as proud of this discovery as of a victory. If we would form any idea of the poverty of nations with respect to vegetable productions, we must read the Historical and Biographical Sketches of the Progress of Botany in England, translated from the English of Richard Pulteney, by M. B. a worthy member of the republic of letters, and to whom we owe some other good works. We there see how barbarous and neglected was that Gaul, which is now covered with the productions of every country

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in the globe. Its extensive forests contained but seven or eight species of trees.

Our situation on the earth is between the infinitely large and the infinitely small, so that we may alternately contemplate the immense concave above our heads and the plants and insects at our feet; whichever of these wonders we examine, God is equally evident and great in all. We may say with Pliny, that natnre is no where more complete than in the smallest beings. (Cum rerum natura nunquam magis, quam in minimis tota sit.) Our proud reason revolts against the miracles of the christian religion, yet even now we tread upon wonders, and though we cannot comprehend them, they still surround us. Who can pierce the mysterious veil with which nature envelopes her operations? See a seed of the linden, though almost imperceptible, it contains an entire tree, whose branches will one day spread over the country, and whose shadow will afford a retreat to an innumerable crowd of living creatures.

The production of plants is one of the most admirable mysteries of divine wisdom. Deprived of the power of moving, they carry on an invisible correspondence. The principles of reproduction float in the atmosphere, from whence arise the sweet perfumes that scent the air. "A bee," writes M. de Chateaubriant," gathers honey from different flowers, and without knowing it makes a whole meadow fruitful; a butterfly carries a whole race in its wings; a world descends in a drop of dew. Animals also are indefatigable agents to the fecundity of plants: the butterfly is by no means an emblem of inconstancy; if it flutters about, it is to carry on a commerce which makes the immense empire of nature flourish." Even children in their play contribute to it involuntarily. They blow on the seeds of the dandelion, which spread sometimes over two or three hundred leagues, and fix themselves on high towers, ramparts, and amidst all the horrors of war.

Such are the pure sentiments of enthusiasm that nature inspires us with. Poets have sung the flowers and metamorphosed them into goddesses. Botany, thus introduced into poetry, furnishes us with the most beautiful mythological allusions, and the most charming images. Rapin, in France, and Cowley, in England, have given scope to their imaginations in the empire of Flora, though reduced to imperfect ideas of natural history: they did not endeavour to make new systems, but to write and work on a subject valuable from its antiquity. But Cowley passed the bounds of reason in celebrating the virtues of plants, and the pretended affinity they had

had to man. First he gave them a physiognomy, and then our propensities, our tastes, and our passions.

Since that period, numerous superstitious enthusiasts sought the moral world in the fields, and had no pleasure but in vegetables. We should read the works of certain naturalists to know the dangers and consequences of such exaggeration. In a work that sold very rapidly, we are told, that "Man when asleep is a vegetable." Any simpleton might prove the contrary. The author of this assertion goes much farther, and allows himself the singular pleasure of despising the human race and exalting the brute: "How mean," cries he, "are our societies when compared with nature!" As if man did not form the most beautiful link in the chain of beings spread over the globe! This nature, so much extolled by some philosophers, is an imaginary divinity whom they adore in their writings, with the affectation of overturning the altars of the true divinity.

All the Egyptian superstitions seem to have revived amongst the moderns. Darwin in his poem, translated by M. Deleuze, depicts plants as reasonable beings, discovers qualities in them which would make a sage proud, and introduces us into a round of illusions, not less dangerous than seducing. Some botanists thought they could perceive in their flowers the most amiable and dearest affections of our hearts, and did not hesitate to receive the errors of the Bramins and Pythagoreans. The age of knowledge has revived the idle reveries, with which history so justly reproaches the nations that people the shores of the Indies. In our days we may find a learned man examining the seeds of a plant in the same manner as a mother would look at her children in the cradle. This foolish tenderness shone in society and became fashionable. What they call the (facies externa) or figure of a plant, excited as great transports as the sight of a beautiful woman.

Aristotle, Theophrastes, Dioscorides, and Pliny, amongst the ancients, confined themselves to consider the propagation, the culture and the properties of vegetables, without recurring to those studies where the imagination is the principal guide, nor to those thousands of artificial systems whose falseness is shewn by every increase of experience. And, in fact, what science allows of such direct contradictions in nature, as botany? Some take the fruit to found the classes on, others the flower, others the form of the corolla, and others the calix. Each has his partizans and admirers, and discord rages with as much fury in the empire of Flora as in the political world. Enormous volumes support the arguments of each principle, and all the resources of logic are exhausted to prove that such or such

plant

plant belongs to the system they approve of. With what warmth do they contend for a simple lichen! and what importance they attach to the least objects!

We must allow, that uncertain as it is, it would be impossible to unite plants by the laws of universal harmony. Botanists fix upon some features which resemble in different productions; but when they flatter themselves that they have filled up the prodigious space between the hyssop and the cedar, they are as much deceived as those naturalists who think they are acquainted with all the intermediate beings between the mite and the elephant. Nature derides their efforts; thousands of links escape them in the chain. The vegetable kingdom is full of obscurity, and they lose themselves in the chaos. We are quite ignorant of the flowers of the north-west shores of America, Chili, indeed the whole of the New World, the interior of Africa, Hindostan, Thibet, Tartary, China, and the Corea, in fact the richest half of Asia; and yet we boast of having the vegetable riches of all the earth, and of seeing the principal works and operations of nature!

It is evident then, that the means actually used are insufficient; they may satisfy our vanity, but not our reason. In proportion as our knowledge increases we must multiply these means so much, that they would exceed the patience of man. The classifications will be deranged, unless the botanists can force nature to bow to their caprice, and treat her as the robber Procrustes treated his visitors. How such a variety and number of new species will increase the catalogues of Linnæus or Jussieu! Perhaps, then, we shall wish that they would again employ themselves in classing plants by climates. Studying them in their native situations would be the best method of composing a kind of geographical botany.

We do not take in the plants that grow in the ocean, the greatest part of which cannot be ranged in any established class. "Sometimes," says Stavorinus, "meadows enamelled with flowers rise to the surface of the sea, and appear covered with verdure." Some of these floating meadows detach themselves from the coast of Norway, and often resting in their way, load themselves with new productions; they stop at America, after having afforded a refuge for thousands of gulls, and a great number of other birds, who, with the assistance of these rafts, perform a voyage of eighteen hundred leagues. The mind of man is incapable of examining all the vegetable productions, as a great part of them are hid at the bottom of precipices, in the midst of deserts, at the top of high mountains, or in the depths of the ocean. Let us not say then that nature has revealed her secrets to us; but let us be contented with enjoying the treasures she has disclosed, and

freely confess, that the mysterious veil with which she surrounds herself is impenetrable by our curiosity.

On a Combination of Oximuriatic Gas and Oxigen Gas.

By Humphrey Davy, Esq. L. L. D. Sec. R. S. Prof. Chem. R. I.

(Phil. Trans. 1811.)

THE oximuriatic gas prepared from manganese, either by mixing it with a muriate and acting upon it by sulphuric acid, or by mixing it with muriatic acid, is, when the oxide of manganese is pure, and whether collected over water or mercury, uniform in its properties; its colour is a pale yellowish green; water takes up about twice its volume, and scarcely gains any colour; the metals burn in it readily; it combines with hydrogen without any deposition of moisture; it does not act on nitrous gas, or muriatic acid, or carbonic oxide, or sulphurcous gasses, when they have been carefully dried.

The gas produced by the action of muriatic acid on the salts which have been called hyperoximuriates, on the contrary, differs very much in its properties, according as the manner in which it is prepared and collected is different.

When much acid is employed to a small quantity of salt, and the gas is collected over water, the water becomes tinged of a lemon colour; but the gas collected is the same as that procured from manganese.

When the gas is collected over mercury, and is procured from a weak acid, and from a great excess of salt, by a low heat, its colour is a dense tint of brilliant yellow green, and it possesses properties entirely different from the gas collected over water.

It sometimes explodes during the time of its transfer from one vessel to another, producing heat and light, with an expansion of volume; and it may be always made to explode by a very gentle heat, often by that of the hand*.

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* My brother, Mr. J. Davy, from whom I receive constant and able assistance in all my chemical inquiries, had several times observed explosions, in transferring the gas from hyperoximuriate of potass, over mercury, and he was inclined to attribute the phænomenon to the combustion of a thin film of mercury, in contact with a globule of gas. I several times endeavoured to produce the effect, but without success, till an acid was employed for the preparation of the gas, so diluted as not to afford it without the assistance of heat. The change of colour and

It is a compound of oximuriatic gas and oxigen, mixed with some oximuriatic gas. This is proved by the results of its spontaneous explosion. It gives off, in this process, from $\frac{1}{6}$ to $\frac{1}{5}$ its volume of oxigen, loses its vivid colour, and becomes common oximuriatic gas.

I attempted to obtain the explosive gas in a pure form, by applying heat to a solution of it in water, but in this case there was a partial decomposition; and some oxigen was disengaged, and some oximuriatic gas formed. Finding that, in the cases when it was most pure, it scarcely acted upon mercury, I attempted to separate the oximuriatic gas with which it is mixed, by agitation in a tube with this metal; corrosive sublimate formed, and an elastic fluid was obtained, which was almost entirely absorbed by $\frac{1}{4}$ of its volume of water.

This gas in its pure form is so easily decomposable, that it is dangerous to operate upon considerable quantities.

In one set of experiments upon it, a jar of strong glass, containing 40 cubical inches, exploded in my hands with a loud report, producing light; the vessel was broken, and fragments of it were thrown to a considerable distance.

I analysed a portion of this gas, by causing it to explode over mercury in a curved glass tube, by the heat of a spirit lamp.

The oximuriatic gas formed was absorbed by water; the oxigen was found to be pure, by the test of nitrous gas.

Fifty parts of the detonating gas, by decomposition, expanded so as to become sixty parts. The oxigen, remaining after the absorption of the oximuriatic gas, was about twenty parts. Several other experiments were made, with similar results. So that it may be inferred, that it consists of two in volume of oximuriatic gas, and one in volume of oxigen; and the oxigen in the gas is condensed to half its volume. Circumstances conformable to the laws of combination of gaseous fluids, so ably illustrated by Mr. Gay-Lussac, and to the theory of definite proportions.

I have stated on a former occasion, that approximations to the numbers representing the proportions in which oxigen and oximuriatic gas combine, are found in 7·5 and 32·9. And this compound gas contains nearly these quantities*.

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and expansion of volume, when the effect took place, immediately convinced me, that it was owing to a decomposition of the gas.

* In page 245 of the Phil. Trans. for 1810, I have mentioned, that the specific gravity of oximuriatic gas is between 74 and 75 grains per 100 cubical inches. The gas that I weighed was collected over water, and procured from hyperoximuriate of potass, and at that time I conceived that this elastic fluid did not differ from the oximuriatic gas from

The smell of the pure explosive gas somewhat resembles that of burnt sugar, mixed with the peculiar smell of oximuriatic gas. Water appeared to take up eight or ten times its volume; but the experiment was made over mercury, which might occasion an error, though it did not seem to act on the fluid. The water became of a tint approaching to orange.

When the explosive gas was detonated with hydrogen equal to twice its volume, there was a great absorption, to more than $\frac{1}{3}$, and solution of muriatic acid was formed; when the explosive gas was in excess, oxigen was always expelled, a fact demonstrating the stronger attraction of hydrogen for oximuriatic gas than for oxigen.

I have said that mercury has no action upon this gas in its purest form at common temperatures. Copper and antimony, which so readily burn in oximuriatic gas, did not act upon the explosive gas in the cold: and when they were introduced into it, being heated, it was instantly decomposed, and its oxigen set free; and the metals burnt in the oximuriatic gas.

When sulphur was introduced into it, there was at first no action, but an explosion soon took place: and the peculiar smell of oximuriate of sulphur was perceived.

Phosphorus produced a brilliant explosion, by contact with it in the cold, and there were produced phosphoric acid and solid oximuriate of phosphorus.

Arsenic introduced into it did not inflame; the gas was made to explode, when the metal burnt with great brilliancy in the oximuriatic gas.

Iron wire introduced into it did not burn, till it was heated so as to produce an explosion, when it burnt with a most brilliant light in the decomposed gas.

Charcoal introduced into it ignited, produced a brilliant flash of light, and burnt with a dull red light, doubtless owing to its action upon the oxigen mixed with the oximuriatic gas.

It produced dense red fumes when mixed with nitrous gas, and there was an absorption of volume.

When it was mixed with muriatic acid gas, there was a gradual diminution of volume. By the application of heat

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manganese, except in being purer. It probably contained some of the new gas; for, I find that the specific gravity of pure oximuriatic gas from manganese and muriatic acid is to that of common air, as 244 to 100. Taking this estimation, the specific gravity of the new gas will be about 238, and the number representing the proportion in which oximuriatic gas combines, from this estimation, will be rather higher than is stated above.

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the absorption was rapid, oximuriatic gas was formed, and a dew appeared on the sides of the vessel.

These experiments enable us to explain the contradictory accounts that have been given by different authors of the properties of oximuriatic gas.

That the explosive compound has not been collected before is owing to the circumstance of water having been used for receiving the products from hyperoximuriate of potass, and unless the water is highly saturated with the explosive gas, nothing but oximuriatic gas is obtained; or to the circumstance of too dense an acid having been employed.

This substance produces the phenomena, which Mr. Chenevix, in his able paper on oximuriatic acid, referred to the hyperoxigenised muriatic acid; and they prove the truth of his ideas respecting the possible existence of a compound of oximuriatic gas and oxigen in a separate state.

The explosions produced in attempts to procure the products of hyperoximuriate of potass by acids are evidently owing to the decomposition of this new and extraordinary substance.

All the conclusions which I have ventured to make respecting the undecompounded nature of oximuriatic gas, are, I conceive, entirely confirmed by these new facts.

If oximuriatic gas contained oxigen, it is not easy to conceive, why oxigen should be afforded by this new compound to muriatic gas, which must already contain oxigen in intimate union. Though, on the idea of muriatic acid being a compound of hydrogen and oximuriatic gas, the phenomena are such as might be expected.

If the power of bodies to burn in oximuriatic gas depended upon the presence of oxigen, they all ought to burn with much more energy in the new compound; but copper, and antimony, and mercury, and arsenic, and iron, and sulphur have no action upon it, till it is decomposed; and they act then according to their relative attractions on the oxigen, or on the oximuriatic gas.

There is a simple experiment, which illustrates this idea; Let a glass vessel containing brass foil be exhausted, and the new gas admitted, no action will take place; throw in a little nitrous gas, a rapid decomposition occurs, and the metal burns with great brilliancy.

Supposing oxigen and oximuriatic gas to belong to the same class of bodies; the attraction between them might be conceived very weak, as it is found to be, and they are easily separated from each other, and made repulsive, by a very low degree of heat.

The most vivid effects of combustion known are those produced

duced by the condensation of oxigen or oximuriatic gas; but in this instance, a violent explosion with heat and light are produced by their separation, and expansion, a perfectly novel circumstance in chemical philosophy.

This compound destroys dry vegetable colours, but first gives them a tint of red. This and its considerable absorbability by water would incline one to adopt Mr. Chenevix's idea, that it approaches to an acid in its nature. It is probably combined with the peroxide of potassium in the hyperoximuriate.

That oximuriatic gas and oxigen combine and separate from each other with such peculiar phenomena, appears strongly in favour of the idea of their being distinct, though analogous species of matter. It is certainly possible to defend the hypothesis, that oximuriatic gas consists of oxigen united to an unknown basis; but it would be possible likewise to defend the speculation, that it contains hydrogen.

Like oxigen it has not yet been decomposed; and I some time ago made an experiment, which, like most of the others I have brought forward, is very adverse to the idea of its containing oxigen.

I passed the solid oximuriate of phosphorus in vapour, and oxigen gas together through a green glass tube heated to redness.

A decomposition took place, and phosphoric acid was formed, and oximuriatic gas was expelled.

Now, if oxigen existed in the oximuriate of phosphorus, there is no reason why this change should take place. On the idea of oximuriatic gas being undecompounded, it is easily explained. Oxigen is known to have a stronger attraction for phosphorus than oximuriatic gas has, and consequently ought to expel it from this combination.

As the new compound in its purest form is possessed of a bright yellow green colour, it may be expedient to designate it by a name expressive of this circumstance, and its relation to oximuriatic gas. As I have named that elastic fluid chlorine, so I venture to propose for this substance the name euchlorine, or euchloric gas from ευ and χλωρος. The point of nomenclature I am not, however, inclined to dwell upon. I shall be content to adopt any name, that may be considered as most appropriate by the able chemical philosophers attached to this Society.

A Chemical

A Chemical Analysis of Sodalite, a new Mineral from Greenland. By Thomas Thomson, M. D. F. R. S. E., Fellow of the Imperial Chirurgo-Medical Academy of Petersburgh.

(Trans. of Roy. Soc. Ed.)

THE mineral, to which I have given the name of *Sodalite*, was put into my hands by Mr. Allan. In the Greenland collection which he purchased, there were several specimens of a rock, obviously primitive. In the composition of these the substance of which I am about to treat formed a constituent, and, at first appearance, was taken for felspar, to which it bears a very striking resemblance.

This rock is composed of no less than five different fossils, namely, garnet, hornblende, augite, and two others, which form the paste of the mass. These are evidently different minerals; but in some specimens are so intimately blended, that it required the skill of Count Bournon to make the discrimination, and ascertain their real nature. Even this distinguished mineralogist was at first deceived by the external aspect, and considered the paste as common lamellated felspar, of a greenish colour. But a peculiarity, which presented itself to Mr. Allan in one of the minerals, induced him to call the attention of Count Bournon more particularly to its construction.

On a closer examination of the mineral, Mr. de Bournon found, that some small fragments, which he had detached, presented rectangular prisms, terminated by planes, measuring, with the sides of the prism, 110° and 70° or nearly so,—a form which belongs to a rare mineral, known by the name of sahlite from Sweden. He further observed, intermixed along with this, another mineral; and after some trouble, succeeded in detaching a mass, presenting a regular rhomboidal dodecahedron. It was to this form that Mr. Allan had previously requested his attention.

Some time before this investigation, Mr. de Bournon had examined a mineral from Sweden, of a lamellated structure, and a greenish colour, which, he found, indicated the same form. From this circumstance, together with some external resemblance which struck him, he was induced to conclude, that our mineral was a variety of that substance.

To that substance the name of Swedish *natrolite* had been given, in consequence of the investigation of Dr. Wollaston, who found that it contained a large proportion of soda.

There are few minerals, however, that are so totally distinct in their external characters as the natrolite of Klaproth, and

and the substance we are now treating of. The mineral examined by Klaproth occurs at Roegan*, on the Lake of Constance, in porphyry-slate, coating the sides of veins and cavities in a mamellated form, the texture of which is compact, fibrous, and radiated; the colour pale yellow, in some places passing into white, and marked with brown zones. Hitherto it had never been found in a state sufficiently perfect to afford any indications of form. Lately, however, Mr. de Bournon was so fortunate as to procure some of it, presenting very delicate needleform crystals, which, by means of a strong magnifier, he was able to ascertain presented flat rectangular prisms, terminated by planes, which, he thought, might form angles of 60° and 120° with the sides of the prism. With this neither our mineral nor the Swedish can have any connection, farther than some analogy which may exist in their composition.

Concerning the Swedish mineral I have not been able to obtain much satisfactory information. There is a specimen of it in Mr. Allan's cabinet, which he received directly from Sweden, sent by a gentleman who had just before been in London, and was well acquainted with the collections of that city, from which it is inferred, that the specimen in question is the same as that examined by Count Bournon and Dr. Wollaston.

Werner has lately admitted into his system a new mineral species, which he distinguishes by the name of Fettstein. Of this I have seen two descriptions; one by Hauy, in his Tableau Comparatif, published last year; and another by Count Dunin Borkowski, published in the 69th volume of the Journal de Physique, and translated in Nicholson's Journal, (Vol. XXVI, p. 384.) The specimen, called Swedish natrolite, in Mr. Allan's possession, agrees with these descriptions in every particular, excepting that its specific gravity is a little higher. Borkowski states the specific gravity of fettstein at 2·563; Hauy at 2·6138; while I found the specific gravity of Mr. Allan's specimen to be 2·779, and, when in small fragments, to be as high as 2·790. This very near agreement in the properties of the Swedish natrolite with the characters of the fettstein leads me to suppose it the substance, to which Werner has given that name. This opinion is strengthened, by a fact mentioned by Haüy, that fettstein had been at first considered as a variety of wernerite. For the specimen sent to Mr. Allan, under the name of compact

* It has been observed also by Professor Jameson, in the flœtz-trap rocks behind Burntisland.

wernerite,

wernerite, is obviously the very same with the supposed natrolite of Sweden. Now, if this identity be admitted, it will follow, that our mineral constitutes a species apart. It bears, indeed, a considerable resemblance to it; but neither the crystalline form, nor the constituents of fettstein, as stated by Haüy, are similar to those of the mineral to which I have given the name of sodalite. The constituents of fettstein, as ascertained by Vauquelin, are as follows:

Silica	44·00
Alumina	34·00
Oxide of iron . . .	4·00
Lime	0·12
Potash and soda . .	16·50
Loss	1·38
	100·00

Sodalite, as has been already mentioned, occurs in a primitive rock, mixed with sahlite, augite*, hornblende, and garnet†.

It occurs massive; and crystallised, in rhomboidal dodecahedrons, which, in some cases, are lengthened, forming six-sided prisms, terminated by trihedral pyramids.

Its colour is intermediate between celandine and mountain green, varying in intensity in different specimens. In some cases it seems intimately mixed with particles of sahlite, which doubtless modify the colour.

External lustre glimmering, internal shining, in one direction vitreous, in another resinous.

Fracture foliated, with at least a double cleavage; cross fracture conchoidal.

Fragments indeterminate; usually sharp-edged.

Translucent.

Hardness equal to that of felspar. Iron scratches it with difficulty.

Brittle.

Easily frangible.

Specific gravity, at the temperature of 60°, 2·378. The specimen was not absolutely free from sahlite.

When heated to redness, does not decrepitate, nor fall to powder, but becomes dark gray, and assumes very nearly the appearance of the Swedish natrolite of Mr. Allan, which I

* The situation of the augite deserves attention. Hitherto it has been, with a few exceptions, found only in flœtz-trap rocks.

† The particular colour and appearance of the garnet shows, that the rock came from Greenland: for similar garnet has never been observed, except in specimens from Greenland.

consider as fettstein. If any particles of sahlite be mixed with it, they become very conspicuous, by acquiring a white colour, and the opacity and appearance of chalk. The loss of weight was 2·1 per cent. I was not able to melt it before the blow-pipe.

1. A hundred grains of the mineral, reduced to a fine powder, were mixed with 200 grains of pure soda, and exposed for an hour to a strong red heat, in a platinum crucible. The mixture melted, and assumed, when cold, a beautiful grass-green colour. When softened with water, the portion adhering to the sides of the crucible acquired a fine brownish-yellow. Nitric acid being poured upon it, a complete solution was obtained.

2. Suspecting, from the appearance which the fused mass assumed, that it might contain chromium, I neutralized the solution, as nearly as possible, with ammonia, and then poured into it a recently prepared nitrate of mercury. A white precipitate fell, which being dried, and exposed to a heat rather under redness, was all dissipated, except a small portion of gray matter, not weighing quite 0·1 grain. This matter was insoluble in acids, but became white. With potash it fused into a colourless glass. Hence I consider it as silica. This experiment shows, that no chromium was present. I was at a loss to account for the precipitate thrown down by the nitrate of mercury. But Mr. Allan having shown me a letter from Ekeberg, in which he mentions, that he had detected muriatic acid in sodalite, it was easy to see that the white precipitate was calomel. The white powder weighed 26 grains, indicating, according to the analysis of Chenevix, about three grains of muriatic acid.

3. The solution, thus freed from muriatic acid, being concentrated by evaporation, gelatinised. It was evaporated nearly to dryness; the dry mass digested in hot water acidulated with nitric acid, and poured upon the filter. The powder retained upon the filter was washed, dried, and heated to redness. It weighed 37·2 grains, and was silica.

4. The liquor which had passed through the filter was supersaturated with carbonate of potash, and the copious white precipitate which fell collected by the filter, and boiled while yet moist in potash-lie. The bulk diminished greatly, and the undissolved portion assumed a black colour, owing to some oxide of mercury with which it was contaminated.

5. The potash-lie being passed through the filter, to free it from the undissolved matter, was mixed with a sufficient quantity of sal-ammoniac. A copious white precipitate fell, which being collected, washed, dried, and heated to redness, weighed 27·7 grains. This powder being digested in sulphu-

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ric acid, dissolved, except 0·22 of a grain of silica. Sulphate of potash being added, and the solution set aside, it yielded alum crystals to the very last drop. Hence the 27·48 grains of dissolved powder were alumina.

6. The black residue, which the potash-lie had not taken up, was dissolved in diluted sulphuric acid. The solution being evaporated to dryness, and the residue digested in hot water, a white soft powder remained, which, heated to redness, weighed 3·6 grains, and was sulphate of lime, equivalent to about 2 grains of lime.

7. The liquid from which the sulphate of lime was separated, being exactly neutralized by ammonia, succinate of ammonia was dropped in; a brownish red precipitate fell, which, being heated to redness in a covered crucible, weighed one grain, and was black oxide of iron.

8. The residual liquor being now examined by different reagents, nothing farther could be precipitated from it.

9. The liquid (No. 4.) from which the alumina, lime, and iron had been separated by carbonate of potash, being boiled for some time, let fall a small quantity of yellow-coloured matter. This matter being digested in diluted sulphuric acid, partly dissolved, with effervescence; but a portion remained undissolved, weighing 1 grain. It was insoluble in acids, and with potash melted into a colourless glass. It was therefore silica. The sulphuric acid solution being evaporated to dryness, left a residue, which possessed the properties of sulphate of lime, and which weighed 1·2 grains, equivalent to about 0·7 of a grain of lime.

10. The constituents obtained by the preceding analysis being obviously defective, it remained to examine whether the mineral, according to the conjecture of Bournon, contained an alkali. For this purpose, 100 grains of it, reduced to a fine powder, and mixed with 500 grains of nitrate of barytes, were exposed for an hour to a red heat, in a porcelain crucible. The fused mass was softened with water, and treated with muriatic acid. The whole dissolved, except 25 grains of a white powder, which proved on examination to be silica. The muriatic acid solution was mixed with sulphuric acid, evaporated to dryness; the residue, digested in hot water, and filtered, to separate the sulphate of barytes. The liquid was now mixed with an excess of carbonate of ammonia, boiled for an instant or two, and then filtered, to separate the earth and iron precipitated by the ammonia. The liquid was evaporated to dryness, and the dry mass obtained exposed to a red heat in a silver crucible. The residue was dissolved in water, and exposed in the open air to spontaneous evaporation. The whole gradually shot into regular

crystals of sulphate of soda. This salt, being exposed to a strong red heat, weighed 50 grains, indicating, according to Berthollet's late analysis, 23·5 grains of pure soda. It deserves to be mentioned, that during this process the silver crucible was acted on, and a small portion of it was afterward found among the sulphate of soda. This portion was separated before the sulphate of soda was weighed.

The preceding analysis gives us the constituents of sodalite as follows:

Silica	38·52
Alumina	27·48
Lime	2·70
Oxide of iron	1·00
Soda	23·50
Muriatic acid	3·00
Volatile matter	2·10
Loss	1·70
	100·00

Mr. Allan sent a specimen of this mineral to Mr. Ekeberg, who analysed it in the course of last summer. The constituents which he obtained, as he states them in a letter to Mr. Allan, are as follows:

Silica	36·
Alumina	32·
Soda	25·
Muriatic acid	6·75
Oxide of iron	0·25
	100·00

This result does not differ much from mine. The quantity of muriatic acid is much greater than mine. The lime and the volatile matter, which I obtained, escaped his notice altogether. If we were to add them to the alumina, it would make the two analyses almost the same. No mineral has hitherto been found containing nearly so much *soda* as this. Hence the reason of the name by which I have distinguished it.

Observations on an occasional Increase and Decrease of Bulk in the Hair of the Head. By THOMAS FORSTER, *Esq.*

(Nichols. Jour.)

THE sympathies between the skin and the stomach have been frequently adverted to by physiologists; the skin has been found to be alternately *hot and dry*, *hot and moist*, *cold and*

and dry, and *cold and moist;* and these varieties have been attributed to variations in the state of the stomach, between which and the skin a very direct sympathy is believed to exist. But the variations in the appearances of the hair do not appear to be duly noticed.

I have remarked, that people of what is usually called nervous and susceptible constitutions appear at times to have but half the quantity of hair on their heads, that they have at others, though they have assured me none had been cut or combed off. On minute examination I have found, that the apparent increase in quantity at certain times was occasioned by the following circumstances: the shafts themselves were found to be specifically larger, and more tense or elastic, at the same time that they did not lie in such close contact. The apparent diminution in quantity, at other times, I found to result from a specific decrease in the size of the shafts, which also lay in closer contact than ordinary, and were more flaccid, and generally more dry. Considering the considerable influence which the atmosphere exercises on our bodies, I was once induced to attribute the *closer contact* of the shafts to a diminution in their *electricity*, by which they would become less *mutually repulsive;* this however does not seem calculated to account for their increase in size. May the shaft be considered to be organized throughout, and its enlargement to be caused by an increased action of its vessels? or, Is there an aëriform perspiration into the cavity of the shaft, on an increase of which it becomes distended? or may the increased tension and size of the shaft be considered as resulting from the cooperation of these two causes?

The strength and tension of the hair appears generally to accompany health, while the weakness, close contact, and flaccidity of it denote disorder. I have observed also, that small doses of mercury have changed the appearance of the hair very soon after their administration. From being flaccid, dry, and small, it has become tense, strong, and moister; at the same time more tension and solidity has appeared in the muscles, and the countenance has displayed a more healthy appearance. Now mercury may increase an aëriform perspiration, (if such a one exist) into the shaft; it may also set the digestive organs to rights, thereby cause a more healthy action of the vessels in general, and of those of the shaft among the rest. I cannot help observing, that there is *no* objection to supposing hairs organized, because we cannot discover their vessels. On this subject we may, I think, be allowed to reason thus: If all nourishment be performed by the action of vessels, either vascularity must extend itself *ad infinitum*, or there must be certain small vessels not nourished

rished at all. Can we demonstrate those small arteries, which ramify in the coats of and nourish the smallest *vasa vasorum*? Such considerations as these ought to prevent our denying organization to any part of an animal body, even to the cuticle and the enamel of the teeth.

The Writer's Reasons for not Eating Animal Food.

(Month. Mag.)

I. BECAUSE being mortal himself, and holding his life on the same uncertain and precarious tenure as all other sensitive beings, he does not feel himself justified by any supposed superiority or inequality of condition, in destroying the vital enjoyment of any other mortal, except in the necessary defence of his own life.

II.—Because the desire of life is so paramount, and so affectingly cherished in all sensitive beings, that he cannot reconcile it to his feelings to destroy, or become a voluntary party in the destruction of any living creature, however much in his power, or apparently insignificant.

III.—Because he feels an utter and unconquerable repugnance against receiving into his stomach the flesh or juices of deceased animal organization.

IV.—Because he feels the same abhorrence against devouring flesh in general, that he hears carnivorous men express against eating human flesh, or the flesh of dogs, cats, horses, or other animals, which in some countries it is not customary for carnivorous men to devour.

V.—Because Nature appears to have made a superabundant provision for the nourishment of animals in the saccharine matter of roots and fruits; in the farinaceous matter of grain, seed, and pulse, and in the oleaginous matter of the stalks, leaves, and pericarps of numerous vegetables.

VI.—Because the destruction of the mechanical organization of vegetables inflicts no sensitive suffering, nor violates any moral feeling; while vegetables serve to sustain his health, strength, and spirits, above those of most carnivorous men.

VII.—Because during thirty years of rigid abstinence from the flesh and juices of deceased sensitive beings, he finds that he has not suffered a day's serious illness; that his animal strength and vigour have been equal, or superior to that of other men; and that his mind has been fully equal to numerous shocks, which it has had to encounter from malice, envy, and various acts of turpitude in his fellow-men*.

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* The Author at twelve years old, when a school-boy at Chiswick, abstained from eating animal food from a cause which it is said led Dr. Franklin

VIII.—Because observing that carnivorous propensities among animals are accompanied by a total want of sympathetic feelings, and humane sentiments, as in the hyæna, the tyger, the vulture, the eagle, the crocodile, and the shark; he conceives that the practices of those carnivorous tyrants afford no worthy example for the imitation or justification of rational, reflecting, and conscientious beings.

IX.—Because he observes that carnivorous men, unrestrained by reflection or sentiment, even refine on the cruel practices of the most savage animals; and apply their resources of mind and art to prolong the miseries of the victims of their appetites, skinning, roasting, and boiling animals alive, and torturing them without reservation or remorse, if they thereby add to the variety or the delicacy of their carnivorous gluttony.

X.—Because the natural sentiments and sympathies of human beings, in regard to the killing of other animals, are generally so averse from the practice, that few men or women could devour the animals which they might be obliged themselves to kill: yet they forget, or affect to forget, the living endearments or dying sufferings of the creature, while they are wantoning over his remains.

XI.—Because the human stomach appears to be naturally so averse from receiving the remains of animals, that few could partake of them if they were not disguised and flavoured by culinary preparation; yet rational creatures ought to feel that the prepared substances are not the less what they truly are, and that no disguise of food, in itself loathsome, ought to delude the unsophisticated perceptions of a considerate mind.

XII.—Because the forty-seven millions of acres in England and Wales would maintain in abundance as many human inhabitants, if they lived wholly on grain, fruits, and vegetables; but they sustain only twelve millions scantily, while animal food is made the basis of human subsistence.

XIII.—Because animals do not present or contain the substance of food in mass, like vegetables; every part of their economy being subservient to their mere existence, and their

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Franklin to resume the practice. He saw a fish opened which had small fish within it, recently devoured; and when that fish was afterwards brought to table, he was forcibly struck with the idea of eating the very animal, which but yesterday had been devouring others. The practice of the fish was, he felt, that of a creature without reason or humanity, and no justification to him for doing what he thought wrong. His appetite also revolted at the idea of eating part of a creature so lately and so palpably enjoying itself in its own element. He therefore excused himself, and has to this time persevered in rigid abstinence.

entire

entire frames being solely composed of blood necessary for life, of bones for strength, of muscles for motion, and of nerves for sensation.

XIV.—Because the practice of killing and devouring animals can be justified by no moral plea, by no physical benefit, nor by any allegation of necessity, in countries where there is abundance of vegetable food; and where the arts of gardening and husbandry are favoured by social protection, and by the genial character of the soil and climate.

XV.—Because whenever the number and hostility of predatory land animals might so tend to prevent the cultivation of vegetable food, as to render it necessary to destroy, and perhaps, to eat them, there could in that case exist no necessity for destroying the animated existences of the distinct elements of air and water; and, as in most civilized countries, there exists no land animals besides those which are purposely bred for slaughter or luxury, of course the destruction of animals, birds, and fish, in such countries must be ascribed either to unthinking wantonness or carnivorous gluttony.

XVI.—Because the stomachs of loco-motive beings appear to have been provided for the purpose of conveying about with the moving animal, nutritive substances, analogous in effect to the soil in which are fixed the roots of plants, and consequently nothing ought to be introduced into the stomach for digestion and for absorption by the lacteals, or roots of the animal system, but the natural bases of simple nutrition, as the saccharine, the oleaginous, and the farinaceous matter of the vegetable kingdom.

COMMON SENSE.

July 27th, 1811.

Observations on the Words, in various Languages, answering to the English Word Liver.

(Month. Mag.)

SCAPULA, in his Greek Lexicon, observes, that "Λευχηπαθίας olim dicebatur *timidus*. Ajunt quorundam hepati vitium quoddam accidere, quod *eos timidos reddat*; ejus autem indicium vitiati Pallor est, qui tales timidos arguit."* From the Greek λευκηπαθίας, comes our vulgar phrase *white-liver'd*, an epithet frequently applied to cowardly and malicious characters.

In Italy the word *fegatoso* is applied to a person "*che*

* The author refers his readers to *Erasmi Chil.* Quære, What is the exact meaning of the Greek verb πωλίζω?

ha

ha nella faccia del ribollimento, con pustule rosse preveniente da soverchio calore di sangue."

It may be further remarked, that our word *jealousy** seems to have been derived from *giallo*, on account of the yellowness of the skin of persons being tormented with this passion: so gloomy and uncomfortable views of any subject are commonly said to be taken with the *jaundiced eye*. In disordered states of the digestive organs, the secretions are sometimes so vitiated as to be changed in colour and consistency; the bile in particular often assumes a green appearance; the absorption of such bile would give the cornea of the eye a greenish cast: hence jealousy has been said to be a *green-eyed monster*.

The idea that was entertained of the great importance of this organ in the animal economy, may indeed be deduced from the etymology of the word itself. Our English word *liver* is derived from the Anglo-Saxon Lŷfer, which comes from their verb Lŷfian, *to live*. I shall be much obliged to any of your ingenious correspondents who may be able to trace the etymology of the words used to denote this organ in other languages; I have subjoined a list of a great many of them.

Anglo-Saxon,	Lŷfer.
English,	Liver.
German,	Lèber.
Islandic,	Lifur.
Danish,	Lever.
Belgic,	Lever.
Dutch,	Lever.
Greek,	Ἧπαρ.
Latin,	Jecur.
Italian,	Fègato.
French,	Foie.
Spanish,	Higado.

F.

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* This word, however, has been by some etymologists derived from the Greek ζηλος.

CRITICAL ANALYSIS

OF

RECENT PUBLICATIONS

IN THE

DIFFERENT BRANCHES OF PHYSIC, SURGERY, AND MEDICAL PHILOSOPHY.

De la Methode Jatraleptique, ou Observations Pratiques sur l'efficacite des Remèdes administrés par la voie de l'absorption cutanée dans le traitement de plusieurs Malades internes et externes;

Et sur un nouveau Remède dans le traitement des Maladies venerienne et lymphatiques; par J. A. Chrestien, Docteur en Médicine de l'Université de Montpellier, ancien Medicin de l'Hopital Militaire sedentaire, Medicin du Lycée de la meme Ville, et Membre de plusieurs Sociétés academiques del'Empire, et etrangéres. 8vo. pp. 464. Paris. 1811.

We have inserted this gentleman's titles at length, though we doubt that even their authority will not secure him from being ranked amongst the Charlatans whose assertions astonish the weak and convince the credulous alone. We must however admit that he has opened an extensive field of inquiry, and cannot be justly condemned till we have gone over the same ground and proved his experiments to be false. The mode of introducing medicinal substances into the system by means of friction has been explained, and many facts in support of its utility and efficacy have been stated from time to time in this Journal, by Mr. Ward, who has lately republished them in a separate volume with additional matter. We are, therefore, prepared to admit many facts related by Dr. Chrestien, which we might otherwise have disputed. Certainly he has pushed the practice much further, and appears to have derived much more success from it, than any author whom we have yet read on the subject. From the introduction we learn that this is the third impression of his *Observations sur l'emploi des remèdes à l'exterieur*; and that he has each time altered the title of his book; the first, *Methode par Absorption*, was improper, because the action of absorption is independent of friction. In some instances the skin absorbs the medicament rubbed upon it; in others the remedy acts by sympathy; or the effect may be produced by the friction merely. The second edition appeared with the title of Methode Jatroliptice, but an erudite friend, persuaded the author this was

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an improper term; he has, therefore, substituted Jatraleptique for Jatroliptice, which he had found in James's dictionary, and which is certainly as expressive as the epithet he has now adopted.

> " Strange that such difference should be
> Betwixt a little c and t!"

It seems as impossible for a Frenchman to write without boasting, as to harrangue without grimace; Dr. Chrestien is sufficiently diffident of his pretensions to science, but extremely eager to convince us that his probity is unquestionable. " Si je jouis de quelque consideration, (says he) comme Medicin practicien, j'en jouis encore plus comme homme probe, delicat et désinteressé; et si le degré de science dependait de moi comme la probité, la delicatesse et le desintéressement, je ne cederais en savoir à aucun Medicin connu." This, from a native of any other country, would have caused us to suspect that the author might possess any quality than that which he so much vaunted; but in a French writer it is mere usage, and we are as willing to believe the Doctor, as we were previous to his intimation, that he is the most *delicate*, *disinterested*, and *veracious* writer in existence.

The author commences the detail of his cases and experiments with Camphor; which he directed to be mixed with saliva, and rubbed in on the inner part of the thighs in doses of eight or twelve grains. The first case was an irritation in the urinary passages from the action of Cantharides on the skin, produced on the Doctor's own person; who, being attacked with sciatica, caused the part affected to be rubbed with forty grains of Cantharides finely powdered and mixed with saliva, the effects of which he thus states:

" La friction administrée par une main vigoureuse, armée d'un gant de peau de daim, fut forte et long-temps continuée. Je ressentis l'effet assez ordinaire des cantharides sur les voies urinaires. Il me fit plus souffrir que la chaleur vive que j'eprouvais sur la partie frictionnée. La nuit fut inquiete, l'operation ayant été pratiquée au moment de me mettre au lit. Le calme n'étant point retabli a l'heure de mon lever, je me frictionnai la partie interne de la cuisse avec douze grains de Camphre melés à la salive. Dans un instant l'absorption fut faite; quelques heures après, mon etat fut moins pénible. Ayant répété ma friction camphrée le soir, la nuit fut tranquille, et à mon reveil, je me trouvai dans une position contraire à cette de la veille."

Since that period the Doctor has never been disappointed in the effects of Camphor counteracting those of Cantharides on the urinary passages.

In a similar manner he administered it in cases of *erections fortes; erections fortes accompagnées de pollutions; retention d'urine; ischurie vesicale; ischurie renale; fièvre hemitritée;*

fievre ardente compliquée de la gastro-bilieuse lypirique; and in fevers of various descriptions, as catarrhal, remittent, bilious, &c. &c. In all of these the effects of the remedy were admirable, but we cannot explain the mode in which it operated. Dr. C. in general being content with informing us that the symptoms subsided, or the violence of the disorder abated soon after the friction.

A female, aged 36, of violent character, of a sanguine-bilious temperament, subject to frequent attacks of epilepsy, was seized *d'une delire frenétique si furieux*, that she was obliged to be tied down in bed to prevent her throwing herself upon the attendants, or leaping out of window, which she attempted more than once. Dr. Chrestien being sent for, directed twenty grains of Camphor mixed with saliva, to be rubbed on the inner part of each thigh; and to be repeated every two hours. In two hours the patient was so much better that she was unbound. When two drams of the Camphor had been used, *le calme fut parfait*. The same means were resorted to some months afterwards, and succeeded in preventing a return of the complaint with which she was threatened.

A spirituous liniment, composed of two ounces of spirit of juniper *(esprit de genievre)* half a drachm of oil of cloves *(huile de girofle)*, and as much balsam of nutmeg *(beaume de muscade)* cured diarrhœa, chorea St. Viti; and prevented abortion.

A plaster much used in Holland, (called Emplatre de *Rustaing*, from the name of the discoverer) applied to the breast, proved very efficacious in remedying or preventing the disorders arising from the want of milk, or in females who declined suckling. The author relates surprising instances of its success, indeed in his hands it never failed*; and it is now constantly employed by the Montpellier accoucheurs.

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* Composition of the plaster
Prenez Litharge d'or, deux livres
Huile d'olives, deux livres et demie.
Cire jaune, une livre.
Terebinthine des Chio, } āā quatres onces.
Huile de laurien, }
Gomme opoponax, deux onces et demie.
Bdellium, }
Gomme ammoniaque, }
Sarcocolle, } āā deux onces.
Oliban, }
Mastich, }
Myrrh en larmes, }
Aloes succotrin, une once.
Racines d'aristoloches, deux onces.
Camphre raffiné, trois onces.—Faites, suivant l'art, un emplatre.

The utility of the external application of opium is sufficiently familiar to us. Dr. Chrestien remarks that he found very few individuals in whom opium, administered by friction, produced narcotic effects. He frequently used a combination of opium and camphor in brandy with good effect, and relates many instances of its success, in suppression of the catamenia and various other diseases.

In the application of Colocynthis by friction, in mania, we believe the author is completely original; he commences his first case, by observing, "Ennemi du mensonge et du charlatanisme, je vais rapporter les faits tels qu'ils sont."

The patient was a woman aged 40, who had been for some days subject to mania; the fits were occasionally marked by profound melancholy; occasionally by a taciturnity which nothing could disturb; and sometimes by furious delirium. Dr. Chrestien found her without fever; the bowels were costive; the skin soft, but without sensible transpiration. She refused all solid food, and took liquids with reluctance. No cause, except a catarrh with cold-shivering and a swelling on the right cheek, could be assigned for the malady. The remedies employed procured no relief. In consequence of the obstinate constipation, the author ordered sixty drops of the tincture of Colocynthis *(teinture de coloquinte)* to be rubbed on the belly; no effect was produced but an increased flow of urine. The following morning the friction was repeated, and a purgative given internally, which succeeded in opening the bowels; but the alvine evacuation was inconsiderable, and the amendment of the patient was but slight. After some days, no remedies being given, the patient refusing to drink, or to take any kind of nourishment, the bitter-apple was again repeated in substance in the dose of twenty grains, mixed with lard, and continued daily for eight days, when the maniacal state yielded; the only apparent effect produced by the frictions, appeared to be an increase of turbid urine. The frictions were continued for eight days longer, without opening the bowels or occasioning the least sensation; the patient regained her former faculties, and obtained sleep to which she had long been a stranger. The bowels remaining costive, notwithstanding the frictions, glysters were injected, and brought away "*de matieres durcies.*"

Several other cases of this sort are related; some of them by practitioners who were induced to try the remedy upon Dr. Chrestien's authority. In most of these the bowels remained constipated during the frictions, whilst the discharge of urine was augmented.

The author's experiments with Digitalis in cases of dropsy were

were also very successful, and a case of ascites combined with anasarca, which had resisted the frictions with the tincture of Digitalis, was happily cured by a decoction of it thrown up the rectum by injection. We shall give an extract from this extraordinary narrative in the author's own words.

" Les frictions avec la teinture dé digitale, si elles n'avaient pas été sans effet, n'avaient servi qu'à ralentir les progrès du mal, qui étoit cependant parvenu au point de faire craindre une mort prochaine. Ayant proposé à M. Méjan, médecin praticien du premier mérite de notre ville, de faire l'essai de la décoction de digitale pourprée, injectée dans l'anus, il y consentit. La décoction fut préparée avec deux gros de cette plante pour quatre onces de colature, et employée trois fois le jour, au moyen d'une petite seringue à injection qu'on ne vidoit qu'une seule fois à chaque opération. La dose de digitale fut de trois gros en renouvelant la decoction ; et enfin de demi-once. A peine la troisième dose fut-elle épuisée, qu'il survint un flux d'urine si considérable, que dans trente-six heures le malade en rendit vingt pintes. Les enflures se dissipérent, et l'epanchement parut ne plus exister.

" Quelques mois après cette heureuse crise, les mêmes phénomènes ayant reparu, l'emploi de la decoction de digitale à demi once pour quatres onces de colature, eut le même succès que la première fois."

Many pages of this volume are occupied with practical remarks upon Cinchona. The author employed the tincture of it in friction with advantage in cases of rheumatism, intermittent fever, &c. ; and suspecting from the little bark contained in the tincture, that the effect might be produced by the application of the spirit merely, he substituted a mixture of brandy and spirit of wine, but it was of no use in intermittent fever. He has detailed many cases in which he gave the resin or extract of bark internally. The chief advantage consists in a small dose being sufficient.

We now come to the wonderful wonder, or *nouveau remède anti-venerien*. The author prepares us for the golden novelty, by observing that accident has often effected the most important discoveries ; the accident which succeeded in the present instance was simple enough ; and accords with Pliny's remark, " nullum esse librum tam malum, ut non aliqua parte prodesset." Dr. Chrestien, it seems, had read many treatises upon syphilis, some of the authors of which attributed the curative effect of mercury to its weight. The Doctor did not lend implicit faith to this opinion ; but without stopping to inquire in what way mercury does act, he rather sagaciously thought, that if it were true that this mineral cures by its heaviness, gold being more ponderous, ought to be more efficacious. Consulting different writers on Materia Medica, he found them concur in stating, that as a medicament, gold

was

was useless or dangerous. On this account, and not exactly knowing what preparation of the metal to use, he relinquished his design for some years; when on perusing Clare's treatise on the use of calomel rubbed within the mouth, he felt a strong desire to make the experiment which he had not yet essayed.

He accordingly prepared an amalgam of gold, and volatilized the mercury, by the action of heat, and occasionally with nitric acid. The effect in either case was successful. He commenced his experiments upon paupers, and was astonished at the salutary effects of the remedy. Being utterly incapable of explaining them, he consoled himself with a wise saying of his master, M. de Lamure,—"Le vrai medecin, me disait mon oracle, n'est pas celui qui explique la maniere d'agir d'un remede, mais celui qui saisit bien les indications, qui fait les applications á propos, et qui en observe judicieusement les effets;" and with great naiveté concluded, "Je renoncai á toute explication."

Although Dr. Chrestien might be convinced that no particles of mercury remained in combination with the gold, the public might be more incredulous, especially since Fourcroy had pronounced it was impossible completely to disengage the gold from every particle of the mercury with which it had been amalgamated. Dr. C. therefore, to obviate the possibility of attributing his cures to the mercury which might still remain combined with the gold, prepared an oxide of this metal, by precipitating a solution of it in nitro-muriatic acid, with potass. He also prepared an oxide precipitated by tin; and some years afterwards, a muriate of gold.*

Of these preparations, the three first appear to be possessed of nearly equal powers, and were administered by friction on the gums, inside the mouth, &c. by friction, to the extent of three grains in the day. The muriate was more deliquescent and highly caustic. This induced Dr. C. to combine it with muriate of soda; he thus obtained a triple compound, more convenient for use, possessing the same properties, but in greater degree than the other preparations of the precious metal. The usual dose of the triple muriate of gold and soda was the fifteenth of a grain; it never could be pushed beyond a tenth without exciting fever, irritation, and inflammatory symptoms. In some cases it was found advantageous to use the muriate and the oxide at the same time.

The appearances of syphilis being familiar to most practitioners, it is unnecessary to extract any of the numerous

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* We shall, on a future occasion, have an opportunity of explaining these preparations more minutely.—Ed.

cases

cases recorded in the volume before us, of every form of the disease from blenorrhœa to long-standing confirmed lues. The complaint yielded to the gold in most instances sooner than under similar circumstances of severity it would have done to mercury. When the triple muriate was employed, in general, three grains sufficed. During the use of the remedy neither confinement nor alteration of regimen were necessary. Patients of either sex, and of any temperament, may employ it at all seasons of the year; and whilst under its action topical applications were seldom required, chancres healing, and worts disappearing by simply observing cleanliness. The patient is directed to retain the medicine in the mouth for one minute after friction, though no harm will accrue from swallowing it. It may be applied to any part within the mouth, taking care only to avoid the teeth. In three instances the author was obliged to have recourse to a different method; the patients were scorbutic, and blood flowed on the slightest friction. In females he observes we have "*une voie de plus, celle de la face interne des grandes levres;* j'y ai eu recours une fois seulement et avec succés, la femme qui avoit besoin d'un traitement anti-vénérien n'ayant jamais voulu consentir a porter le remède dans la bouche de peur de se la gater."

Besides this remarkable influence upon venereal affections, the remedy operates beneficially upon glandular swellings, and schirrous womb. The following case is less wonderful than many others which we might have quoted.

A woman aged twenty-two, who had borne one child, applied to Dr. Chrestien for a complaint which he considered as a serious affection of the womb. An examination being made by Messrs. Bourquenod, Laborie, and Fages, they discovered a schirrous tumour of considerable size. M. Laborie had found the womb in the same state six months before; but notwithstanding the remedies employed, at the period of the second examination, her pains had become more severe. She now began the friction of half a grain of the oxide of gold, gradually increasing it to one grain. In forty-five days M. Fages ascertained by examination that the tumour was sensibly diminished. The treatment being continued ten weeks, M. Laborie found that the happy change observed by M. Fages was confirmed. After persevering in the plan four months, the patient being free from all pain and ailment, declined to continue the remedy. Being examined by Messrs. Laborie and Fages, they found the tumour had diminished two thirds. She had used no other remedy or application than the oxide, and had no indication of uterine disease ten years after discontinuing it.

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In concluding this hasty sketch of a work abounding in extraordinary statements, it becomes us to mention that Dr. Chrestien ranks high as a practitioner, is much consulted, and would rather suffer than gain by false assertions. Vauquelin, Duportal, and several other French physicians and chemists, have followed him in his experiments, have made similar preparations of gold, and have applied them in practice with a degree of success which merits the attention of practitioners in this country. It is true that gold has been prescribed in different forms, and has been abandoned; the aurum potabile is in the recollection of most of us; in the two last centuries a combination of gold and mercury was employed by *Lecocq*, *Eschenreiter*, and *Bassine; Loss*, *Rebentrost*, and others, gave it reduced to powder for the cure of syphilis; some gave it with purgatives, and others with antimony; *Lavigne*, physician to Louis XIII, made a panacea with gold, mercury, and silver, which was commended by Hoffman. But it is obvious that these were very different preparations from the chemical compounds first discovered by Dr. Chrestien, the merits of which can only be determined by experiment. The art of medicine, unquestionably, is advanced by the acquisition of facts from whatever quarter derived: let us not, however, content ourselves with merely collecting them, but rather imitate the bee, "quæ materiam ex floribus horti et agri elicit; sed tamen eam propria facultate vertit et digerit."

The London Dispensatory: containing—1st. The Elements of Pharmacy; 2d. The Botanical Description, Natural History, Chemical Analysis, and Medical (medicinal) *Properties of the Substances of the Materia Medica.—3d. The Pharmaceutical Preparations and Compositions of the Pharmacopœias of the London, Edinburgh, and Dublin Colleges of Physicians.* Illustrated with Tables, and Plates of the Pharmaceutical Apparatus. By ANTHONY TODD THOMSON, Surgeon, &c. &c. &c. 8vo. London, 1811. pp. 793. plates 5. Longman, Rees, and Co.

It is very justly observed by the Author of this work, that an unnecessary multiplication of books is a great evil. We fully enter into his feelings, and particularly appreciate them as applying to Pharmacy. No sooner does the London College publish a Pharmacopœia, than the Pandora of Literature opens her casket of evils, and out fly translations, epitomes, manuals, conspectuses, with a long &c. of thick octavos for the student, loose sheets of nomenclature for the shop, and smart duodecimos for the ready use of the sapient

prescriber. But wherefore all this? money, notoriety, fame and—public good, is the impulse. Yet in this motley host there is no individual, perhaps, but may confer some benefit on society. The multitude draws attention to the subject, and as this tide in the affairs of the men rolls along, some happy genius may be swept into the flood. For adding to a catalogue already, in his own opinion, too long, the author of the London Dispensatory offers an apologetical explanation. In its general plan and arrangement the London Dispensatory resembles closely the Edinburgh, by Duncan; but though Mr. Thomson has not thought it expedient to deviate from that established work, he has gone more largely into some parts, and those we think, of essential importance. "I trust," he says, "that the alterations and additions which I have introduced, particularly in the history of the Materia Medica, will give a legitimate value to the London Dispensatory; and especially turn the attention of the student towards Medical Botany, which has been so unaccountably neglected of late years, as to be almost regarded as unnecessary in the education of a physician. Indeed, although it has always been admitted that a correct knowledge of Materia Medica and Pharmacy can be obtained by those only who have a previous knowledge of Botany and Chemistry, yet neither the Dispensatories nor the systems of Materia Medica, published in this country, have described plants in a scientific manner; or noticed in their descriptions, those characteristics which botanists have fixed on as the only means by which a plant, that is not familiar to a reader of the description of it, can with certainty be known, when he wishes to possess it, or is in any doubt regarding it when it is obtained. From the want of this degree of accuracy in the descriptions of plants, many valuable remedies used by the inhabitants of one part of the world have been lost to those of another, where they are, nevertheless, indigenous; or instead of the proper plants, other species of the same genera, which possess little or no virtue, have been employed; and even plants, not in any respect medicinal but highly deleterious, have, merely from their bearing names in common or in pharmaceutical language similar to those of some medicinal plants, been used to the material injury of the diseased."

We lament that there is ground for these remarks, and that the identity of plants affording medicinal substances is so ill ascertained. It is obvious, however, that at the present as well as in past periods, the efficacy of vegetable substances was well known to men, whose habits of life, education, and station, have precluded them from scientific acquirements. The rustics of Europe, and the savages of uncivilized

civilized nations, often endowed with much native sagacity, and great dexterity in the employment of particular remedies extracted from the vegetable kingdom, know the plants which afford these remedies by particular names. They are, however, unable to distinguish them by the appellations which men of science have given to them; and often the botanist does not know to what plant the popular name belongs. We have lately met with an instance of this. Three physicians of eminence, and one of them the author of several elaborate botanical works, were applied to for the scientific or systematic name of the plant called by the older English botanist, and by the people, "*Parsley break Stone.*" Neither of them were able to assign its name or place in the Species Plantarum. We must not say this arose from ignorance, but from inattention. To prevent this evil, Mr. Thomson proposes to add to the usual account of each vegetable substance the characters of the genus to which the plant belongs, as they are given by Willdenow in his excellent edition of the Species Plantarum; and also detailed descriptions of each in the language employed by modern botanical writers. To make this more effective, it would have been well if the ingenious author had ascertained and given the popular and country names of every plant in his Materia Medica; and that the synonyms, not only of men who have written books, but of the mountain herdsman, the village quack, and the roving savage, had been subjoined.

Some idea of the author's research for the compilation of this Dispensatory may be formed, by stating the resources from whence he has drawn his materials. The liberal spirit which always actuates the President of the Royal Society, opened to him the finest library on Science and Natural History in the world. The observations on the medicinal species of Cinchona, are enriched by the remarks of Zea in the *Annales de Hist. Nat.* the researches of Humboldt in the splendid *Plantæ Æquinoctiales*, and the *Hortus Berolinensis*. Martyn, Woodville, Smith, Sowerby, the Hortus Malabaricus, the Flora Peruviana, and the Flora Danica, have opened their stores. Gaertner (de Fructibus), Bergius (Materia Medica a Regno Vegetabili), Murray (Apparatus Medicaminum), Alston (Materia Medica) and the Linnean and Philosophical Transactions have not been overlooked. In the Chemical part the systems of Murray and Thomson; the Annales de Chimie, the Journal de Physique, and the Philosophical Transactions, have afforded both the facts and principles. In the present vacillation of chemical theories, the author has certainly done right to avoid enlisting himself under any sect; and on the interesting question res-

pecting the constitution of the muriatic and oxymuriatic acids, he has cautiously withheld his opinion.

The object and intention of the work, and the means to be employed in its execution being adjusted, perspicuity in detail is accomplished by the following arrangement. Three General Heads, Elements of Pharmacy—Materia Medica—Preparations and Compounds; with their subdivisions, serve to arrange and martial the specific descriptions. The first Head, *Elements of Pharmacy*, is divided into three Sections. *Sect.* 1. Attraction, under the distinct forms of aggregation and affinity. Repulsion and the powers producing it, as caloric, light, and electricity. *Sect.* 2. Constitution and combination of substances, under solids, fluids, and gases. *Sect.* 3. Pharmaceutical operations and apparatus. As a specimen of this Head we copy the observations on Electricity and Galvanism, because the subject has at this moment a peculiar interest.

"The phenomena of Electricity depend on a very subtile fluid, which is a powerful chemical agent, capable of producing immediate decompositions and new combinations. Galvanism appears to be essentially the same as Electricity, differing, however, in some degree in its effects and the mode of production. Both are to be regarded as repulsive powers.

"Electricity may be communicated to all substances: by some it is transmitted without any perceivable obstruction, but by others with much difficulty: hence bodies in their relation to Electricity are distinguished into two classes, conductors and non-conductors: and as it can be accumulated in the latter by friction and other means, these are also denominated *electrics;* while the former are denominated *non-electrics*, to indicate their inability of being excited.

"The chemical effects of Electricity seem to depend chiefly on its power of producing a sudden high temperature; and this appears to be proportioned to the resistance opposed to its transmission. It often favors chemical combinations, as that of oxygen with metals, and promotes the instantaneous chemical union of gaseous bodies. It also effects chemical decompositions, as those of water, ammonia, alchohol, and metallic oxides.

"Galvanism may be regarded as a modification of Electricity, in which the fluid is evolved during certain chemical actions. It is transmitted through those substances which are conductors of common Electricity, and with the same degree of facility and rapidity. The metals, charcoal to a certain extent, plumbago, water, saline solutions, and the greater number of liquids, are conductors; but glass, dried and baked woods, the dry animal cuticle, and dry gases are non-conductors of the galvanic fluid. As a chemical agent, Galvanism is the most powerful of all the repulsive forces, and is capable of producing decompositions which could not otherwise be effected. By its means the chemical constitution of the alkalies and the earths has been established, and their bases discovered to be substances hitherto unknown, which

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have been added to the list of metals. Galvanism, like Electricity, acts as a stimulus to the living system. Its effects on the animal body are, a sensation of light when applied to the eye; a sensation of acidity on the tongue; and the excitement of strong muscular action."

Five plates of pharmaceutical apparatus, of particularly correct and spirited outline, are attached to this division of the work.

The second part, or what has, perhaps, been too confinedly called the Materia Medica, forms the most interesting division of the volume; and in this, as connected with natural history and botany, will be more particularly seen, what Mr. Thomson conceives to be an improved method of treating the subject. By giving the article on the genus *Cinchona*, we shall present our readers with, what we admit to be, an advantageous specimen of the author's execution of his design.

" CINCHONA, *Spec. Plant. Willd.* 1. 957.

" *Cl.* 5. *Ord* 1. Pentandria Monogynia. *Nat Ord.* Contortæ *Linn.* Rubiaceæ. *Juss.*

" G. 346. *Corolla* funnel-shaped. *Capsule* inferior, two-celled, bipartite with a parallel partition. *Flowers downy, with the stamens included.*

" *Species* 1. Cinchona *officinalis*. Officinal Cinchona. Cinchona Lancifolia. *Mutis, Zea, Annales de Hist. Nat.* tom 2. p. 207. C. Condamenia *Humboldt, Plantæ æquinoctiales*, p. 32 t. 10. *Lambert. A Description of the Genus Cinchona.* plate i.

" *Species* 3. Cinchona *macrocarpa*. Long fruited Cinchona. Cinchona cordifolia. *Mutis, Zea*, l. c. 11. 214. C. purpurea. *Flor. Peruv.* 32. t. 193. C. ovata. *Ruiz.* Quinologia. C. micrantha. *Flor. Peruv.* 52. t. 194.

" *Species* . Cinchona *oblongifolia*. *Mutis, Zea*, l. c. 11. 211. C. lutescens. *Flor. Peruv.* 11. 53. t. 196 and Ruiz Quinologia. art. vi. 71.

" *Corollas smooth with the stamens displayed.*

" *Species* 4. Cinchona *caribaea*. Caribean Cinchona. *Wright. Phil. Trans.* lxvii. 504 t. 10

" This important genus is not yet altogether freed from the ambiguity which has so long involved it; and although much has been effected by the industry of the Spanish botanists whom their government sent out to make inquiries concerning it, yet many species remain undescribed*, from which it is very probable the bark-gatherers collect some part of the large cargoes which are annually sent to Europe†. The three kinds

* In a large collection of dried specimens of the genus Cinchona in my possession, which were collected in 1805, both near Loxa and Santa Fé, I find several species which are not mentioned in the works of any of the Spanish botanists.

† Humboldt informs us that the quantity of cinchona bark annually exported from America is 12,000 or 14,000 quintals. The kingdom of Santa Fé furnishes 2.000 of these, which are sent from Carthagena: 110 are furnished by Loxa; and the provinces of Huamanga, Cuenca, and Jaen de Bracamorros, with the thick forests of Guacabamba and Ayavaca, furnish the rest, which is shipped

medicinally used have been distinguished and named by Mutis, a celebrated botanist who has resided in the neighbourhood of Santa Fé de Bogota since 1783, as director of the exportation of bark; and his observations have been fully detailed by his pupil Zea; whilst the travels of Humboldt and Bonpland have afforded them an opportunity of ascertaining accurately, and describing, the species first delineated by Condamine, and named by Linnæus *officinalis*, under which term no less than four distinct species were confounded by that distinguished naturalist in the different editions of his system*. Under this trivial name also the British pharmacopœias placed as varieties the three barks known in the shops; and this error is still retained by the Edinburgh and Dublin Colleges; but in the last edition of its Pharmacopœia the London College adopted the trivial names of Mutis and Zea; and although, for the sake of uniformity, we have set down the two first species above, as named and arranged by Willdenow, yet we shall describe them under the corrected appellations.

1. Cinchona cordifolia. *Mutis.*

Officinal. Cinchonæ cordifoliæ cortex. *Lond.* Cinchonæ officinalis cortex, a. *communis*. Edin. Cortex peruvianus, *Dub.* Heart-leaved Cinchona: (The common pale Bark of the shops.)

The tree which affords this bark is found in the mountains of Quito and of Santa Fé, growing along their skirts, and on the plains; flowering from May to September. It is a spreading tree, rising on a single, erect, round stem of no great thickness; and covered with a smooth bark externally of a brownish grey colour. The younger branches are quadrangular, smooth, leafy, sulcated and tomentose: the leaves, which are about nine inches in length, are opposite, petiolate, spreading, of an oblong-oval, cordate or egg-shape, entire, shining on the upper surface, ribbed and pubescent on the under: with the petioles flat on one side and roundish on the other, about a thumb's breadth in length, and of a purple colour. The flowers appear in large, terminal, leafy panicles, supported on long compressed tetragonous peduncles. The calyx is five-toothed, downy, and of a purple colour: the corolla internally tomentose; the tube of a diluted red colour; the limb shaggy, white above and purplish below; and the segments spreading, with reflecting tips. The filaments are short, supporting linear anthers, bifid at the base. The germen is tomentose, and changes to an oblong, narrow capsule, about one inch and a half in length, marked with ten striæ, of a reddish brown colour, and crowned with the calyx.

The bark yielded by this tree is named *Quina amarilla*† by the Spa-

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shipped from Lima, Guayaquil, Payta, and other ports on the South Sea. *Plantæ Equinoc.* p. 34.

* Under this name in the *Sys Veg.* ed. 10. p. 929, is described the C. *officinalis*, the *Condaminea* of Humboldt; but in ed. 12. 164, it is the C. *cordifolia* of Mutis, the *macrocarpa* of Willdenow: in the 13th ed. p. 178, it is the C. *pubescens* of Vahl, figured by Lambert, pl. 2. and lastly the C. *nitida* of Ruiz and Pavon. *Flor. Peruv.* ii. 50. *t.* 191.

† *Yellow* or *pale bark*; the adjective signifying both yellow and pale, or wan. The name appears to be used in contradistinction to *narranjada*, orange colour, which is applied to the next officinal species.

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niards. Two other varieties of it, probably produced by distinct species, are also known in commerce by the names of *lagartado* (lizard like) and *negrillo* (blackish), from the colour of their epidermis. It has always been known in this country by the vague name of Peruvian or officinal bark; and erroneously regarded as the kind produced by the tree which was delineated by Condamine. It is decorticated in the dry season, from September to November, which is the period at which all the kinds are barked, and the bark is carefully dried in the sun. The trees generally die after the operation.

The bark arrives in Europe packed in chests made of slips of wood roughly fastened together, and covered with skins; each of which contains about 200 lbs. weight, well packed, but generally containing a quantity of dust and other heterogeneous matter. It consists of pieces eight or ten inches in length, some of them scarcely one-tenth of an inch in thickness; singly and doubly quilled, or rolled inward, the quills being scarcely larger than a swan's quill*; and others of a coarser texture, thicker and nearly flat. Both kinds have a chopped, greyish or cineritious epidermis, often covered with flat, sometimes stringy lichens; and internally of a cinnamon hue. They are evidently the bark of the same tree; the quilled sort being that of the smaller branches, and the flat that of the larger and the trunk. But the chests probably contain similar barks obtained from different species.

Qualities. Good bark of this description has scarcely any odour when in substance; but during decoction the odour is sensible, and agreeably aromatic. The taste is bitter, but not unpleasant, slightly acidulous and austere, resembling in some degree that of a dried rose. It is light, and breaks with a close fracture, with the internal fibres somewhat drawn out. The powder is paler than the bark, of a fawn colour, or a light cinnamon hue; but the flat kind yields a deeper coloured and browner powder. The best specimen of this bark which could be procured by me, and subjected to experiment, gave the following results: Water at 160° extracted all its active principles; affording an infusion, when filtered, of a pale yellow or straw colour, which had the odour and taste of the bark. It reddened litmus paper; was instantly and copiously precipitated by solution of galls; and in a smaller degree, and more slowly, in yellowish flocculent flakes, by solution of isinglass. A solution of tartar emetic was rendered turbid, and slowly precipitated by it; but this effect was quickly and copiously produced on superacetate of lead. Sulphate of iron changed its colour to bright olive-green, but was not precipitated. The powder macerated in sulphuric ether afforded a golden yellow tincture, which reddened litmus paper, and left a pellicle of bitter resin when evaporated on the surface of water, to which it gave the colour of the tincture. This coloured water had the flavour of the watery infusion, but differed from it, in not precipitating the solution of galls and tartar emetic; and in throwing down a copious precipitate from the solution of sulphate of iron. With alcohol the pow-

* The great desire of our bark merchants to procure quill bark has occasioned the bark gatherers often to produce this effect by heat, which never fails to diminish the virtue of the bark. *MS. of Don Felix Devoti of Lima* in the author's possession.

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der afforded a tincture of a deep orange hue, which precipitated sulphate of iron, tartarized antimony, and tannin; became turbid when added to water, and let fall a light reddish precipitate. From the effects of these re-agents on the aqueous infusion of this bark, it appears to be the same as the 3d and 15th species examined by Vauquelin; which he names *superior gray cinchona*, and *common cinchona of Peru**

According to Mutis and Zea, it is indirectly febrifuge only; but when genuine both the varieties of it are excellent remedies.

"2. CINCHONA LANCIFOLIA. *Mutis.*

"*Officinal.* CINCHONÆ LANCIFOLIÆ CORTEX. *Lond.* CINCHONA OFFICINALIS, CORTEX, b. *flavus*. *Edin.* CORTEX PERUVIANUS. *Dub* Lance-leaved Cinchona. (The yellow Bark of the shops.)

"This tree is found on the Andes of Peru, near Ayavacam, growing at heights from 6,250 to 8,300 feet, where the mean temperature varies between 59 and 62 degrees, on a bottom of micaceous schist in the woods of Caxanuma, Uritucinga, Villonaco, and Monge*. It is a lofty handsome tree, always in leaf; and exudes, wherever it is wounded, a yellow astringent juice. The trunk is about eighteen feet in height and fifteen inches in diameter, erect, with a cracked ash-coloured bark; the branches are round, in opposite pairs, erect, brachiated; with the younger ones obscurely quadrangular at the nodes. The leaves are of a lively green, shining, oval, lanceolate, about three inches long, with a little pit in the axillas of the nerves on the under surface, which is filled with an astringent aqueous fluid, and having the orifice shut with hairs; and they stand on footstalks one-sixth of their length, flat above, and convex below. The stipules are two, acute, silky, contiguous and caduceus. The flowers, which are odorous, of a whitish rose colour, and furnished with little bractes, appear in terminal, brachiated, leafy, trichotomous panicles, supported on round peduncles and pedicles, that are powdered and silky. The calyx is of a globular bell shape, five-toothed, powdered and silky like the peduncles, with the teeth acute, very short, and contiguous. The corolla is somewhat salver-shaped, six times longer than the calyx, with the tube obscurely pentagonous, silky, more frequently of a rose colour; the *limb* wheel-shaped, with oval segments, much shorter than the *tube*, white and woolly above. The germen is globular, changing to an ovate, woody, longitudinally striated capsule, crowned with the calycinal teeth, two-celled, many-seeded, oppositely twice furrowed, and opening from the base to the apex with two valves.

"This tree affords the original cinchona of Peru, which is now very rare, 110 quintals only being cut, instead of 4000 which was the quantity in 1779, and reserved for the use of the Spanish government. Zea says it is a variety of the *lancifolia* of Mutis, under which we have placed it; and there is also a great affinity between it and the *scrobiculata* of Humboldt, according to that celebrated traveller. The bark of the *lancifolia* is the yellow bark of the shops, the Quina Naranjada of

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* *Annales de Chimie*, lix. 116.

* As the *Condaminea* of Humboldt is evidently a variety, if not the same species meant by Mutis, we have availed ourselves of his accurate description.

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the Spaniards. It is known in commerce by the name of Calisaya*; and is preferred in South America to the pale cinchona. It is brought to this country in chests containing about 90 to 100 pounds each; and consists of pieces about eight or ten inches in length, some quilled, but the greater part flat† The quilled pieces are less rolled and thicker than the quilled pale bark; and the epidermis, which is of a tawney grayish brown colour, and covered with flat and stringy lichens, more rough and chopped, easily separating, and often as thick as the bark itself, which is about one-eighth of an inch. The flat pieces are generally without any epidermis, and considerably thicker than the quilled: both are mixed in the same chest.

"*Qualities.* Yellow bark has nearly the same odour in decoction as the pale; the taste is more bitter, but less austere, and it does not afford any astringent feeling to the tongue when chewed. The internal colour is an orange cinnamon, or subdued yellowish brown; the fracture is woody and fibrous, presenting, when examined by a lens, the appearance of parallel longitudinal needle-like fibres, with a dry agglomerated powder in the interstices of a yellow colour. It is easily reduced to fine powder, and the powder preserves the colour of the bark, but is brighter. The filtered aqueous infusion has a pale golden hue, with a shade of red; is clearer, and seemingly less mucilaginous than the former: it has all the bitterness of the bark; reddens litmus paper, and precipitates solution of galls; but the precipitate does not fall so instantaneously as in the infusion of the former species. With solution of isinglass a pinkish yellow precipitate is produced: superacetate of lead throws down a precipitate; and that with tartarized antimony is more copious than the pale bark affords, and in yellowish white flakes. A solution of sulphate of iron changes its colour to a deeper green, and after many hours gives a precipitate of the same hue. The ethereal tincture has the same golden colour, affords resin when evaporated, and is affected by the same reagents as that of the pale cinchona; but the water on which it is evaporated is less highly coloured. The alcoholic tincture appears to be in every respect the same as that afforded by the pale bark. It seems to agree in most of its properties with the first species examined by Vauquelin; which he states was brought to Spain in 1788, and, owing to its having been used for the royal family, got the name of royal cinchona.

"Mutis and Zea regard this as the only species of cinchona which is directly febrifuge; and assert that it never fails to cut short an ague when administered at its accession.‡

"3. CINCHONA OBLONGIFOLIA. *Mutis.*

"*Officinal.* CINCHONÆ OBLONGIFOLIÆ CORTEX *Lond.* CINCHONA OFFICINALIS, CORTEX. C. *ruber. Edin.* CORTEX PERUVIANUS. *Dub.* Oblong-leaved Cinchona Bark. (The red Bark of the shops.)

"The tree yielding this bark is found on the Andes, growing in the

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* The name *Calysaya* is the generic name by which the Peruvian Indians distinguish the superior barks. *MS. of Dr. Devoti.*

† These are distinguished in commerce by the terms *Calisaya with coat*, and *Calisaya without coat.*

‡ *Annales de Historia Natural*, ii. 209.

woods on the banks of the mountain streams, in great abundance, at Chinchao, Cuchero, and Chacahuassi; flowering in June and July. It rises to a very considerable height on a single, erect, round stem, which is covered with smooth, brownish ash-coloured bark. The older branches are round, smooth, and of a rusty colour; the younger are obtusely four-cornered, leafy, and of a diluted reddish colour. The leaves are opposite, large, the full sized ones being one or two feet in length, of an oblong oval shape, and supported on short semiround purple petioles. They are entire, pale, on the upper surface shining, on the under veined, with veins that turn to a purplish colour; and at the base of each are numerous bundles of white bristles: the stipules are supra-axillary, interfoliaceous, opposite, contiguous, united at the base, and of an obovate figure. The flowers appear in large, erect, much compounded terminal panicles, somewhat branched, on long brachiated many-flowered peduncles. The calyx is small, five-toothed, and of a purple colour; the corolla white and odorous, with the limb spreading, and hairy within: and the filaments are inserted into the tube of the corolla, and support oblong anthers bifid at the base. The capsules are large, oblong, obscurely striated, slightly curved, and crowned with the calyx.*

This tree is named in the vernacular Spanish *Cascarilla de flor de Azahar*, from the flowers resembling in odour those of the orange; and its bark is the *Quina roxa* and *colorada* of commerce. The bark is brought to this country in chests, which contain from 100 to 150 lbs. each. It consists of large thick pieces, covered with a thin and rough entire reddish brown epidermis. The greater number of the pieces is flat, but some are partially quilled, as if taken from half the circumference of the branches to which they belonged. Under the epidermis there is an intermediate layer, which is dark coloured, compact, brittle, and seemingly resinous; and within it the internal part is woody, fibrous, and of a rust-red colour. The fracture, examined by a lens, consists of close longitudinal parallel needle-form fibrillæ of a pale red colour, with a deep red agglomerated powder in the interstices. The powder is of a deeper colour than the internal part of the bark.

"*Qualities.* Red cinchona bark has a weak peculiar odour; and its taste is much less bitter, but more austere and nauseous, than the two former species. The aqueous infusion has a pale ruby colour, a slight degree of bitterness, and a decided astringency. It reddens litmus paper†, is slowly precipitated by the solution of galls, the supernatant liquor being perfectly colourless; and a very light, flocculent, ruby-coloured precipitate is produced by the solution of isinglass: it is not altered by tartarized antimony, nor by the seperacetate of lead; and the sulphate of iron makes it assume a dirty yellow olive colour only, without being precipitated. The ethereal tincture is of the same colour, and exhibits the same appearances as that of the two former species, when treated in a similar manner. The alcoholic is of a very deep brownish red colour; when diluted with water a red flocculent

* *Flora Peruv.* ii. 53. *t.* 196.

† Fourcroy found in it a portion of citric acid, some muriate of ammonia, and muriate of lime. See *Thomson's Chem.* v. 216.

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matter falls down; and it precipitates the solutions of sulphate of iron, and of tartarized antimony, the former of a black colour, and the latter red. It comes nearest to the second species examined by Vauquelin, which he calls *Santa Fe cinchona*; and differs from his *Cinchona magnifolia* in reddening litmus paper, and precipitating tannin.

This bark was introduced by Don Sebastian Josef Lopez Ruiz, in 1778; and is considered by Zea and Mutis as the least directly febrifuge of the three kinds we have described.

"The most complete examinations of cinchona, with the view of discovering on what principle its febrifuge properties depend, have been made by Vauquelin and Fabroni. The former divides all the different species of cinchonas into three sections relative to their chemical properties*. The first comprises those which precipitate tannin, but not animal gelatine; the second, those which precipitate gelatine, but not tannin; and the third, those which precipitate at the same time tannin, gelatine, and tartar emetic. He conjectured that on the principles producing these effects, particularly that which precipitates infusion of galls, the febrifuge properties of the barks depend, and that they are more or less remarkably febrifuge, in proportion to the quantity of these principles that are present. He asserts that the principle which precipitates tannin is of a brown colour and bitter taste; is less soluble in water than in alcohol; and it also precipitates tartarized antimony, but not glue†. It has some analogies with the resinous bodies, although it furnishes ammonia on distillation: whilst the principle which in some cinchonas precipitates glue has a bitter and astringent taste; is more soluble in water than the principle, which in other kinds precipitates tan; and that it is also soluble in alcohol, and does not precipitate tartar emetic‡. Fabroni conceives that he is authorized to conclude from his experiments, that "the febrifuge virtue does not belong essentially and individually to the astringent, the bitter, or any other soluble principle, as the quantity of these increases by long boiling, while the virtues of the decoction decrease. Nejther does the febrifuge virtue reside in that principle which destroys the emetic property of tartarized antimony, or precipitates iron, since the decoction contains more of it than the infusion, while its virtues are evidently less§." Hence we may conclude, from these doubts and many others that have been raised, that much is yet to be done before the effective principle of cinchonas in the cure of fevers be ascertained‖. We may, however, venture to state the

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* He examined 17 different kinds, but was not able to ascertain the names of the trees from which they were obtained.

† The effect of this principle was first noticed by Dr. Maton; and soon after by Seguin, who immediately concluded that it was gelatine; but this opinion was proved to be erroneous by Dr. Duncan, jun. who found that it was a principle sui generis, and named it *cinchonin*. Vide *Nicholson's Journal*, vii. 226.

‡ *Annales de Chimie*, l. c. § *Edinburgh Medical and Surgical Review*, ii. 338.

‖ In consequence of a chemical theory of the mode in which cinchona acts on the living body, Fabroni made some curious experiments to ascertain the relative affinity of different cinchonas to oxygen. In imitating his experiments with the three officinal species, we found that when half a drachm of each of these barks in powder was separately mixed with half a fluid ounce of strong nitric acid, in similar vessels, the temperature of the atmosphere at the

following as the known active constituents of cinchonas: *cinchonin*, *resin*, *extractive*, *gluten* or *ferment*, *volatile oil**, and *tannin*. I separated the *resin* in a pure state by evaporating the ethereal tincture on the surface of cold water; and the *gluten* Fabroni found was separable by water, occasioning the spontaneous fermentation of the decoction and infusion in summer, and decomposable by fermentation. They also contain several salts having lime for their basis, one of which, peculiar to yellow bark, Descamps, an apothecary at Lyons, discovered, and erroneously ascribed to it the febrifuge property of the bark. Vauquelin found it to consist of lime, and a peculiar hitherto unknown acid, which he denominated *kinic*, and therefore termed the salt a kinate of lime†.

"As cinchona bark occasionally varies in its powers, and is often adulterated with other inferior barks even by those who gather it; arising either from ignorance, or from a fraudulent desire of more quickly completing their contracts; it is of much importance to be able to distinguish good bark, and the best varieties from those of an inferior description. The following directions for choosing bark are those generally attended to in South America‡: The essential characteristics are *colour*, *taste*, and *smell*; the secondary or accidental ones are *exterior coat*, *fracture*, *weight*, *thickness*, and *quill*. The best bark of the first class is of an orange yellow colour; and the goodness decreases as the colour varies from this to a very pale yellow. When of a dark colour between red and yellow it is always to be rejected; as this colour designates either that it is of a bad species, or that it has not been well preserved from the air and moisture, which always diminish its virtues. This dark colour, however, must not be confounded with a red colour in the inside which constitutes a distinct species. The *taste* of bark should be bitter, but not nauseous nor very astringent, with a slight agreeable acidity just perceptible to the palate; and when chewed it should not appear in threads, nor of much length. The *odour* of any of the barks is not very strong; but when they have been well cured and preserved, it is always perceptible; and the stronger it is, provided it be pleasant, the better may the bark be considered. The appearance of the *coat* or epidermis has led to many mistakes. It is merely accidental; depending on the variation of the ground, and the exposure of the branches to the sun and air. Seven distinct appearances of the epi-

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time being 70°, and that of the acid 71°, in the space of four minutes the heat produced rose the mercury in the thermometer as follows:

Common pale bark,	— to	120°
——— yellow bark,	—	123°
——— red bark,	—	119°

The mixture was gradually swollen as the heat increased, and nitrous fumes were given out, showing the evident decomposition of the acid.

* Dr. Irwin first obtained a small portion of this oil.

† *Annales de Chimie*, lix. l. c. The name of the acid is derived from *kina kina*, an old appellation of the bark. Dr. Duncan proposes to call it *cinchonic acid*, as the present name would lead to the supposition that it is procured from kino.

‡ Extracted from a MS. in the author's possession, of *Don Felix Devoti*, a respectable physician at Lima, who has practised upwards of twenty-five years in South America.

dermis

dermis are remarked: 1. Negrillo, dark silver coat; 2. Crespillo, short curled; 3. Pardo-obscuro, dark open leopard gray; Pardo-clara, light open gray; 5. Lagartado, fine dark silver, lizard-like; 6. Blanquissimo, very pale; and 7. Ceniciento, ash coloured. The three first are the best, and belong to bark produced on the highest mountains: the others rank in the order of their arrangement; the epidermis being always cracked and rough in proportion as the trees have been exposed to a scorching sun. With regard to *fracture*, some of the worst barks break even and clean as if cut with a knife, and some of the best have always a more or less splintery fracture*. The fibres of the fracture being sharp and short indicate the bark to have been gathered from mature branches; the long and threadlike from immature branches. The best barks are generally observed to be the heaviest. In point of *thickness*, very thin bark is deficient in strength, owing to the branches from which it was taken having been too young; and very thick bark, particularly if it breaks like common wood, argues that the tree must have been sickly: yet bark exceeding a line in thickness may be good; for although it is disapproved of at Cadiz, under the name of quinon, yet excellent effects have resulted from much thicker bark in England. The moderately thick and firm bark is always preferred at Lima. The moderate *quill* of bark certainly denotes it to be of the best kind, and that it has been taken from branches of a proper age, and well dried; but the bark collectors often produce this effect by fire, when there is a want of sun, as is frequently the case in some parts of the mountains. The fraud is known by the colour being much darker; and, when the bark is split, the inside exhibiting stripes of a whitish sickly hue.

"*Medical properties and uses.* Cinchona bark is a powerful and permanent tonic, possessing also antispasmodic and antiseptic powers; and is undoubtedly superior to all other remedies in counteracting febrile action, and restoring strength and vigour to morbidly weakened states.

"The stories which are related regarding the discovery of its febrifuge effects appear to be founded on fiction, and are unworthy of notice; but it is probable that the Peruvians were acquainted with its powers before the conquest of their country by the Spaniards, and from them the knowledge of it must have been acquired by their conquerors. It was, nevertheless, little known by Europeans, until the countess of Cinchon, wife of a viceroy of Peru, was cured by it at Lima of a tertian ague, in 1638; after which its fame beginning to spread, it was taken to Italy in 1649, and through the means of cardinal De Lugo and the Jesuits was distributed over the continent†. It was in repute in England in 1658; but owing to its high price‡, or some other cause, it was very little used, till Talbor, an Englishman, again brought it

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* The idea of a resinous fracture being the characteristic of good bark originated when its virtue was supposed to depend on the resin it contained.

† Morton gives the above account on the authority of Bollus, a Genoese merchant, who had lived long in Peru, "autor fide dignus." *De Febribus Intermit* c. vii.

‡ It was sold at first by the Jesuits for its weight in silver; and Condamine relates that, in 1690, several thousand pounds of it lay at Piura and Payta for want of a purchaser. *Mémoires Acad. Roy.* 1738.

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into vogue by the many cures he performed with it in France, under the name of the *English remedy*, and his secret of preparing and exhibiting it was purchased by Louis XIV. and made public. Hence the origin of some of the appellations it has had: as *Cortex* and *Pulvis Comitissæ; Cortex* and *Pulvis de Lugo; Jesuit's bark;* also on account of its effects, *Palos de calentura*, or fever wood; and, from the place whence it was first brought, *Peruvian bark.*

"It was introduced into practice for the cure of intermittent fever, and still retains the reputation it acquired as a remedy for that disease; although, owing to peculiar idiosyncrasies and other accidental causes, it has occasionally failed in this country in agues which were afterwards removed by other remedies, particularly arsenic. Some of these failures may perhaps have arisen from the kind of the bark employed: for notwithstanding the generally received opinion, that all the kinds of bark may be indifferently used, one for another, yet there is some reason for the assertions of the Spanish and American physicians, that they vary in other respects besides their degree of activity. By them the yellow bark, *calisaya, quina naranjada**, is considered as directly febrifuge, and the best adapted for the cure of ague: the pale bark, *quina amarilla*, as only indirectly so, and better fitted for slow fevers and chronic debilities; while the red, *corolada, quina roxa*, is only fit to be used in cases of gangrene†, as its use is apt to be followed with disgustful nausea, severe vomiting, and insupportable colic. The differences of opinion with regard to the best time of giving it are now nearly settled. Boerhaave‡ and others recommended that the fever should be allowed to run on for some time before it was administered; but it is now generally agreed that the bark cannot be given too early after the stomach and bowels are cleared by an emetic and cathartic. Dr. Cullen recommended the exhibition of it in a large dose or doses immediately before the accessions§; but Morton's method of giving it directly after the hot stage of the paroxysm ceases, and repeating it in increased doses during the intermission, until the cold stage again returns, is now generally adopted. It may be safely given during the paroxysm, as practised by Dr. Clarke of Newcastle, but many stomachs are apt to nauseate it at that time.

"In remittent fevers cinchona is found equally efficacious, the bowels however requiring to be kept more open. It renders the remissions distinct, and by degrees checks altogether the febrile action. In other affections depending on a similar state of habit, as hemicrania, periodical pains, spasms, chorea, hysteria, epilepsy, passive hæmorrhagy, and in habitual frequently returning coughs, it is also found useful: but it does not prevent the continuance of those paroxysms of ague which form one of the constitutional symptoms of stricture of the urethra, and some other local affections; and which can be removed only by removing the strictures and other sources of irritation.

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* According to Condamine, this was the bark first introduced in Europe. He says it yields by incision a yellow odorous resin; and that the Jesuits of La Paz (whence the best bark of this species is still obtained) used to gather it with care, and send it to Rome, where it was specific in agues. But the Loxa bark coming to Europe soon after, the two kinds were confounded together.

† Zea, *Anales de Hist. Nat.* l. c. Rushworth discovered the efficacy of the red bark in gangrene.

‡ *Aphorismi, &c.* 767.

§ *Mat. Med.* ii. 37.

"In continued fevers of the typhoid type, particularly when these are attended with symptoms of putridity, as in jail fever, cynanche maligna, and scarlatina maligna, confluent small-pox, and in putrid measles, the bark must be regarded as one of the most valuable remedies. The administration of it in pure typhus has been of late years delayed till the increased excitement is presumed to be subdued, and symptoms of great debility make their appearance, or until the morbid heat be carried off, and the skin opened. Several eminent modern physicians*, however, recommend it to be given early in the disease, and persevered in; but from our own experience we are inclined to consider the former the safer practice, and believe that the best effects will be produced from the cinchona, when its use, in pure typhus, is not begun till the skin becomes moist, the tongue is in part cleaned, and the urine deposits a critical sediment. In the other febrile diseases, however, above mentioned, it should be given in as large doses as the stomach will bear, as soon as the typhoid symptoms become evident, and continued through every period of the disease.

"Cinchona was first conjectured to be useful in gout by Sydenham, and in some cases its efficacy is sufficiently evident. In acute rheumatism also, Dr. Haygarth has lately strongly recommended it to be given, after the manner of Morton, Hulse, and Fothergill, from the commencement of the disease; the stomach and bowels being previously emptied by means of antimonial preparations. In our own practice we have found it useful only after the liberal exhibition of calomel, tartarized antimony, and opium, when the pains have in some degree abated, and the pulse has become softer.

"In phthisis, bark is found beneficial when the accompanying hectic puts on more of the intermittent form than usual; when the debility is considerable, and blood is mixed in the sputa: and in several cases of pneumonia, when, after repeated large bleedings and evacuations, the pulse continued hard and thrilling, and the blood buffy, although the expectoration was free and the skin open, we have seen bark produce the happiest effects.

"In various cutaneous diseases, as lichen agrius, and lividus, and purpura†; in erysipelas, and extensive ulcerations both from common inflammation and venereal affections‡; in the termination of all acute diseases after the urgent symptoms are subdued; and in dyspepsia, chronic debility, and nervous affections, the use of cinchona is found to be of the greatest advantage.

"As a local remedy, bark is sometimes used in the form of gargle in malignant sore throat and aphthous affections; and as a wash to fœtid gangrenous sores. Powerful effects also are said to have been produced upon the system by frictions with the extract, softened by saliva or oil, upon the thighs and other parts of the body; but Denman says he found no advantage from its use as a clyster in the low state of puerperal fever, in which it has been highly extolled. It may be efficaciously administered per anum, when it cannot be taken into the stomach.

Cinchona bark is administered in a variety of forms. (See *Prepa-*

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* *Clarke* of Newcastle, *Heberden.*

† Willan. ‡ Pearson.

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rations and Compositions.) In substance it is reduced to the state of an impalpable powder; and although it loses some of its activity during the process of pulverization, yet, when it can be retained on the stomach, this is the best form of the remedy*. If it excite nausea or vomiting, or operate as a cathartic, or occasion costiveness, these inconveniences may in some degree be obviated by combining it with aromatics, opium, or a cathartic, as the circumstances direct: or some of the lighter preparations, in which its active principles are supposed to be extracted, and free from the grosser parts, may be employed. The powder is given mixed in wine or water: or, when the taste is an objection, in milk, or syrup, or a solution of extract of liquorice, which effectually cover the taste, provided the dose be taken directly after it is mixed.

The dose of the powder is from grs. v. to ʒij. or more. In intermittents the full dose is sometimes given at first; but in other diseases grs. v. x. or xv. are sufficient to commence with, the dose being repeated every two, three, or four hours, and gradually increased, until one or two ounces, in some cases be taken in twenty-four hours.

Officinal preparations. *Infusum Cinchonæ.* L. E. D. *Decoctum Cinchonæ.* L. E. D. *Extractum Cinchonæ.* L. E. *Extractum Cinchonæ resinosum.* L. D. *Tinctura Cinchonæ.* L. E. D. *Tinctura Cinchonæ composita.* L. E. D. *Vinum Gentianæ compositum.* E.

4. Cinchonæ caribea.

Officinal. ——CORTEX. *Edin.* The bark of Caribean Cinchona.

The tree which yields this bark is found in Jamaica and the Caribbees, growing near the sea-shore† It rises twenty feet, sometimes fifty feet, in height, with a trunk of a small diameter, but very hard, tough, of a yellowish white colour in the inside, and covered with a cineritious bark. The branches are round in the lower part, but somewhat compressed above, of a brownish purple colour, and sprinkled with ash-coloured points. The leaves, which are on very short petioles, are of a rusty green colour, egg-shaped, pointed, entire, smooth, and veined; with small pointed stipules broader than they are long, and ciliated. The flowers are solitary, on axillary opposite peduncles the length of the petioles; the calyx is small and five-toothed; the corolla smooth, of a dusky yellow colour, with a slender tube nearly an inch in length, and the segments of the limb of the same length, and linear. The filaments are the length of the corolla, and consequently project considerably out of the tube. The style is as long, with a thickish undivided stygma; and the capsule oblong, smooth, of a black colour when ripe, and bivalvular.

Very little of the bark is brought to this country, so much so, that we could scarcely procure a specimen of it in the London shops. It is in pieces about eight inches long, about an eighth of an inch in thick-

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* Fabroni says, "Cinchona loses its solubility, and consequently its activity, by long exposure to the air, and by pulverization long protracted with the view of rendering it as fine as possible. From $\frac{12}{100}$ to $\frac{16}{100}$ are obtained from bruised cinchona, which in fine powder yields only $\frac{6}{100}$ or $\frac{7}{100}$ to water.

† *Wright, Phil. Trans.* lxvii. 504. *t.* 10. *Lambert's Description of the Genus Cinchona*, 24. *t.* 4.

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ness, and quilled; with a brownish-gray epidermis, covered with white lichens.

Qualities. This bark, when chewed, has at first a sweetish taste in some degree resembling the flavour of horse-radish; but becomes afterwards very bitter, austere, and nauseous.

Medical Properties and Uses. The Caribean cinchona bark is tonic, and, according to Dr. Wright, who first introduced it, may be advantageously used in all cases where Peruvian bark is indicated.

[To be continued.]

The Edinburgh Medical and Surgical Journal, No. XXVII. *July*, 1811.

ART. I.—*Cases of Ruptured Spleen and Liver by external Injury, with Remarks thereon. By* C. CHISHOLM, M. D. F. R. S. &c. &c.

FATAL injuries of internal organs frequently occur, and when unaccompanied by marks of violence, the original cause of the mischief often escapes observation, and the patient is treated for some general disease. Thus, blows on the region of the liver or spleen have occasioned a series of symptoms terminating in death; the integuments not being injured, and the patient not recollecting the accident, the origin of the morbid action has not been suspected. The learned writer of the article before us, during an extensive practice in the West Indies, had several opportunities of witnessing such occurrences; and since his return to this country, has been enabled by his experience to direct an appropriate and successful treatment in cases which might have been fatal, had he not suspected the cause. He has, therefore, with the laudable view of instructing others, published the following interesting cases from his West India Journal.

"On the evening of the 27th July 1792, Joseph Morton, a gunner of the royal artillery, aged 25, of a moderate height, naturally strong-constitution, but for a year before frequently harassed with dangerous attacks of remittent fever, and by trade a blacksmith, carrying on his back a bag containing eighteen gallons of dry peas, down the declivity of a hill of a moderate ascent, fell with his left side, exactly the region of the spleen, on a large stone. That evening, and all the following morning, the fall occasioned so little uneasiness, that he was able to work at the forge: but afterwards he became very feverish, and so oppressed with pain in his left side, the epigastrium, and lower extremities, as to be obliged to desist. On the evening of the 28th, he was brought to the Ordnance Hospital, when I found him much in the situation mentioned. I bled him very freely, which, however, so far from giving him relief, seemed to increase his fever to an outrageous degree of delirium. Upon this, imagining that there might be more of a ner-

vous excitement than of inflammatory diathesis, I ordered him a pill of gr. i of opium, and gr. ij of James's powder. This gave him no relief. A second pill was given two hours after the first; and half an hour after taking it, he became calm, and fell into a profound sleep. On the morning of the 29th he had still much fever, but the pains were considerably abated. To remove the fever, he took saline mixture, with small portions of sweet spirit of nitre and antimonial wine. On the 30th he complained of pain in his throat, and excessive difficulty in swallowing. For these a blister was applied between the shoulders; and to obviate costiveness and some remains of fever, a solution of Glauber's salts and tartar emetic was given with desired effect. On the 31st all his symptoms had disappeared, and he felt himself apparently easy and well. About midnight, however, he suddenly became delirious with burning fever, and such an increase of pain in his left side particularly, as to render even the gentlest touch insupportable. I should have mentioned that during all the 31st he took a good deal of bark and wine, which towards evening his stomach rejected. On the 1st of August he was in this state, his skin parched and dry, and his pulse irregular, tremulous, and frequently intermitting. In addition to all this, irritability of the lower extremities excessive, with sudden spasms of the muscles; anxiety great, with grievous moaning. In pretty nearly this state he continued till one P. M. when he expired. The heat of his skin increased to an astonishing degree some time before his death; and even two hours after, when I examined the body, the heat of the abdominal cavity, and its contents, was extremely disagreeable, and of such a penetrating nature, as to leave a painful sensation on the hand some time after withdrawing it.

"I opened the body in the presence of Lieutenant Swiney of the artillery, and Mr. Campbell my assistant. I found all the intestines, the liver, kidneys, diaphragm, and heart, in a healthy state. But on the posterior superior convex side of the spleen, there was a rupture through the whole of its substance, at least two inches in length, the edges of which had a florid appearance in some places, and in others something like sphacelus could be perceived. The spleen itself was of a considerable size, but in other respects had no appearance of disease. The lungs were evidently much inflamed. All the ribs were sound, and the integuments had nowhere any mark of injury, except an almost imperceptible discoloration immediately over the spleen."

The second case was a soldier who fell from a height on the edge of a form. He complained of internal pain in the side, but no external injury could be perceived; and camphorated spirit of wine being applied, in a few days the pain ceased. No fever took place till the 11th of August, about three weeks after the accident, when the symptoms resembled those of endemic remittent fever. For this he took mercury in the following form: R. Nitri ℈j. calomel gr. iv. tart. emet. gr. ¼. camphor gr. v. M. ft. pulvis, 4 ter in die sumendus.

In the evening of the 12th, besides the four powders, he had a bolus with six grains of calomel; and on account of his

his fall, was bled freely. On the 13th, complaining of much pain in his neck, back, and head, a large blister was applied between the shoulders.

" 'The powders hitherto had acted merely as deobstruents, producing most copious and frequent bilious stools. On the 14th much easier, but stomach rather irritable, for which he took saline draughts with a large proportion of the alkali. 15th.—Still better, except the irritability. Had two pills of opium of gr. i each, and swallowed two ounces of bark, but soon after vomited them. 16th.—Irritability the same; a yellow suffusion on the albugineæ of the eyes; some degree of wildness in the stare of them, but perfectly cool and moist, and pulse natural, both in fullness and quickness. A blister was applied to the stomach, with a repetition of the opium. 17th.—The blister produced a total change in the state of the stomach; so that from the 16th, on which it was applied, till the 20th, on which the patient died, he retained every thing that was given to him; but the fever returning this day, blisters were applied to the inside of the thighs, and an opening draught given to him: the yellowness still increasing. 18th.—The yellowness has gradually diffused itself over the whole surface, attended with remarkable dryness of the skin; pungent disagreeable heat; some derangement of intellect; parched mouth and tongue; black crust on the latter; saffron-coloured urine; and very fœtid frequent stools. Stomach remarkably retentive, which, under the present circumstances, is a very extraordinary symptom. Considering the disease now as a true yellow remittent fever, I gave the patient the following mixture, which on former occasions, in nearly similar circumstances, produced the best effect when used at this period of the disease. R. Sal. tart. ʒij. succ. limon, ʒi. pulv. rhei, ʒi. pulv. cort. Peruvian. ʒij. aq. ℔. i . M. cyath. sumend 3. q. q. horâ. And I continued the calomel gr. v. cum opii gr. i. also four times in the day. 19th.—The bark mixture was repeated without the lime juice on account of the mercury; symptoms continue; almost always in a comatose state; body very open; thirst not very urgent; tongue as before. Hitherto his strength has been so little impaired that he has been able to walk alone to the night chair. Sinapisms applied to his feet, and blisters to his ancles. Observed that although these and the former blisters rose well, they occasioned so little pain, that he did not seem to feel them. 20th.—The mixture and pills were assiduously continued throughout the whole night, without creating the smallest degree of nausea; yet every thing worse. About a quarter past nine P. M. he died.

" 'I opened the body on the morning of the 21st, and as I suspected all along a morbid affection of the liver, I directed my inquiries chiefly to that viscus. Nothing could have surprised me more than the appearance it assumed. And perhaps there exists not in the annals of medicine a more curious fact than that I am going to describe. The integuments exhibited no mark of injury. On the convex side of the right lobe of the liver, I found a crucial cicatrix, one of the lines of which was in length an inch and an half, the other only an inch. At the extremity of the longest line there was a circular grangrene about two inches in diameter. On cutting open these, I found that the cicatrix penetrated about an inch into the substance of the liver, and was altogether of a

semicartilaginous consistence, or something between ligament and cartilage. The grangrenous portion was at least an inch deep, and resembled rotten cork. This remarkable appearance on the liver was immediately under that part of his side on which he fell; and on more particular inquiry, I found that the corner or angle of the form or bench was that on which he fell, a circumstance which accounts for the crucial form of the cicatrix. All the other viscera were in a sound state, only the liver itself was much larger than usual.'

"I find two cases, recorded in the year 1784, of sailors, of the port of St. George, Grenada, the disease in both of which was occasioned by a violent blow on the back, inflicted by tyrannical captains. One of these, by not carrying bleeding to a sufficient length, died. The other, in consequence of very copious bleeding, recovered. In both the more violent symptoms did not come on till fully a month or more after the injury was received; and in both the most prominent of these were, violent pain in the throat and breast; difficult deglutition; headache; vertigo; rigidity, and a considerable degree of insensibility of the lower extremities; obstructed respiration; and a pain stretching circularly from the pit of the stomach around the abdomen to the back, and a sensation in the region of the stomach, similar to a force drawing that part of the abdomen towards the back with great violence, and straitening of the thorax. Pulse full and quick, and surface hot and dry. In the body of the sailor who died, I found the coats of the stomach of an uncommon thickness; and all the vessels having the appearance of a preparation well injected with wax. The small intetines were sound. The great arch of the colon was considerably inflated, and its blood-vessels were turgid; and the whole of its external surface had the same appearance as that of the stomach. The interior surface was either blackish, dark-brown, or dark-red, and loaded with a dark-coloured mucus. The villous coat was in most places in a dissolved state. On removing this, small hard black rough excrescences, somewhat of the nature of eschars, appeared, adhering firmly to the cellular coat. The liver was uncommonly small, and of a grey cineritious colour. It is remarkable that in these cases, the blow was inflicted in one a month, in the other two months, before any symptoms appeared, the appearance of which rendered medical aid necessary; that both patients firmly attributed their complaints to this injury; and that they had been in perfect health before the infliction of it; and that no external injury could be perceived on the part struck."

During the four years in which Dr. Chisholm has been in practice at Clifton, he has met with a few cases, the cause and early symptoms of which were similar to those of Morton and the soldier. The fatal consequences, however, which might have resulted, he thinks, were prevented by immediate bleeding to a large extent, exciting gentle ptyalism, keeping the patient tranquil, and obviating torpor of the bowels. In accidents followed by pain, uneasiness, or pyrexia, whateyer organ be injured, bleeding and purging will doubtless prove beneficial; we believe, in this country the practice is universally adopted: but we cannot imagine that it will prevent fatal consequences,

consequences, when the liver is actually ruptured; neither do we concur in the utility of exciting ptyalism in all such cases; what benefit could be derived from it in laceration of the spleen?

Dr. Chisholm concludes his ingenious paper with a disquisition upon the function of the spleen and a case of splenitis.

ART. II. *Case of Erythema Mercuriale.* *By* ALEXANDER RAMSAY, Assistant-Surgeon in the East India Company's Service.

THE complaint which forms the subject of this communication has of late years attracted considerable notice, and has been described by different writers under various titles. Dr. Moriarty named it *Mercurial Lepra;* Dr. Spens and Dr. M'Mullins, *Erythema Mercuriale;* Mr. John Pearson, *Eczema Mercuriale;* and Sir George Alley, in a genteel quarto with elegant plates, has called it *Hydrargyria.*

The disease is very uncommon in India, and the case reported by Mr. Ramsay is the first which occurred to him, although much in the habit of prescribing mercury.

"Bechook Singh Sipahee, æt. 21, a stout healthy lad, was admitted into the hospital on the 6th April 1810, with a gonorrhœa and small chancre on the prepuce. He was ordered to use an injection of the acetate of zinc, and to take a pill containing three grains of the submuriate of mercury at bed-time. This he continued till the 12th, when he was directed to rub half a drachm of the unguent. hydrargyri into the thighs every evening. His mouth became considerably affected, in consequence of which, about the 18th the calomel was omitted. About this time also, a number of red points appeared on the inside of his thighs, which he complained of on account of the itchiness which they occasioned. These gradually increased in number, and extended over the whole thighs, genitals, and loins; appeared on the arms and sides of the chest and neck, and were accompanied with great heat. The man was naturally very black; the eruption was a dirty light red colour; did not appear to contain a fluid; was perfectly distinct, and the tops of the papulæ were completely flat. The salivation entirely ceased; his mouth and throat were swelled, and he had complained of a difficulty of swallowing for some days before. He became feverish, and had a severe headache."

The eruption was very different from any venereal one, or from any kind Mr. Ramsay had ever seen. The mercurial friction was discontinued, and the patient was ordered to take a calomel pill morning and evening.

April 24th. The eruption increased, was rough to the touch, and extended over most of the body except the breast. No return of salivation; face and fauces much swelled; hot and feverish; tongue foul. The calomel was increased to

four

four grains each dose; and he took thirty drops of laudanum at bed time.

26th. "Eruption and fever increased; pulse 120; difficulty in voiding urine; has left off the injection for some days; no salivation; belly costive. Ordered a small dose of rhubarb, with ten grains nitrate of potass. Cont. alia."

On the 30th the eruption, exudation, and fever, having increased, Mr. Ramsay began to suspect that they were occasioned by the remedy which he employed. He therefore discontinued the mercury, and gave bark. During the following month the patient suffered extremely from a *horridly* offensive discharge from most parts of the body, which, by drying on the surface, formed incrustations. The pulse kept up about 120; strength much reduced, tongue furred, restless nights; the appetite very great. His distress was increased by a large boil on the spine of the left ilium, which having broken, was succeeded by another in the right axilla.

From the 2d of June he continued to recover gradually, and by the 10th of July appeared perfectly well; but Mr. Ramsay not being certain that the venereal taint was eradicated, and wishing to ascertain whether the erythema would recur on renewing the mercurial action in the system, again put him on a course of mercury. Salivation was soon excited, and in the space of a month the eruption appeared nearly as before; the mercury was discontinued and in a few days the eruption and exudation disappeared, and the general health was good.

Art. III. *Analysis of the Cactus Coccinillifer.* *By* John Bostock, M. D. Liverpool.

The cactus coccinillifer has been recommended as an article of nutrition, and especially as possessing antiscorbutic properties. The analysis of it was undertaken by Dr. Bostock to ascertain whether it contained citric acid.

"A portion of the leaf of the cactus, which weighed 100 grs. was cut into small pieces, and was then strongly agitated in a bottle with ʒi of water. It was then squeezed through a linen strainer, and nearly one ounce of a mucilage was procured, which was of about the consistence of albumen ovi, and was so tenacious, that it was scarcely possible to divide it into separate portions. Another ounce of water was then added to it, and it was again strongly agitated in a bottle, by which means it was reduced to a consistence similar to that of the serum of the blood, and in this state was made the subject of experiment. The residue of the leaf, that had not passed through the strainer, weighed 73 grs. but after being some time exposed to a gentle heat, it was reduced to a little more than 5 grs. The mucilage was nearly transparent

transparent and colourless, and without any peculiar taste or smell. It remained for a considerable time exposed to the atmosphere, without undergoing any alteration, but gradually it deposited a small quantity of a flocculent matter, and acquired a slightly putrid odour. Although the consistence of the mucilage appeared to be very nearly the same with that which is produced by dissolving one part of gum Arabic in ten parts of water, yet it was found, upon evaporation, to contain not more than 1-100th of its weight of solid contents. There was an obvious difference between the consistence of the cactus mucilage and that from gum Arabic; a difference which, I conceive, will be comprehended, by stating that the latter is more glutinous, and the former more tenacious. In this respect the mucilage of the cactus approaches to that of linseed. The mucilage, although it appears to be indefinitely soluble in water, is not easily incorporated with it; but by strong agitation in a bottle a complete union may be formed. By the test of litmus, the mucilage was found to be very slightly acid. The quantity of acid was so small, that 250 grs. had its acid apparently neutralized by one drop of a solution of potash, formed by dissolving one part of the kali purum of the pharmacopœia in four parts of water; the addition of three drops caused the mucilage to be decidedly alkaline. This acid could not be the oxalic, because the oxalate of ammoniac threw down a minute quantity of a powdery precipitate, proving that the fluid contained lime. In order to ascertain whether this lime was united to an excess of citric acid, lime water was gradually added to convert the supercitrate into the citrate of lime, but no precipitate was produced. To try whether it was the tartaric acid which existed in the mucilage, potash was added very gradually, but no precipitate was formed. I do not, indeed, conceive that these experiments prove the absolute non-existence of either the citric or tartaric acids, because the methods employed for detecting them do not appear applicable to discover them when in very minute quantity. This, indeed, appeared to be the fact; for when very dilute solutions of the citric and tartaric acids were formed, neither the lime water in the one case, nor the potash in the other, threw down any precipitates. I conceive, however, that we may be warranted in concluding, that the power of the cactus coccinillifer does not depend upon any acid which it contains. I afterwards examined the action of some of the reagents, which I had formerly found to produce peculiar effects upon different vegetable mucilages. Although lime-water did not throw down any of the powdery precipitate which indicated the formation of the citrate of lime, yet I observed, that after lime-water had been for some time in contact with the mucilage, the sides of the glass were coated with what appeared to be small particles of gummy matter; and I found the same effect to be produced in a greater degree by barytes water. It would appear to arise from a weak action between the mucilage and the earth, by which a partial separation is produced of the vegetable matter from the water that holds it in solution. When alcohol was added to a mucilage of about the consistence of serum, that is, when it contained about 1-200th of its weight of solid matter, the two fluids were incorporated by agitation in a bottle, without any visible change being effected; but when the mucilage contained 1-100th of its weight of solid matter, the alcohol separated it in the form of a

spongy

spongy mass, without rendering the fluid in any degree opaque; in this respect agreeing with the mucilage of linseed, and differing from that of gum. The oxymuriate of tin, and the nitrate of silver, also formed a spongy precipitate, while the acetate of lead produced a copious dense precipitate. Silicated potash, the oxysulphate of iron, and the nitrate of mercury had no effect on the mucilage

These experiments show, that the substance which enters so largely into the composition of the cactus coccinillifer is, in most respects, similar to the mucilage of linseed, and that, if the distinction which I formerly* pointed out between gums and mucilages is to be considered as having any foundation, the substance in question must be placed in the latter class."

(*To be continued.*)

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

We have been favoured by Mr. Wilson, No. 39, Strand, with a specimen of the nut of the Sassafras tree, of which a quantity has recently been imported from South America. It contains a considerable portion of the essential oil of Sassafras; is highly fragrant; and is strongly recommended as a grateful nutritious article of diet; it may be taken in substance, or in the more agreeable form of chocolate. It is said to be very beneficial in restoring exhausted strength; in cases of impaired appetite; asthma; and some cutaneous affections. In a future number we shall hope to detail further particulars of this article.

The Editors have received from Mr. Want the following extract of a letter from Mr. Mitchell, of Weddon, Somersetshire, formerly an eminent practitioner in that neighbourhood.

"I have read your paper on gout, published in the Med. and Phys. Journal for September last, with much pleasure, and hope it will have a tendency to prevent our implicitly treading in the steps of our ancestors, however great their authority. I have long been a martyr to rheumatic gout, and for *several months past* had an attack of it on one side of the face, wihch commenced regularly every day at two o'clock, and continued about twelve hours. I took bark, arsenic, guaiacum, &c. &c. without producing the least good effect. One night I took some calomel and opium, which had no effect on the bowels as usual, but eating a plate of currants on the following morning, I was seized with *a diarrhœa*, which lasted many hours, but it completely carried off my complaint, and I have since had no return of it."

* Nicholson's Journal, 18, 38.

Prize proposed by *la societé de médecine de Bruxelles*, for 1812. At the meeting on the 6th of May 1811, it was determined that a gold medal, value 200 francs, shall be adjudged to the author of the best memoir on the following questions.

1. " Quelle est la nature et la cause de la maladie connue sous le nom de fievre jaune ?

2. " Quels sont les symptomes qui caractérisent essentiellement cette fièvre?

3. La jaunisse et le vomissement noir doivent ils être regardés comme des symptômes essentiels ou caractéristiques de cette maladie, ou seulement comme des symptômes accidentels ?

4. " Cette fièvre est-elle contagieuse ?

5. " Quels sont les moyens de s'en garantir ?

6. " Quels sont les moyens curatifs les plus efficaces ?"

The essays are to be written in Latin or French, addressed, post-paid, to J. J. Caroly, M. D. Secretary to the Society, before the first of May 1812. Each memoir must bear a motto, and be accompanied by a sealed note, containing the same motto, and the name of the author.—Esprit des Journeaux.

The following formula is given in l'Esprit des Journeaux, for March 1811, as an excellent febrifuge. The substances which compose it are well known, but their combination has never been published.—R. Mousse de corse mondée ʒij. Barbotine *(semen sántonicum)* ʒj. Sel d'Absinthe (potass. carbonateé) ʒss. Eau Commune lbi. Boil them for an instant, let the decoction stand till cold, strain and sweeten it with simple syrup, or syrup of lemon. The dose of this for children is two or three table spoonfuls, repeated several times in the day, or during three mornings fasting; in this case the portion is divided into three parts, and one is taken each morning successively. The decoction or infusion may be made with only ʒviij of water, and as much lait doux may afterwards be added.

The French Institute has proposed for the subject of a prize, a determination of the specific heat of gasses.

In Augsburg and its vicinity, which are celebrated for good beer, it is customary to put into each cask a small bag of the herb Bennet, (Geum urbanum.)

Dr. Thornton is disposing of his valuable collections on Botany, consisting of the whole impression, with the plates, drawings, and letter-press, of the illustrations of Linnæus, the collection of portraits of celebrated Botanists, the copy-rights, &c. &c. of his various publications on the same subject, by way of Lottery. The excellence of many of the portraits as paintings, independent of the subject; the taste displayed in the botanical drawings, most of them by Reinagle; the immense sum expended in making the collection, and on its publication, certainly entitle Dr. Thornton to a patronage in which, we hope, on this occasion, he will find an ample remuneration.

Theatre of Anatomy.—Lectures on Anatomy, Physiology, Pathology, and Surgery, by Mr. John Taunton, F. A. S. Member of the Royal College of Surgeons of London, Surgeon to the City and Finsbury Dispensaries, City of London Truss Society, &c.—In this course of Lectures it is proposed to take a comprehensive view of the structure and economy of the living body, and to consider the causes, symptoms, nature, and treatment of surgical diseases, with the mode of performing the different surgical operations; forming a complete course of anatomical and physiological instruction for the medical and surgical student, the artist, the professional or private gentleman.

An ample field for professional edification will be afforded by the opportunity which pupils may have of attending the clinical and other practice of both the City and Finsbury Dispensaries.

The Winter course will commence on Saturday, October the 5th, 1811, at Eight o'clock in the evening precisely, and be continued every Tuesday, Thursday, and Saturday, at the same hour.

Particulars may be had, on applying to Mr. Taunton, Greville Street, Hatton Garden.

Lectures on Surgery, and on Physiology.—Mr. A. Carlisle, F.R.S. F.L.S. Professor of Anatomy in the Royal Academy, and Surgeon to the Westminster Hospital, will begin his course of Lectures on the Art and Practice of Surgery, on Tuesday, October the 8th, at eight o'clock in the evening, at his house in Soho Square. The subject will be continued on Tuesdays, Thursdays, and Saturdays, at the same hour.

The diseases and accidents allotted to the province of Surgery will be fully treated of and illustrated by cases from the lecturer's experience. The different operations will be demonstrated, and the anatomy of the parts explained.

These Lectures combine views of the Natural History, Physiology, and Pathology of the Human Body, calculated to illustrate the several processes of healing, and to afford a compendious view of the animal economy. The introductory discourse will be open to all students.

London Infirmary for curing Diseases of the Eye.—J. R. Farre, Physician.—B. Travers, Surgeon. The practice of this Institution is open to Students. The terms of attendance may be known by application to Mr. Murley, 79, St. Paul's Church-yard.

Dr. R. Watt, of Glasgow, will begin his Winter course of Lectures on the Practice of Medicine, on Wednesday, the 6th Nov. at nine in the morning. On the same day, at ten in the morning, he will begin a separate course on the Theory of Medicine. Each course will continue five days a week for six months.

Mr. Allan Burns, of Glasgow, will commence his course of Lectures

tures on Anatomy, and on the Principles and Operations of Surgery, on Tuesday, the 5th of November, at five o'clock in the afternoon.

Dr. Paris will recommence his course of Lectures on Pharmaceutic Chemistry, on Tuesday, the 8th of October, at the Westminster Hospital, at eight o'clock in the evening. The plan of the course may be learnt by applying to Mr. Callow, or to Mr. Merrick, Apothecary of the Westminster Hospital, from whom a syllabus of the course may be obtained.

Dr. Merriman's course of Lectures on the Theory and Practice of Midwifery, and the Diseases of Women and Children, will commence on Monday, October 7, at his house in Curzon Street, Mayfair.

Dr. Squire will, on Saturday, the 5th October, begin a course of Lectures on the Theory and Practice of Midwifery, and the Diseases of Women and Children.

Particulars may be known by applying to Dr. Squire, 30, Ely-Place, Holborn.

Early in November, Mr. Allan Burns, of Glasgow, will publish "Observations on the Surgical Anatomy of the Head and Neck, illustrated by numerous cases and engravings." This work will be composed in one volume, 8vo.

In the Press.—Speculations, &c. on the effects of counter Irritation in a variety of Diseases of the Human Frame. By M. Brown, of Banbury.

Practical Remarks on Insanity; by Bryan Crowther, Surgeon to Bethlem Hospital.

In the Press, and shortly will be published, by James Gillman, Surgeon, Highgate, "An Essay on the Bite of a Rabid Animal;" being the Substance of an Essay which received a prize from the Royal College of Surgeons.

NEW FRENCH PUBLICATIONS.

Cour de Botanique et de Physiologie végétale, auquel on a joint une description des principaux genres dont les espèces sont cultivées en France, ou qui y sont indigènes; par L. M. Hanin, M. D. &c. in 8vo. 800 pages. Paris 1811.

Recherches-physico-chimiques, faites sur la pile; sur la preparation chimique et les propriétés du Potassium et du Sodium; sur la decomposition de l'acide boracique; sur les acides fluorique, muriatique et muriatique oxigéné; sur l'action chimique de la lumiere; sur l'analyse végétale et animale, &c.; par M. M. Gay-Lussac et Thenard, Membres de l'Institut, &c. 2 vol. in 8vo. avec six planches en taille-douce. Paris, 1811.

Traité de Pharmacie theorique et pratique, contenant les élémens de l'Histoire naturelle de tous les medicamens, leur preparations chimiques et pharmaceutiques, classées méthodiquement suivant la chimie moderne, avec l'explication des phénoménes, les propriétés, les doses, les usages, les details relatifs aux arts qui se rapportent à celui de la pharmácie, et à toutes les opérations. On a joint partout les comparaisons des nouveaux poids et mesures, une nouvelle Nomenciature avec les dénominations anciennes, des figures explicatives, et un grand nombre de tableaux; par J. J. Virey, pharmacien en chef à l'hospital militaire de Paris, &c. &c. 2 vol. in 8vo. Paris, 1811.

Nouvelles remarques sur les hernies abdominales; par M. Lordat, chef des travaux anatomiques de la faculté de médecine de Montpellier, &c. &c. Brochure de 30 pages Montpellier, 1811.

Nouvelles observations recueillies sur l'éléphantiasis des Arabes; lues à la Société de l'école de médécine de Paris; par M. Alard. Brochure de 38 pages avec une planche. Paris, 1811.

Essai de littérature médicale, addressé aux étudians de la faculté de médecine de Strasbourg; par D. Villars, doyen de la faculté. 8vo. Paris.

Philosophie médicale, ou vérités fondamentales de la médecine moderne; par Chortet, ancien médecin militaire de première classe, &c. 8vo. p. 212. Paris.

Traité d'Hygiène appliquée à la Therapeutique; par J. B. G. Barbier, M. D. &c. 2 vol. in 8vo. Paris, 1811.

An Account of Diseases in an Eastern District of London, from the 20th of August, to the 20th of September, 1811.

ACUTE DISEASES.		Leucorrhœa	5
Typhus	5	Dysuria	4
Scarlatina	3	Chlorosis	3
Peripneumonia notha	2	Hepatitis Chronica	1
Rheumatismus acutus	2	Rheumatismus Chronicus	5
CHRONIC DISEASES.		PUERPERAL DISEASES.	
Tussis	7	Menorrhagia Lochialis	4
Dyspnœa	4	Dolor post partum	7
Tussis cum Dyspnœa	6	Dysuria	3
Pleurodyne	3	INFANTILE DISEASES.	
Phthisis Pulmonalis	2	Convulsio	2
Hydrothorax	2	Herpes	5
Ascites	2	Tinea	3
Amenorrhœa	4	Dentitio	2

The disease which was particularly referred to in the last Report has for some time appeared less frequently. Scarlatina, though it still

still occasionally appears, seems to have lost the character of an epidemic. It cannot have escaped the observation of the attentive practitioner, that this disease is frequently succeeded by dropsical symptoms; and this has been exemplified in some of the instances referred to. In these, however, they have been mild, and no circumstance has yet occurred to produce any alarm respecting the termination of the complaint. There have been some appearances of a less common kind in some other cases; an eruption has taken place in different parts of the body, which has in two or three instances been very unpleasant in its appearance, and very difficult to cure. On the lips and nose of one child it spread so far as to change the character of the countenance, and materially disfigure him; and in another instance the right arm and hand were covered by a number of small ulcers, which were attended by an intolerable itching. These symptoms are likely gradually to subside, and may have proved a critical termination of the original disease, and have prevented what might have proved of more serious consequence to the health of the patients, or might even have endangered the life.

NATURALIST'S MONTHLY REPORT.

AUGUST.

REAPING MONTH.

Now Ceres' gifts in waving prospect stand,
And, nodding, tempt the joyful reaper's hand.

Weather more favorable for the reaping and housing of corn than that which we have had during the present month, has I believe been seldom known. The little rain that has fallen has also been of considerable service.

The wind was westerly from the 1st to the 4th of the month, on the 5th north-west; on the 6th, 7th, and 8th, westerly; on the 9th, north-west; on the 10th and 11th north-east; on the 12th and 13th westerly; on the 14th and 15th north-east; on the 16th and 17th north-west; on the 18th and 19th south-east; on the 20th, 21st, and 22d westerly; on the 23d south-west; on the 24th southerly; on the 25th and 26th variable; from the 27th to the 29th westerly; and on the 30th and 31st north.

We had strong gales and squally weather on the 4th, 8th, and 27th, but during all the remainder of the month the weather was unusually mild and pleasant. There has been no thunder-storm.

August 2d. The farmers are beginning to house their peas and their barley.

Circular cobwebs are now observable upon the bushes and banks.

August 6th. I have lately seen several of the caterpillars of the death's-head hawk-moth (*sphynx atropos*, of Linnæus), and am informed

formed that they are this year much more common than usual. Some superstitious and foolish persons have imagined that they are ominous of some evil, but they cannot even conjecture what. The moths which proceed from these are by much the largest of any of the British species, the wings of the females being frequently known to expand upwards of five inches. The caterpillars, which are of great size and extremely beautiful colour, feed on the leaves of the potatoe. During the day time they conceal themselves on the stems of plants where the leaves are large and numerous; and they feed almost wholly in the night.

August 8th. Several species of wild orache or goosefoot *(chenopodium)*, the marsh mallow, or wymote *(althæa officinalis)*, milk thistle *(carduus marianus)*, water hemp agrimony *(bidens cernua* and *bidens tripartita)*, amphibious snakeweed *(polygonum amphibium)*, and lavender thrift *(statice limonium)*, are now in flower.

August 12th. The breed of partridges is said to have suffered greatly from the wet weather that occurred about the season when young birds were hatched.

A pair of cross-bills (male and female) which were caught in the autumn of last year, have survived the winter, and are now alive and in perfect vigour at a nobleman's mansion in this neighbourhood.

August 13th. I have observed that the fruit of the hawthorn is in great abundance. The common people suppose that this is an indication of an ensuing hard winter; a notion evidently derived from the supposition that Divine Wisdom, when in severe winters it deprives the races of smaller birds of some of their usual supplies of winter's food, gives them as an equivalent an extra provision of *haws*, and other kinds of wild fruit.

August 20th. The redbreast sings.

August 22d. The clouded yellow butterflies *(papilio edusa)* are in much greater abundance than I have usually seen them. They are nearly as common as the orange tip butterflies *(papilio cardamines)* are in the spring.

In consequence of a succession of cool weather for some time past, the house flies are beginning to appear torpid and inactive.

Mushrooms are very scarce. The season has been altogether unfavorable for them.

August 26th. The black grapes begin to change colour. Peaches and nectarines are ripe; but, in this part of the country, the crop is a very unfavorable one.

August 31st. The harvest is nearly ended; and the corn will thus be housed many days earlier than has been known for several years past.

I have entirely neglected to remark the departure of the swifts. They have, however, I believe, been some time gone.

Hampshire.

METEORO-

METEOROLOGICAL TABLE.

From August 26, to September 26.

D	Therm.			Barom.		Hygrom. dry			Hygrom. damp			Winds.	Atmos. Variation.
	27	62	66	56	29[8] —[9]				2	22	19	W . . .	F... C ... R .. F ...
	28	52	68	60	30[1] —[2]	—	—	10	20	25	—	W .. NE..	F ... — —
	29	58	66	63	30 —[1]	—	10	—	2	—	12	SW ...	F ... R . F ..
	30	56	70	62	30[2] —	—	26	15	6	—	—	NW.. SW.	F .... — —
	31	55	73	62	30[2] 30	5	28	6				W .	F .... — —
	1	56	68	60	30 —[2]	6	20	16				NW . .	F ... C ... F ....
○	2	57	65	58	30[3] —	16	18	15				NE .	F .... C ..
	3	60	62	59	30[3] —	8	21	16				NE ..	C .. F ... C ...
	4	62	68	60	30[3] —	8	—	—				NE . .	F . C . — ..
	5	64	69	62	———	1	22	11				NE . .	F .... — —
	6	66	70	61	30[2] —	5	27	18				NE .	F .... — —
	7	59	70	60	30[2] —	8	36	20				E . .	F .... — —
	8	57	70	64	30[2] —	10	25	11				NE .	C .. F .... —
◑	9	58	70	64	30[2] —[1]	10	22	12				E . .	C .. F .... —
	10	59	72	61	30[2] —[1]	8	12	10				E .	C .. F .... —
	11	61	76	72	30[1] —	8	30	15				E . .	F .... — —
	12	65	73	65	30[1] —[2]	11	10	12				E . .	F .... — —
	13	61	70	60	30[2] —	10	21	15				E .	F .... — —
	14	57	71	61	30[2] 35	11	26	15				E .	F .... — —
	15	61	70	58	30 —[1]	8	19	11				SE . .	F .... — —
	16	61	70	58	30[1] —	18	20	10				NE .	C . R . F ....
●	17	59	69	60	30 —	6	38	19				E . .	F .... — —
	18	62	70	59	30 29[9]	6	23	10				E . .	F .... — —
	19	59	70	61	29[9] —[7]	8	21	10				E . .	F .... C .. F ..
	20	62	71	68	29[6] —[5]	7	10	5				SE . . SW .	F ... — R ..
	21	62	66	60	29[6] —[7]	2	8	3				SE . SW .	C .. F .... R . F ....
	22	60	65	60	29[8] —[7]	3	7	4				W .	C ... F . F ....
	23	61	59	56	29[7] —[8]				3	9	4	SW .	R .. R .. F ....
	24	51	62	55	29[6] —[4]	—	15	11	4	—	—	W .	R .... — C ....
◐	25	59	55	52	29 —[1]				19	22	18	SW . . S . . .	F .. — .. — ....
	26	50	60	49	29[3] —	—	5	—	15	—	10	W . . .	C ... F ... R .. C ..

Quantity of rain from August 26 to September 26, $\frac{76}{100}$ of an inch.

From the 30th of August to the 16th of September uninterrupted dry weather, the prevailing winds E. and N. E. the hygrometer during this period indicating a very small quantity of moisture in the air. On the 16th a few drops of rain fell, and an appearance of a change occurred, which however did not take place fully until the 23d. Lightning on the 20th, and thunder on the 21st. The dry state of the atmosphere confinued to the 23d; the hygrometer indicated a gradual approach to humidity from the 20th.

The most remarkable meteorological fact of this interval is the appearance of a Comet, which was first seen at Viviers by M. de Flanguergue on the 25th of March, and again by M. Pons at Marseilles on the 25th of April, and on the 20th of May at Paris. From this time it became invisible until the 21st of August, when it was observed in England, forming a diagonal line with the two stars in the hinder foot of *Ursa major*. Its appearance was then nebulous, the denser light 5 or 6 min. diameter, strongest in the centre, and like a star of the 4th magnitude; the general diffused *coma* thin and delicate, extending above a degree. It has since become more defined, and has been distinctly visible to the naked eye from the 7th of September. Dr. Olbers of Bremen states, that its greatest brilliancy will be in the month of October, and that it will continue to be visible until December. The form, the magnitude, (the tail of this Comet is asserted to be more than 20 millions of miles in length), and the effects these bodies, on their near approach

to the earth, may produce on its atmosphere, are objects of great solicitude. Though the present philosophy does not admit that disastrous events, wars, and diseases, are shaken from their beards, Comets cannot be contemplated with indifference. A supposed possibility of their passing near the Earth's orbit may create some alarm; and before the time of Sir Isaac Newton, who demonstrated that they were a part of the Solar System, revolving round the Sun in long ellipses, this alarm always rose into terror. The present enlightened state of science leads, however, to a conclusion, that their path in the Solar System is defined and destined, and that their interference with the orbits of other planets is no more probable, than that Saturn or Jupiter should wander from their spheres, and fall into those of Mars or Mercury.

Princes Street, Cavendish Square.

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NOTICES TO CORRESPONDENTS.

Communications have reached us from John Storer, M. D. Robert Beaver, M. D Messrs. E. Harrold, John Ring, W. Hamilton, Observator, and a Norfolk Practitioner.

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For the Medical and Physical Journal.

Theory of Sensation.

(Continued from P. 105 of this Vol.)

OF THE ACTION OF VESSELS IN INFLAMMATION.

TWO different opinions respecting the state of vascular action in inflamed parts appear to exist at the present day; according to the one the action of the small vessels being increased, and according to the other diminished. As the former is of no late date, and is still perhaps most generally adopted, it cannot be necessary for me to state the arguments that have been used in its support. The other opinion, viz. that the action of the capillaries of an inflamed part is diminished, was said to have been first advanced by Dr. Lubbock and Mr. Allan. I have not, however, seen any statement by either of these Gentlemen of the facts which led them to embrace this opinion. I must therefore refer the reader to a paper of Dr. Wilson's inserted in the Edin. Med. and Surg. Journ.*, in which may be found the reasoning and experiments which induced him to adopt the same opinion. These experiments, which appear to have been conducted with great care and accuracy, are highly interesting, and shew in a very satisfactory manner that the velocity of the blood becomes less and less as inflammation increases, and that at the acme of inflammation the circulation appears to cease altogether.

Without wishing in the least to invalidate the Theory Dr. Wilson has erected upon these experiments, it is proper to remark, that however favorable at first view they may ap-

* Vol. IV. p. 290.

pear to the principle of Sensation I have ventured to adopt, still I have not been able to make any use of them in my inquiry; not only because they were all performed on brute animals, in whom we cannot but by vague conjecture judge of the state of the sensation, but because that Gentleman, if I am not mistaken, has entirely overlooked some very important actions, particularly the formation of new vessels, which there is no cause to doubt often takes place in inflamed parts, at the very time the circulation of the blood is in that state of diminished velocity or apparent stagnation, so clearly and satisfactorily evinced in his experiments.

In the course of this investigation I endeavoured to ascertain singly and independent of each other the state of the circulation, secretion, excretion, absorption, and of those actions by which new vessels are formed or old ones enlarged, in inflamed parts. I shall, however, confine myself in this paper to the consideration of the first and the last of these actions; both for the sake of conciseness, and because these appear to be most strikingly affected in inflammation, and to have the closest connection with the pain.

The state of the circulation will hereafter appear, I hope, to be of so much consequence to the actions of formation and repair in inflamed parts, that although I do not consider diminished velocity of the blood to be the cause of the pain in inflammation; yet I may be excused for giving a short account here of the experiments by which I endeavoured to ascertain whether the motion of the blood is quicker or slower than natural in inflamed parts.

1. Of the state of the circulation of the blood in parts inflamed.

That the small vessels in their healthy state assist in propelling the blood thrown into them by the *vis a tergo* is now, I believe, generally acknowledged. That they possess some degree of action of this kind is obvious from this fact, among others, that if the arteries leading into a part be compressed so as to prevent the influx of blood into the part, it immediately becomes more pale, a proof that the small vessels contract themselves and propel their contents.

Experiment I.

The back of my hand being somewhat red, but without any sensation in it, I held my fore arm and hand in an horizontal position, and compressed the humeral artery at the bend of the arm so as to stop the pulse of the wrist, taking care at the same time not to stop the reflux of the blood

in

in the subcutaneous veins. A very sensible diminution of redness in the back of my hand immediately took place. On repeating this experiment at different times and in different persons, I found that the paleness is not always equally produced. Perhaps this may be owing to the influx of the blood by the artery being less completely stopped, or the reflux by the veins more obstructed in some trials than in others. In the following experiment the contractile power of the small vessels is better evinced.

Experiment II.

I tied a ligature firmly around the fleshy part of my forearm. This prevented the return of the blood by the subcutaneous veins, but did not stop the pulse at the wrist. The hand soon became very red, as if inflamed. I now compressed the humeral artery above the bend of the arm, to prevent the reflux of new blood; and caused the ligature to be untied. This hand soon became as pale as the other.

These experiments shew that a contractile action of the small vessels does exist; and are used as tests in some of those which follow.

Experiment III.

To ascertain if the velocity of the blood was greater or less than natural, I immersed my hand in very hot water, and having suffered the pain, which was excessive, as long as possible; on taking it out I found it highly inflamed and somewhat swelled. I now compressed the humeral artery above the bend of the arm. The redness and turgescence continued for some minutes. The pain went off first.

Experiment IV.

A lady had an inflammation and swelling in the back of two of her fingers attended with throbbing pain. I compressed the humeral artery as above. The blood immediately forsook the rest of the hand, which assumed a death-like paleness. But as long as I compressed the artery, which was upwards of a minute, the inflamed parts continued as red as before. When the artery was compressed the throbbing ceased, but a smarting pain remained.

Experiment V.

A gentleman had an attack of gout in the first joint of the thumb of one of his hands. It was highly inflamed, tense, and he felt a gnawing, burning pain in it. I carefully com-

pressed the humeral artery above the bend of the arm. The gnawing pain ceased, but the redness continued undiminished.

These experiments correspond in effect with those of Dr. Wilson, and prove that the velocity of the blood in inflamed parts, instead of being greater as was formerly supposed, is actually much less than natural. For if the action of the small vessels by which the blood is propelled in them had been so much increased, as considerably, or at all to augment the *velocity* of the blood; the inflamed parts in these experiments ought to have become pale sooner than natural; the reverse of which in these and numerous other trials I have made has been uniformly found to take place.

But although the *velocity* of the blood in the small vessels of an inflamed part is greatly diminished, it does not follow as a direct consequence, that the *action* of these vessels is diminished also: for it has not yet been proved that as much blood is not propelled in a given time by the action of the vessels of an inflamed, as of a sound part; and that the redness continuing so much longer in the former than in the latter, after the accession of new blood is cut off by compression of the artery, is not entirely owing to the difference in the quantity of blood required to be moved.

Thus if we suppose the power by which the small vessels propel the blood in them to be as 1, and the quantity of blood they contain in their healthy state also as 1, and the quantity they contain in a state of inflammation as 5 or 10 or more; then it is apparent, that the moving power of the vessels being in both cases the same, they must take as many more times to empty themselves in an inflamed state, after the influx of blood is prevented, as the quantity of blood contained in them exceeds the natural standard.

Experiment VI.

The subject of this experiment was the same as that of the fourth. It was there mentioned that as soon as the humeral artery was compressed the throbbing pain ceased. It returned, however, and the rest of the hand regained its natural colour immediately after the pressure was discontinued. I now resolved to observe with accuracy the time which the vessels of the inflamed parts took to empty themselves, compared with that in which the uninflamed parts became colourless. I compressed the humeral artery as before. The uninflamed parts of the hand had changed from their natural healthy appearance to a remarkable paleness, in three or four seconds at most. The colour of the inflamed parts was not sensibly changed at the end of a minute, and a smarting pain remained.

remained. In the course of the second minute the pain went off, but the redness continued apparently the same. At the end of the third minute the inflamed parts were sensibly collapsed, and had changed from a scarlet red to a pale brown colour I now desisted from pressing the artery. Neither the pain nor redness returned, and the inflamed parts resumed their natural appearance.

If the quantity of blood circulating in the inflamed and uninflamed parts, in this case, was as 15 in the former, to 1 in the latter, (which is probably more than the maximum in that degree of inflammation,) then the red colour of the inflamed parts ought to have disappeared at the end of a minute, or sooner, if the moving power was as great as natural. But instead of this no sensible decrease of the redness was perceived even at the end of two minutes; and it was principally in the course of the third minute that the change of colour and collapse, apparent at the end of that time, must have been effected. The action of the blood-vessels of the inflamed parts, therefore, was greatly diminished, unless they contained more blood than the proportion supposed, which is not probable.

But as these proportions are only assumed, it was desirable to substitute some other mode of judging in which nothing should be left to conjecture. I therefore thought of the following method by which the quantity of blood in the inflamed and uninflamed vessels is made to be exactly the same.

Experiment VII.

I wound a piece of small twine spirally around the upper part of the third phalanx of one of my fingers, so firmly as to prevent, very effectually, the blood from returning by the veins, but not to hinder the blood by the arteries from entering the finger below the ligature. The finger soon became turgid and very red. When these effects had taken place, I firmly compressed the artery above the bend of the arm; the pulse at the wrist ceased. I then caused the ligature to be removed, and observed the time which the vessels took to empty themselves afterwards, still carefully preventing the influx of new blood by the arteries. In somewhat less than thirty seconds this finger was as pale as the others.

Experiment VIII.

I again twisted a piece of twine, in the same manner and with the same degree of firmness as before, around the finger, and when it appeared as red and turgid as in the last experiment, I compressed the humeral artery, as above, with the effect

effect of stopping the pulse, and immersed the finger in water so hot as to induce violent pain, which I suffered for about a quarter of a minute. I now took it out of the water and caused the ligature to be removed, still carefully compressing the artery. In half a minute after the ligature was untied (the time in which the finger became pale in the seventh experiment) the finger appeared as red as before; at the end of a minute it appeared the same; at the end of a minute and an half part of the finger had regained its natural colour, and at the expiration of two minutes there was still a considerable redness of the skin over the knuckles, which did not appear in the other fingers. The pain went off before the redness.

The very great difference of time which the vessels in these two experiments took to empty themselves of *the same quantity of blood*, proves, I think, beyond a possibility of mistake, that the contractile power of the small vessels is diminished during inflammation, or that it is exerted with diminished effect.

With regard to the pain.—From these two experiments, as well as from the fifth and sixth, and numerous other experiments and observations of the same nature, which I have made, I infer, that the pain in inflammation is not caused by the diminished motion of the blood, or diminished action of the blood-vessels containing it. Because in the seventh experiment, in which the motion of the blood was prevented by a mechanical cause, and in which, of course, the contractile power of the vessels was exerted without effect, a sensation of weight or fullness only was felt, very different from inflammatory pain; and because not the least pain sometimes is discernable in inflamed parts, in which that impaired state of the circulation obtains, as at the end of the fifth and sixth experiments.

Is there, as was supposed by Mr. Hunter, an action of *dilatation* rather than of *contraction* in the small vessels of an inflamed part? This is a question of importance; and any Theory of Inflammation that shuns it entirely, must in that respect appear defective. I will, however, defer this question at present, and resume it after examining the state of those actions by which vessels are formed, &c. when it will fall more properly to be considered.

With regard to the larger arteries leading into an inflamed part, their action does not appear to form an essential part of this inquiry, because, though generally allowed to be increased, no part of the pain is referred to them.

2. Of the plastic actions in inflamed parts.

The operations connected with the present inquiry, to

which this term appears not unappropriate, and which for that reason, and to avoid circumlocution, I shall take the liberty of using occasionally when speaking of these actions, are,

1st. Those by which organizeable fluid is separated from the blood, and new vessels made to shoot into it, as in adhesion, granulation, enlargement of vessels, &c.

2d. Those by which the organization is adapted to the secretion of pus.

3d. Those by which the organization is adapted to morbid secretions and supported when formed, as in ulcers not purulent.

4th. Those by which organized parts injured, without apparent loss of substance or texture by mechanical or other causes, are repaired.

5th. Those by which new and peculiar actions and consequent organization, excited by internal causes, are erected on particular structures, as in gout, erysipelas, scarlatina, small-pox, &c.

All the operations here mentioned appear to be strictly *plastic;* because none of them seem to exist previously, at least in equal degree, till the stimulus is applied. Thus, when a wound with a sharp cutting instrument is received, a change of action takes place in the wounded part either in kind or degree, the organization becomes adapted to the circumstances; if the edges of the wound are in contact or nearly so, coagulable lymph is in general separated from the blood; new vessels shoot into it from both sides of the wound, and the continuity of the part is restored. But when there is a loss of substance in the wounded part, and especially when its edges are lacerated and contused, a suppuration is in general necessary: but before pus can be secreted, the organization must be rendered fit for its secretion; for this purpose new vessels must be formed, and when formed must be supported: for no such action or organization adapted to it has ever been supposed to exist in sound parts. The same is true of ulcers, and, probably, may be found to be equally so in gout, scarlatina, &c. at least no harm, I hope, can result from considering it so till the nature of the actions in these diseases is better understood. Mr. Locke justly observes, that "the way to improve our knowledge, is to get, and fix in our minds, clear, distinct, and complete ideas, as far as they are to be had, and annex to them proper and constant names." In using the words *gouty action*, *inflammatory action*, &c. it is surely necessary to attach some settled meaning to the terms, and the above comprehends the most of, or all the actions which appear to be understood to prevail in the different

ferent species of inflammation. I shall now, therefore, proceed to shew by cases what has appeared to me, after a very strict attention to the subject, to be the connexion between these actions and the pain. The cases are not detailed as presenting any thing singular in occurrence, or novel in practice. They are selected from many more of the same kind, which it would be both tedious and useless to relate, solely with a view to illustrate what, I hope, will appear not an uninteresting subject.

Case 1.—A young man, in leaping from a height, fell and struck the outside of one of his thighs in descending against the sharp corner of a large stone; by which the integuments and adipose substance were torn for upwards of nine inches. I saw him soon after, and found that the wound had bled little, that the facia lata of the thigh was exposed by the retraction of the skin and adipose substance, and that the edges of the wound were nearly as smooth as if it had been made by a sharp cutting instrument. The wound appearing perfectly clean, I brought the edges of the divided integuments together by means of the interrupted suture and adhesive straps, supporting the whole with a bandage, and enjoined the patient to avoid moving the thigh. I saw him again next day, and being informed he had felt no pain in the wound from the time it was dressed, I removed one of the adhesive straps in order to ascertain if reunion had commenced. This had so far taken place that I could not separate the edges by gently pulling the skin on each side of the wound in opposite directions. This gave some pain, however, showing perhaps with still more certainty that the bond of union had become vascular or organized. It is unnecessary to lengthen the case: suffice it to say, that the cure went on without interruption, and *without pain*. From the very commencement of this case, a blush of redness surrounded the edges of the wound, which continued long after the continuity was perfectly restored; the vessels, therefore, of that part, must have suffered either a forcible or spontaneous dilatation.

Case 2.—A man wounded himself with an axe in his right leg. The cut was longitudinal, on the outside of the tibia, free of the bone, and was about six inches in length, but not very deep. It bled moderately. There was a slight degree of redness around its edges, but the patient was free from pain. The edges of the wound were brought into contact, and retained by the same means as in the preceding case; and the patient was ordered, when out of bed, to keep the foot and leg on a level with the knee. I did not see him again till the second day after. He complained that the wound had given him great pain, and begged I would remove the bandages,

bandages, as he thought the pain was caused by them. I suspected that he had been walking with it. He confessed he had, and that the pain came on afterwards. On removing the straps I found the edges tense and inflamed, but no adhesion had taken place. A smart cathartic was now ordered him, and he was strictly enjoined to keep the leg as much as possible in an horizontal position: in hope that if by these means the pain was removed, suppuration might be prevented, and union by the first intention still obtained. On visiting the patient next day I was informed that the medicine had operated quickly, and that he had felt no pain in the wound since that time (about eighteen hours) I now removed the straps cautiously, and had the satisfaction to observe, that the adhesive process had evidently begun, as the edges of the wound appeared as if glued together, and were not separable by a gentle force. Nothing further occurred worth mentioning, but that he felt no pain from this time, and in a few days could use the leg as usual.

Case 3.—A man received a cut with a knife in the palm of his hand. I was not called to him till the fourth day after the accident. The whole hand was then inflamed and painful. The wound which extended across the ball of the thumb into the palm was full of black hardened blood. Its edges were livid; and the pain had been, and still continued so severe, as to prevent sleep and induce considerable fever. An emollient cataplasm was ordered to be applied immediately to the wound, and to be renewed frequently. Next day the patient informed me, that soon after the first poultice was applied he felt a great relief from the pain; that when the dressings were changed, some black lumps mixed with a dirty looking matter came away; and that last night, for the first time since the accident, he had enjoyed several hours sleep. I found him now more free of fever; and on removing the dressing the hand appeared less inflamed: the wound was almost clean, but appeared much larger than the day before; and it was discharging matter copiously, which, though thin, was puriform. Soon after this the purulent discharge became less abundant, and of a better consistence; the wound gradually filled up with healthy granulations; the edges approached nearer and nearer to each other and at length coalesced; and during the whole time of the process the patient enjoyed a complete immunity from pain.

It cannot be necessary to multiply cases of this kind. They are sufficiently common; and the relation between the *pain* and *action* in every case I have seen was exactly the same. That relation is sufficiently striking. In the first case the adhesive process went on without interruption and no pain

was felt. In the second case the same actions were interrupted for some time; pain was felt during that time, but no longer; for, apparently, as soon as the adhesion was allowed to go on without resistance, sensation ceased.

But might not the pain in the second case arise from a change of action? Might not the organization at the time be changed and adapted to the secretion of pus? If this had been the cause of the pain, suppuration ought to have preceded the healing of the cut; which it did not. In many such cases, the adhesive process is by some cause prevented, considerable pain is felt, but by removing the pain by proper means, suppuration, which would otherwise supervene, is prevented, and pure adhesion takes place. It seems, therefore, most probable, that the pain is owing in the first instance to the interruption of the adhesive process. But when the interruption to this process has gone to a certain extent, union by the first intention becomes impracticable, and suppurative action is probably next attempted. In the third case, however, suppuration was attempted, adhesion being interrupted, it is obvious that this change of action also was prevented, for the edges of the wound were livid, and tending to gangrene. Hence, it would appear, that the pain in that case arose in the first instance from interruption to the adhesive process, its increase and the increasing inflammation, from the suppurative process being interrupted; and in the last instance, it may appear to be connected with interruption to the ulcerative process, by which gangrenous parts are separated and thrown off. This process at the end of the third case became necessary, but when it came to be performed without interruption, the pain ceased.

A remarkable circumstance attending the plastic actions is, that when any cause of resistance appears to obstruct their performance, in the part where they are attempted, the sensibility or irritability of the nerves of that part is very generally, if not universally increased. Does this arise from the plastic actions, interrupted in vascular parts, being transferred to the nerves? If so, it might be expected that the size of the nerves of an inflamed part would be augmented thereby. But this is said not to be the case.* The plastic actions, therefore, if transferred to the nerves, appear to be also interrupted there. If enlargement of the nerves, proportioned to the degree of plastic action interrupted in vascular parts, took place, would this increased sensibility or irritability occur? I know, at present, of one case only which, if

* Hunter on Inflammation, p. 288.

I mistake

I mistake not, bears strongly on this question, a case of jaundice, occasioned by the pressure of a large hydatid in the liver, by Dr. Duncan, Sen. Professor of the Institutes of Medicine in the University of Edinburgh.* In this highly interesting, and minutely detailed case, although the obstruction to the passage of the bile through the ducts was in some measure compensated for by increased absorption producing jaundice; yet from the dilatation the uncompressed part of the ductus communis next the liver had undergone, it seems evident that the absorption had not been always equal to the secretion of bile. But the bile accumulating in such quantity as to dilate the duct, must finally, I suspect, have been attended with the effect of interrupting, in some measure, the further secretion of bile, till the absorbents have removed the superabundant quantity. Here there was obstruction to the *vascular* actions of the liver. But the *plastic* actions appear to have been increased; for the liver, although free of disease in the glandular part, was of uncommon bulk, "the hepatic nerves were much larger and much harder than common," and "the branches of the hepatic nerves could be distinctly traced along the gall ducts. The adjacent parts betrayed marks of previous inflammation. The stomach and great arch of the colon were more intimately united than usual by the omentum: and there was also a strong adhesion between the liver and the kidneys." Yet the patient in this case had expressed very little pain, incomparably less than (from the enlarged appearance of the nerves, liver, &c. the undoubted consequences of increased plastic action) might have been expected, if increased action were the cause of the pain in inflammation. Nor does there appear to have been any considerable increase of irritability or sensibility in this case, certainly not any increase equal to that which takes place in inflammations, in which no augmentation of the size of the nerves is perceivable. It would be unjustifiable to draw any general conclusions from a single case. I will therefore not attempt it. I cannot, however, forbear remarking here, that if cases were always taken down with the same accurate attention to the *sensations* as well as to the functions in disease, and if dissections were performed and related with the same minuteness and precision, as in the case above referred to; considerable light might perhaps at length be thrown on certain interesting functions of the animal economy, which hitherto have escaped detection, or eluded research.

But may not the increase of irritability that occurs in in-

* See Edin. Med. and Surg. Journ. vol. 4. p. 187.

flamed parts be owing to an increase of *nervous* action, or accumulation of an active principle in the extremity of the nerves, in consequence of the plastic action attempted, being prevented? This question I shall not pretend to determine. It is proper, however, to observe, that if this increased irritability is owing to an increased action in the nerves different from augmentation of size, that increased action is not the cause of the pain, because in many cases of inflammation, the irritability or sensibility is exquisitely increased, without, however, any pain being felt, except on the part being pressed, &c.

The two following cases, though not belonging to the order of phlegmasiæ, shew at least the connection between the plastic actions and the pain.

Case 4.—A woman, about 70 years of age, came under my care with an ulcer on the forehead, which had remained several years, notwithstanding numerous remedies had been applied. It was nearly circular, about the size of a crown piece. The edges were slightly elevated and hard. It discharged a thin sanies which did not appear acrid or eroding, as no considerable enlargement of the ulcer had taken place for above a twelvemonth. Occasional pains, but very slight, were felt shooting through it, and hence (perhaps prematurely) it had been pronounced to be cancerous. I gave her two drachms of Fowler's solution diluted with an equal quantity of water, with orders to bathe the ulcer night and morning with a little of it, and afterwards to cover it with a pledget of lint. In about eight days she called on me again for a new supply of the solution. She informed me, that for a minute or two after the three or four first applications of the solution, she had felt a considerable smarting pain, but that it now produced only an agreeable glow; and that the shooting pains had entirely ceased. On looking at the ulcer I found that it appeared quite healthy, was filling up with granulations, and covered with pus of a proper consistence. The edges too had subsided, and the diameter of the sore appeared to be less. I repeated the solution, but desired her not to apply it again unless the pain should return. As the patient lived at some distance I did not see her again till about a fortnight after this. She had not needed again to apply the solution. The ulcer now was quite superficial, and not above a fourth part of its original diameter. Soon after this it healed without any further trouble.

In every ulcer, which, like the above, is attended with a considerable discharge, not purulent, with little or no pain, it may, perhaps, be taken for granted, that a morbid association of actions has superseded the healthy actions of the part; and that before the ulcer can heal, with a probability of remaining whole, the discharge must not merely be diminished,

but the morbid association must be dissevered and destroyed in its whole extent. Applications which give pain, but do not enlarge the ulcer, appear, in the first instance, to obstruct the actions going on at the time. The effect of this interruption will be, that the efforts to restore that action will be increased, or these efforts being unsuccessful, a new mode of action will be attempted. In the above case the morbid association of actions, interrupted by the applications of the arsenical solution, appear to have been completely broken, and exchanged for salutary plastic actions; because, notwithstanding the age of the patient, and the long time the ulcer had continued, the cure was permanent. The ceasing of the pain after the plastic actions were evidently performed with success, deserves notice.

Case 5.—This also was a case of ulcer in the forehead. It was about two inches in breadth, and four in length, extending from the left eye-brow to above an inch within the hairy scalp. Its edges were hard and retorted, and extremely tender when touched; and the feeling of the skin around was somewhat benumbed. The bottom of the ulcer was covered with a white slough. It discharged a fœtid sanies. The subject of this case was a woman between 70 and 80 years of age. It had commenced about fifteen years before. Numerous applications had been tried both by regular and irregular practitioners to whom she had applied, but without benefit, as it continued to spread gradually. Its progress for a week or two before I saw her had been uncommonly rapid. This she imputed to some applications which had given her great pain. Frequent severe lancinating pains were felt in it. During the night, especially, the pain was violent, extended over the greater part of the head, and prevented her from enjoying any sleep till towards morning. Her health was otherwise good.

This appeared a very hopeless case. However, I gave the arsenical solution a trial. But as it gave great pain, increased the discharge, and enlarged the ulcer rapidly, without appearing to alter its nature, it was abandoned in a few days. I now gave her some carbonas magnesiæ to strew over the ulcer to protect it from the air, and also with a view to prevent it from spreading, by taking up the acrid matter as fast as it was secreted. I was not prepared to expect the effects that followed. The powder was applied three times a day, the ulcer being bathed with milk and water before each application. The pain became less and less every day, and before the end of a week the patient was entirely free of it. In the mean time the bottom of the ulcer became clean, and began to be covered with apparently healthy granulations, attended

tended by a discharge of pus. So rapidly did these granulations advance, that in less than a fortnight the ulcer was closed, except a small part above the eye-brow. There the edges remained hard and retorted, extremely tender to the touch, and the surrounding skin benumbed. When the granulations had risen to a level with the integuments, a skin was formed over them in little more than one night. After this a remarkable change took place. The pain immediately recurred with uncommon violence. The blood seemed to forsake the new formed parts, and the ulcer appeared as if filled with dough. The pain continued day and night with but little remission, till the new formed parts were converted into a white slough, such as appeared at the bottom of the ulcer when I first saw it: the discharge then returned, the ulcer appeared as large as ever, and the pain abated to resume its accustomed periods of recurrence.

In this case the absence of the pain and of the morbid secretion while the plastic actions were going on is remarkable; and the return of the pains immediately after these were almost completed, is no less so. This may be ascribed to a return of the morbid actions. But the form in which the morbid actions appeared before was that of secretion. If this secretion was attempted immediately after the plastic actions were nearly finished, it was not performed with success; perhaps the new formed vessels were an obstacle in its way, for the secretion did not appear till the slough was formed. The pain therefore may with as much probability be ascribed to the resistance this action met with, especially as it abated after the secretion was renewed. But might it not be also partly owing to the efforts to preserve the new formed organization? This case shows, however, that when action is performed without resistance no pain is felt; and that even morbid actions produce pain only as they are interrupted, or interrupt some other action. The same appears to happen with other morbid actions. Thus, in the medullary sarcoma, or fungus hæmatodes, the growth and enlargement of the tumour has in some instances produced no pain. And when pain is felt, it is rather in such circumstances as the growth of the fungus might be supposed to be most resisted; or which, perhaps, amounts to the same thing, in which the surrounding parts do not spontaneously recede but are forcibly stretched, before the increasing tumour. In this case it seems obvious that the morbid actions will be interrupted in the ratio of the difficulty with which the parts give way to them. The fact that this interruption commonly proves a stimulus to greater efforts, does not seem to affect the truth of this conclusion. Whatever be the force of the efforts, the pain appears

pears to increase or diminish according as they are more or less successful. In like manner when inflammation terminates in abscess, it is well known that as soon as the suppurative actions commence the pain commonly abates. But in some instances the parts containing the abscess yield with so much difficulty, that the quantity of pus secreted in a given time cannot be equal to the efforts to secrete. In these circumstances the pain, instead of abating after suppuration begins, sometimes increases. Thus in that species of whitloe in which the matter collects under the sheaths of the tendons or periosteum, the pain is excessive, even after suppuration has begun, and nothing gives so immediate ease as making a free incision down to the bone; which not only gives vent to the matter already accumulated, but allows the secretion afterwards to be poured out without interruption. In the Egyptian ophthalmia, when internal suppuration takes place, the pain is excruciating till the coats of the eye give way. The pain, in these cases, may be said to arise from the purulent matter collecting and pressing against the parts rendered morbidly sensible by the disease. But surely it ought not to be overlooked that this morbid sensibility, as before noticed, appears to be produced by interruption to vascular action, and that the morbid sensibility begins immediately to diminish when the resistance to vascular action is removed.

Case 6.—A young woman in running fell and struck one knee with violence against a stone. I saw her the following day. At this time the knee was highly inflamed, hot, tense, and exquisitely painful. The skin did not appear to have suffered much injury by the fall. Topical blood-letting was immediately used. Refrigerant lotions were afterwards kept constantly applied to subdue the painful sense of heat; and cathartics were administered to prevent effusion, or promote absorption, if effusion had already taken place into the joint. By these means the pain was removed, the redness gradually abated, and in two days nothing but a sense of weakness on moving the knee joint remained, which soon went off under the use of tepid bathing and gentle frictions.

Accidents similar to the above often happen, and the pain, though exquisite at first, gradually subsides and no further inconvenience is experienced. In such cases it will, I think, be granted without difficulty, that the organization deranged by the accident is almost immediately restored; in other words, the plastic actions are performed with little or no interruption. In the above case it seems next to certain, that if these actions had not been prevented the pain would not have continued. But a very constant effect of interruption to action and consequent pain appears to be, that it stimulates

lates to increased *efforts*. If these increased efforts are unsuccessful the pain and inflammation increase; and when the *action* does come to be performed there is a risk that it may be performed in excess. In the above case, therefore, to remove the pain was not the only object in view. In the very painful state of the joint at the time I first saw the patient, it is almost certain that a mere removal of the pain would have been succeeded either by a copious effusion, suppuration, or a morbid thickening of the ligaments of the joints, all of which were to be guarded against. Relief from the pain, therefore, was to be obtained by means which diminished the congestion of fluids in the part, or promoted absorption. And the means employed appear to have been in a great measure successful. But that they prevented *future morbid actions* will not, I apprehend, appear to the mind of the intelligent reader any proof that their immediate effect was to *diminish action*. The primary restorative actions were doubtless performed after the pain ceased.

It may serve to illustrate this part of our subject to advert to a well known circumstance attending the treatment of burns. Where the organization of a part is considerably deranged, but not absolutely destroyed by fire; when it is still within a possibility of being repaired, by immersing the part in cold water, or applying cold substances to it and carefully preventing painful sensation, the injured part is preserved and soon restored to its sound state. But allow the pain to continue, and the actions of repair being interrupted, the consequence will be, that the inflammation of the part will increase, and the pain will not cease till either the injured parts sphacelate, or till an effusion of serum or suppuration come on. But would it be correct to assert that the cold applications in such a case as this *diminish action*. The result of the case is a proof that the *restoring actions* are not only performed, but best performed without pain. The first and second cases shew that adhesive actions are most successfully accomplished without pain. The third and succeeding cases evince that pain is not necessarily an attendant of suppurative action or of the formation of new vessels. But what other *vital* actions, that may account for the pain, take place in consequence of burning? If any other occurs it is yet undefined. I humbly conceive that no harm can result from distinguishing as far as possible in our practice as well as in our reasonings between *action* and mere *efforts* to act. As far as we have gone, the sensation, if I mistake not, indicates that the action falls short of the *effort*.

Case 7.—A gentleman between 50 and 60 years of age, of an ingenious and eccentric turn of mind, and subject to frequent

quent irregular attacks of the gout, to which he was liable both by inheritance and by his manner of living; after some dyspeptic and spasmodic affections, the usual precursors of a paroxysm of gout, was attacked one morning with a violent pain in his wrist and elbow joint, which were somewhat swelled, tense, and inflamed. In the course of the day the pain and inflammation increased, attended with a distressing sense of burning heat. He became sick at stomach, nauseated his food, and had occasional pains which he referred to the stomach, and which he said always seized him when the pain in the extremities was severe. For several years this gentleman (driven by instinct or desperation) had been in the habit of applying cold water to the inflamed joints till the pain abated, a practice which he had repeated often not only with impunity, but advantage, as he thought the paroxysm shortened by it, and his health otherwise improved. Unluckily, however, early one morning, in the height of a paroxysm, he got out of bed, and to procure water of sufficient coldness, went, in his shirt, to the pump in the garden, and began to pump the water upon the painful joints, but not with its usual happy effects. The pain, indeed, left the limb, but before he could return into the house he was seized with a violent pain about the scrobiculus cordis, which arrested him on the spot and prevented him from calling for assistance. He was therefore forced to lie down on the damp ground, and would probably have perished had not a servant discovered him by accident. He was immediately carried into the house, and by the assistance of warmth and cordials plentifully administered, he was at length, but not without difficulty, recovered. From this time the application of cold was totally abandoned; because he imputed its effects, in the last instance, to the influence of some imperceptible revolution that had taken place in his constitution.

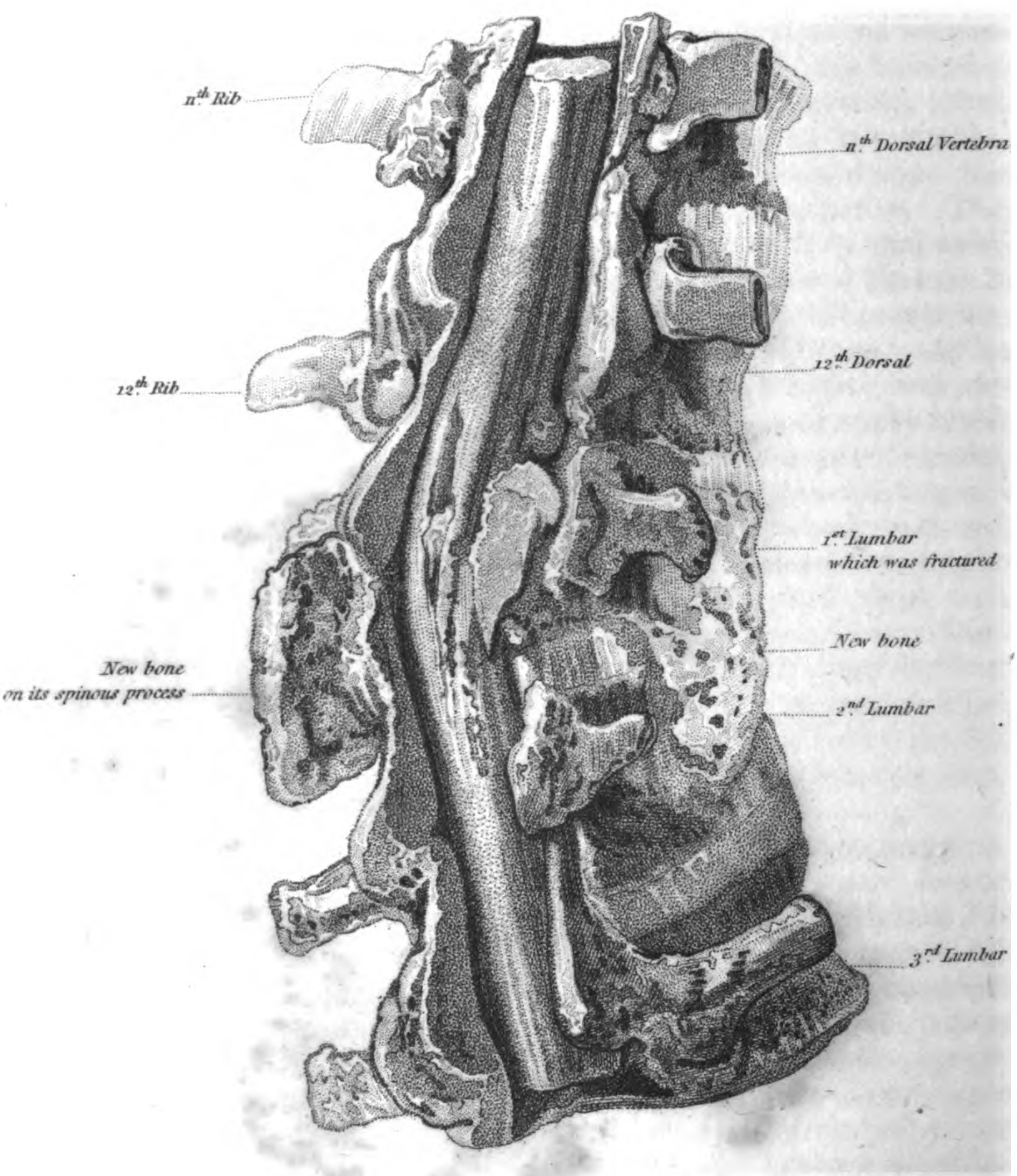
I inquired if the immediate sensation produced in the inflamed joints by the cold water in the last and former instances was in no respect different. The only difference, he said, that he could recollect was, that formerly he had felt the cold water rather agreeable, but that in the last instance it was painfully cold, and *shot through him like an ice bolt*. I then suggested to him, that the bad effects which had followed the last application of cold, were probably less owing to any difference or change in his constitution, than to that difference in his sensations, which was very well accounted for by the manner and circumstances of the application. And that even in the present paroxysm, if he applied the water no colder and continued it no longer than relieved the pain and

was grateful to his sensation, it might still be attended with its former good effects. As he did not think this suggestion improbable, and as the criterion of safety was then made to rest on his own sensations, he willingly consented to give the cold water another trial. Cloths wet with cold water were applied to the wrist and elbow joint, and were renewed as the returning sense of heat seemed to demand. This proved highly agreeable to his sensations, and he persisted with alacrity. Before I left him he expressed himself greatly relieved of the sickness and pains at stomach. He had taken no cordial or medicine. I saw him again next day. He informed me that the pain returned with violence in the evening; but that the application of cold water soon rendered it tolerable, and that he had enjoyed some sleep at intervals during the night. He had taken his breakfast with an appetite. The joints were still swelled but not preternaturally hot, and as he still felt a slight gnawing pain in them, I advised that *tepid* instead of cold water should now be applied. This was immediately done, with great comfort to his feelings. As he had had no alvine motion for two days a laxative was ordered, which I saw taken; and I advised him to apply tepid or cold water to the joints, according as the *temperature* and *sensation of heat* in them should indicate. On visiting my patient next day, he informed me the laxative had produced two motions, that he had only once had occasion to apply the cold water since I saw him, that he had slept well during the night and was now free from complaint, some stiffness in the affected joints excepted. From this time he had no return of the pain; by proper means the stiffness of the joints soon went off, and he thought himself in every respect better, although the paroxysm had been much shorter than usual.

It cannot but appear of considerable importance to ascertain whether or not the gouty actions in the joints were less or greater in this paroxysm, in which the patient had felt so little pain, than in those former ones in which the pain was allowed to continue, and which had been protracted to a much greater length, with a less perfect recovery. When gout is repelled either by excess of heat or of cold, the only symptoms by which the repulsion can be recognized, that I know of, are either the pain being transferred to other joints, or symptoms of increased or of interrupted actions affecting some internal organ, such as diarrhæa, or vomiting, sickness, spasmodic pains, coldness, &c. But in the above case none of these supervened. On the contrary, the sickness and spasms which prevailed while the pained joints were kept hot, gradually and spontaneously subsided after the cold

applications

Case of Fractured Spine.



Cooper sculp.

applications had been continued only for a short time. This would rather seem to indicate that the gouty actions had been increased in the joints, than that they had been repelled from them by the cold applications. This conclusion appears to be further supported by the shortening of the paroxysm and quicker restoration to health; a fact that shews, that however peculiar and different from other diseased actions those of gout may be, they follow the same laws as the plastic actions above treated of, being, cæteris paribus, soonest accomplished when they are not attended with pain.

Physicians of the greatest judgment and experience agree in the opinion, that the only probable means of obtaining a safe and permanent cure of gout, is by attention to avoid the exciting causes. But *when the gouty actions are excited*, it is doubtful if an attempt to check or extinguish them will be attended with either more success or safety, than an attempt to check or extinguish the peculiar actions in small-pox, scarlatina, &c. after they are excited. But when the powers of life are oppressed, and the actions excited opposed, either by excess or defect of heat, or other ascertainable cause; surely, both reason, experience and analogy, vindicate that practice, which by removing these causes enables the diseased actions to run their course with the greatest quickness, with the most comfort and safety to the patient, and with the least derangement to the important functions of the body.

(*To be continued.*)

To the Editors of the Medical and Physical Journal.

(With an Engraving.)

GENTLEMEN,

IN the Medical and Physical Journal for March last, you did me the favour to publish an account of the case of Henry Newland, who was under my care with a fracture of the vertebræ. Near the end of this history I mentioned that "he was so active as to have made a practice, not only of dressing himself entirely, but, for some time, of letting himself, step by step, down stairs; by which means he had produced a wound over the tuberosity of the left ischium."

At the time that account was written, the wound appeared to be in a healing state, except the centre, where there was a small slough which seemed likely soon to come away. It afterwards appeared that the *bone* was injured, and sometimes small fragments were discharged with the pus;

no other application was used than a common poultice. About the middle of May last, hearing that he was very ill, I called to see him, and found, upon inquiry, that the wound had been skinned over; that, in consequence, a considerable quantity of pus had collected, which, by the cicatrix giving way, had been discharged to the amount of a pint and a half. His nights were bad; there was a good deal of nausea and anorexia; his pulse weak, and the discharge considerable. I ordered some tonics for him with an opiate at night, and a nourishing diet with wine. The external opening of the wound not being sufficient to allow a free exit to the matter, I enlarged it considerably; the divided part had the usual appearance of a fresh wound of a sound part, but he had not the slightest feeling of pain in the operation. From this time the discharge continued to be copious, with the usual smell of diseased bone; the powers of his stomach were never restored; constant pressure upon the right hip had destroyed the integuments of that also, and he died on the 29th of May, *just ten days less than a year after the fracture of the spine.*

I was anxious that Mr. Thomas Blizard should see the state of my patient after death, but his professional engagements at that time were too numerous to admit of his absence from town, and I proceeded to examine the body on the 31st.; I had not, however, time to extend my inquiries very far, but, I hope, sufficiently so to make the history instructive. On opening the abdomen the liver appeared paler than usual, but not diseased; the intestines had the usual appearance; the bladder contained about half a pint of urine, its coats a little thicker than natural; the kidneys and ureters healthy. On opening the thorax the lungs were uncommonly pale, or, rather white, as if they had been washed in milk, and on the right side adhered pretty generally to the pleura; the pericardium adhered to the whole surface of the heart.

In order to examine the spine more effectually, I removed six of the vertebræ, comprehending two above and two below those concerned in the fracture; the bodies of *these* had been evidently crushed, and had not quite recovered their original thickness or distinctness of articulation, but they were firmly and soundly united, bending a little forward, where the intervening cartilage had been obliterated, which accounts for the greater projection of their spinous processes, (as mentioned in the former part of the history) and inclining a little to the right side.

On viewing this detached part of the spine, the curvature and inclination, I should have supposed, would have produced in the living subject some degree of apparent deformity, which, though often looked for, was never observed. There

was

was some exuberance of boney matter where the bones were united, on the anterior side of the bodies of the vertebræ, inclining a little to the right side, in some extent caseing the original bone. The medulla spinalis appeared healthy and filled the canal at the upper part, above the injury, but at the lower orifice it seemed to me to be in some degree wasted, not filling the canal so compleatly there as above.

I sent the bones, in their undivided state, to Mr. T. Blizard, and through his kindness and that of my friend, Sir William Blizard, they are now deposited in the Museum of the Royal College of Surgeons in Lincoln's-inn-fields. The following is part of a letter which I received soon afterwards from Mr. T. Blizard.

"My dear Sir,—I have just returned from examining your "preparation. Mr. Clift (the conservator of the Museum) "has removed the spinous processes of the vertebræ, which "admirably displays the extent of the injury.

"The fracture was completely and firmly united; the pos- "terior part of the body of the fractured vertebræ was driven "into the medulla spinalis, its sheath being burst open, and "the medulla, at this part, was nearly destroyed. Above "and below the injury the appearance of the medulla was "natural. Under these circumstances it is hardly probable "that the parts supplied with nerves from the medulla, below "the injury, would ever have recovered the functions de- "pendant on nervous influence.

"When fracture of the spine takes place without any "actual pressure on, or laceration of, the medulla spinalis, "there is no reason why complete recovery should not take "place; and this even although paralysis should at first be "produced, which, as the consequence of concussion only, "may go off."

Since I received this letter, Mr. Clift has been so good as to show me the preparation in the Museum. The fracture appears to have extended in an oblique direction through *three* of the vertebræ, the lowest of the dorsal and the first two of the lumbar, and it seems to be a part of the body of the first lumbar vertebræ that was driven into and *remained* in the medulla spinalis; the canal is in a great degree narrowed at this part; but as Mr. Clift has been so obliging as to promise me two views of the preparation, I need not be more particular in my description of it.

Several questions naturally arise from the History of this case, and some useful deductions may be drawn from it. It is to be remarked that the *immediate* cause of my patient's death was not the first accident, but the second; not the fracture of the vertebræ, but the diseased state of the os is-

chium.

chium. How much longer he might have lived, had care been taken to prevent this last accident, it may, perhaps, be difficult to conjecture, for before he was prevented by it from being placed daily in the open air, he not only had the look and feeling of health but was gaining flesh.

I feel it to be my duty to correct a mistake in my first report of his case, where I remarked that he then began to be conscious of the passage of stools, except when they were liquid; farther inquiry did not confirm this opinion.

My patient, though he had never after the accident any sensation in the penis, felt pain when he compressed the testes, for which it is not difficult to account; but how are we to account for the pain, of which he often complained, in his right thigh?

Life having been preserved to so unusual length of time in this instance, which must be admitted to have been a fracture of the worst description, both in kind and degree, it becomes a matter of considerable importance to obtain information of the appearance on dissection of similar cases, to ascertain in what proportion of them the spinal marrow was actually wounded; to assist in forming our prognosis in future; and it will also be material to learn in what *manner* and to what *distance* the patient was conveyed after the accident, before he came under the Surgeon's care, as well as the mode of infliction of the injury in the first instance.

My patient was conveyed two miles in a heavy rough-shod cart, and it is fair to conclude that a ragged piece of bone, which might not wound at first, by rude and improper movement of the patient, might absolutely divide the medulla spinalis.

Should it turn out, upon making the inquiry which I have suggested, that, in many instances of fracture of the spine, the medulla is not absolutely *wounded*; there would then, I think, be a good prospect, under proper and careful management, not only of prolonging the life of the patient, but, in time, of restoring the use of the paralytic limbs. The prognosis must be formed not only from the particular symptoms of the patient, but from the result of the before mentioned *general* inquiry.

I shall now venture to propose a few hints for the guidance of practitioners in future, and in so doing, I shall be happy to stand corrected, should I be found in error, or to receive any additional information from your numerous and intelligent Correspondents.

The first rule is that the patient should not be moved the *shortest* distance, if it can be prevented, before he be properly

secure

secure upon the fracture-bed, and in the act of moving him into the fracture-bed, the greatest care must be taken to disturb the spine as little as possible.

2dly. The patient should be laid, of course, upon his back; and after his lower limbs are properly disposed in the fracture boxes, (to which none but the *outside* thigh splinter will be wanted) a little extension should be made by drawing him gently upwards towards the head of the bed.

3dly. The shoulders should be very little, *if at all*, elevated, as this may tend to produce some curvature of the spine, and to increase, or occasion pressure upon the medulla.

4thly. The catheter should have a tube of similar diameter made to fit into it easily after its introduction, at a right angle, which, by passing downwards between the thighs, may act as a syphon, and thus not only completely empty the bladder, but render pressure upon the abdomen unnecessary, and to prevent the mattress being wetted, which would otherwise be avoided only by taking it away.

5thly. It may be found useful to support the back on each side of the fracture by carefully pressing under a small soft cushion on each side. In Newland's case a worsted stocking twice doubled answered the purpose.

6thly. To save the small mattress which lies upon the trap-door, it will be adviseable to cover it with oiled silk.

Since the former part of this communication was written, I have been favoured with a letter from Mr. Clift, and a very beautiful drawing of the preparation of the spine. As some description accompanies the drawing, I need not say much about it. The fourth lumbar vertebra has been omitted, which, as Mr. Clift remarks, had nothing to do with the disease, and the omission allows the other parts to be represented of their natural size.

The drawing gives a view of the medullary canal, the spinous processes having been removed by the saw, and a part of the body of the first lumbar vertebra is very distinctly seen penetrating through the medulla spinalis.

Having, within these few days, sent an exfoliated *os pubis* to the Museum of the Royal College of Surgeons, and as the following letter to Mr. Clift contains a short history of the case, you will oblige me by inserting it in your valuable Journal.

"Dear Sir,

"When I had the pleasure of seeing you in the College Museum, I mentioned a case of fracture of the right os pubis, the heads of it are as follow.

"Anne Hill, five years old, on the 5th of August, 1808, had this bone fractured by the fore-wheel of a loaded narrow-wheeled waggon as she lay, thrown down upon the ground,

ground, upon her back; the wheel passed between her legs, over the right os pubis, and, apparently, in that direction over the hip, when she was disengaged.

"On examination, the right os pubis was depressed entirely out of the reach of the finger. She recovered without any marked symptoms, her knees at first being kept together and bent, to prevent any unnecessary motion. A small wound was soon produced in the groin by inflammation, sufficient for the discharge of pus. On the 27th of October following, one part of the fractured bone was discharged, and in the course of a few weeks more the other part.

"The bone appears to have been fractured about the centre, and detached at the two extremities; and the two pieces discharged, or exfoliated, seem to comprehend almost the whole of the bone from the symphisis pubis to the acetabulum. The accident, after the bone was discharged, was followed by no lameness or inactivity. The child is now eight years old, rather delicate, which she has always been, but active. There is a considerable degree of fullness of the part; from the want of the boney support, it yields readily to pressure, and there is no evidence of the reproduction of bone.

"Should you think this exfoliation, with the summary history of the case above detailed, worthy a place in the College Museum, do me the favour to place it in that noble collection; and, with your permission, that the record of the case may be more generally known, I will send a copy of this letter, for publication, to the Editors of the Medical and Physical Journal.

"E. HARROLD."

Cheshunt, 3d Sept. 1811.

The following Postscript was at the bottom of the letter in which Mr. Clift did me the favour to inclose the drawing, and acknowledges the receipt of the above letter and the preparation.

"I received your favour of the 3d inst. safe, and shall take "care to present it at the next Board of Curators. I think it "an admirable illustration of what nature will accomplish "for the recovery of a part, and what a degree of injury "may be sustained without proving fatal, particularly in "young subjects."

It will, I think, be interesting to observe the progress and effect of pregnancy in this case, should my patient live to be in that situation.

I have the honour to be,
Gentlemen,
Your obliged humble Servant,
E. HARROLD.

Cheshunt, Herts, Sept. 11, 1811.

To

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

PHYSICIANS in their writings have not recorded many instances of Cynanche Trachealis in the adult subject.—Notwithstanding my most minute research into medical histories, I have only met with one solitary case, in the person of that justly celebrated, and truly venerable character, General Washington.

The subjoined case has very recently occurred in my practice.

On Sunday, the 28th of April, 1811, about ten o'clock in the evening, a Surgeon and Apothecary in this town was desired to see Mr. Roberts, a printer and bookseller, in his fiftieth year. Apprehending danger, he requested further advice; and at half past ten I visited the patient. The attendants informed me that Mr. R. had been complaining, in a trifling degree, for two or three days, of a hoarseness and slight cough, with some difficulty of respiration; but the symptoms were not deemed of sufficient importance to create any alarm in the mind of the patient or his friends, or to induce them to call in medical aid.

I found him in a half reclined posture, breathing with considerable difficulty.—He seemed very averse to speaking, answered my questions in a peculiar shrill tone of voice, and the sound of inspiration resembled that of air passing through a metallic tube. His countenance expressed the greatest anxiety, and was marked by sudden transitions from a deep red, to death-like paleness. He was harassed with a constant shrill cough; had great thirst; difficult deglutition; tongue brown, dry and shrivelled; skin hot and moist; pulse quick and soft; bowels constipated. The internal fauces appeared red and inflamed, and were covered with portions of a whitish membranous film: but no swelling or enlargement of the tonsils, uvula, or velum pendulum palati.

Reviewing the whole train of symptoms, and observing the great anxiety, difficulty of breathing, and peculiar sound of respiration, I had no hesitation in pronouncing his complaint to be Cynanche Trachealis.

I directed a large bleeding from the arm: the gluten appeared separated, and lying on the surface of the crassamentum, as in inflammatory diseases. Prescribed one grain of tartarized antimony every half hour.—In this manner his medical attendant (who remained with him the whole time) gave him eight grains of the antimonium tartarizatum, which

produced considerable nausea, some vomiting, and a copious evacuation from the bowels. Fifty drops of laudanum were now given him, and a large blister applied to the throat, and another to the nape of the neck.

29th.—Visiting him this morning, I understood that he had slept a little, subject to frequent interruptions, as the difficulty of breathing increased by paroxysms, with great restlessness and anxiety, seemingly threatening immediate suffocation. With each fit of coughing he had brought up some mucus of a whitish appearance, resembling coagulated lymph; but the efforts to bring it up were very distressing.

He sat up, and his attendants believed him better; but the affection of the system was more considerable, with a weak, quick pulse, beating 120 in a minute, skin warm and relaxed. The shrill cough and croaking noise continued with increasing severity. With a view to promote expectoration, and if possible, dislodge the matter which was evidently accumulating in the trachea, I directed a continuance of the tartarized antimony; and a grain was given him every hour. About four grains in the whole was taken, but did not excite vomiting; and any increase of expectoration was unexpected in so short a time.

I now directed him to take a spoonful of a decoction of seneka (ʒj ad ℔j) as often as possible; of this, I believe, but little was swallowed; and, as in the case of General Washington, speaking, which was painful from the beginning, now became scarcely practicable. About four o'clock, A. M. he grew worse, breathed with more and more difficulty, and expired a few minutes before five; being thirty hours after my first visit.

I regret my not being permitted to open the body. Country situations are, in this respect, unfavourable to medical practice.

I am, &c.

ROBERT BEAVER, M. D.

Carnarvon, North Wales,
May 15, 1811.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

A CASE of small-pox occurring in a boy who had, some years before, undergone *variolous* inoculation in a very perfect way, having been casually mentioned to me by Dr. Jaques, during a visit I made to Harrogate very lately, I inquired

quired into the particulars, and finding them better authenticated than in any similar case that had come to my knowledge, I drew up a statement of it, solely with the view of its being inserted in the records of the public institution for extending the benefits of vaccination to the poor of this place, as an answer to objections sometimes urged against that practice, and usually founded on some instance of its failure, or supposed failure, of proving a perfect protection from subsequent small-pox.

The facts on both sides of this question, which in the true spirit of candour and observation have been so fairly stated in the last report of the national vaccine establishment, being well calculated to solicit the attention of the medical faculty and of the public to a dispassionate discussion of its merits, I conceive that the publication of the case alluded to, in your Journal, cannot fail to be useful and interesting at this moment. The facts narrated are supported by incontrovertible evidence, and are in their nature as conclusive as a single case can be supposed to furnish.

I am, Gentlemen,

Your obedient Servant,

JOHN STORER, M. D.

Nottingham, 10*th Sept.* 1811.

CASE.

Thomas Lingforth, of Lower Harrogate, Yorkshire, 15 years of age, was inoculated in the spring of 1800, or 1801, by Mr. Wormdall, surgeon of Upper Harrogate, with variolous matter. The inoculated part made the usual progress; and at the accustomed period the variolous fever appeared, and was followed in a few days by a general eruption, which was considerable on the face, but accompanied with mild symptoms; and the whole disease disappeared in a favourable way, leaving a cicatrice at the part inoculated, which, on inspection, I found very perceptible at this day. The same boy being at the parochial school at Pannal, was sent on a message into the adjoining parish workhouse, where a child lay ill of the small-pox, and in a dying state. He was instantly sensible of a most offensive smell, of which he complained much, on his return to his father's house at Low Harrogate, on the same evening. This his father recollects to have happened in April, 1809, on a Tuesday; and on Friday of the same week, he was taken ill of head-ach, fever, &c.

Dr. Jaques, Physician at Harrogate, was desired to visit him; and being informed of his inoculation, and satisfactory progress under that process, eight or nine years before, he concluded from the nature and severity of the symptoms, that

scarlatina, or some other eruptive disease, was impending.—On the following Monday an eruption appeared, so as to convince Dr. Jaques, who had been told of his exposure to the infection of small-pox, that it was truly variolous. This was confirmed beyond all controversy by the nature of the eruption, which proved confluent, and by the long continuance and severity of the disease from its commencement to its termination. His recovery in the end was perfect, leaving no bad consequences; and when it was to a certain degree advanced, three of his brothers and sisters, who had not before suffered this disease in any form, were taken with the small-pox, and all passed through it with more or less difficulty.

The above account I received separately from Dr. Jaques and Mr. Wormdall, the physician and surgeon who treated the patient at the times specified, from his father and mother; from his grandfather and grandmother, with whom he lived when he was inoculated; and from the young man himself, in respect to those particulars he was able to recollect. The marks of the casual small-pox are still apparent on his nose.

The facts are agreed upon by all the parties concerned, although the dates cannot be so accurately ascertained.

JOHN STORER.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IN your Journal for August, 1804, is an article on the subject of Gout, detailing the plan pursued, in the treatment of the disorder, by some practitioners in Portugal, written by Dr. Tavares, first physician in that kingdom, and communicated by Dr. Adams, who prefixed an observation, that since the days of Sydenham, physicians seem to be afraid of gout. This assertion is too general, as I have proved in my treatise on that subject, by the authority and example of the most celebrated modern authors. Lister ridiculed Sydenham, and treated his cautions with contempt. Cheyne informs us, that many physicians of his acquaintance showed no respect to Sydenham in such cases; and Mead, how much soever he might venerate his name, most decidedly differed from him in the treatment of the gout.

Dr. Adams says, those who peruse Sydenham with care will find he is by no means chargeable with the practice, which so generally prevailed after his time; that, on the contrary, there are cases in which he advises bleeding; and that

it

it was his custom occasionally to purge himself. Had Dr. Adams himself read Sydenham with a little more care, he would have found, that though he allows a vein may be opened, in the beginning of a fit, in those who are young, and overheated by hard drinking; yet, with respect to purging, he says, emetics or cathartics will only invite the gouty matter back into the blood; and this has often proved fatal, when had recourse to by way of prevention, or, what is worse, by way of easing pain in the fit.

He tells us he is fully convinced that purging, either in the fit, at its decline, or in an interval, is highly injurious; and only serves to aggravate the disease. He tells us there have been empirics, who have acquired considerable reputation by giving concealed cathartics in the gout; that while these cathartics operate, their patients feel little or no pain; and that by continuing them a few days, the fit may be removed; but the patient will have reason to repent of its removal. He assures us indeed repeatedly, and in the strongest terms possible, that it is equally useless and pernicious to attempt to cure the gout by evacuations.

It is true, in his Dissertation on Bloody Urine, he informs us, that having pain in his kidneys, he took two ounces and half of manna once a week, dissolved in a quart of whey, with a little lemon-juice occasionally, to quicken the operation, and render it agreeable to the stomach; but this was for the bloody urine, and not for the gout. On the contrary he declares, that although he retracts his former assertion, of its being absolutely improper to purge gouty persons, either at the beginning or at the decline, or in the intervals of the fits; yet, with regard to the gout itself, all sorts of evacuations are extremely pernicious in that disorder, and ought not to be used, unless bloody urine, and its concomitant symptoms, require them.

The method of cure described by Dr. Tavares was communicated to him by Professor de Lemos of Coimbro, who being called to see a monk, labouring under a severe paroxysm of the gout, recommended palliatives; but a country surgeon, who was present, smiled at his simplicity, and undertook to cure the patient. His plan consisted of half a dram of resin of jalap, half a dram of scammony, and half an ounce of syrup of poppies; and afterwards, a dram of Peruvian bark every hour. At the next visit which he received from the Professor, he was able to walk on crutches; and in two days he quitted his house.

Here is a medicine, which exactly resembles the Eau Medicinale. Jalap, and many other cathartics, when taken in large doses, often prove emetic; and, when joined with opium,

also possess the sudorific property of the compound powder of Ipecacuanha. This mode of treating the gout, though too rash and hazardous for the Professor implicitly to adopt it, suggested to him the propriety of administering a milder cathartic in arthritic complaints. Accordingly, he gave his patients an ounce, or an ounce and half, of sulphate of magnesia, on the accession of a paroxysm, and afterwards a dram of bark every hour; and his practice was crowned with great success.

Dr. Tavares tried this method in his own case, with equal success; and, finding that the bark, in large doses, constantly purged him, took a scruple of jalap, and eight grains of submuriate of mercury, which hastened the cure. When inflammation was considerable, he applied leeches.

Recollecting that an encomium on bark, as a remedy for the gout, appeared in this Journal, I tried to find the article, but was not so fortunate as to meet with it till my publication was far advanced. I therefore availed myself of what Mr. Parkinson has said on the subject. Mr. Parkinson accounts for the mode of operation by which the gout is relieved, in this case, according to the principles of the humoral pathology; but it is full as easy to account for it according to the modern theory of the medical world. Tavares himself, agreeably to Mr. Parkinson's opinion, but contrary to that of Dr. Kinglake, declares that the notion of the humoral pathology is now almost obsolete.

I am, Gentlemen,

Yours, &c.

J. RING.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

FINDING you mention, at the end of your last number, the request of a correspondent who signs himself Medicus, to be informed of the process for dissolving the elastic gum in æther, I have taken the liberty of sending you an account of the process as performed by Mr. Winch, apothecary, who, I believe, was the discoverer, and who transmitted a bottle of this solution from London to Macquer, at Paris. It is nearly as follows.

A pound of vitriolic æther is put into a bottle capable of containing about four pounds of any common liquid. On this æther there are poured two pounds of pure water, the bottle

bottle is then stopped, held with the mouth downwards, and strongly shaken, in order to mix them. On discontinuing the agitation, the æther soon swims uppermost; the bottle is still held in the same position, and cautiously opened, keeping the thumb on the mouth of it. The water is by this means easily let off, and collected in a vessel below.

This operation is repeated two or three times with new quantities of water, until the sixteen ounces of æther are reduced to about five ounces. It is this purified remainder that is found to be the most perfect solvent of elastic gum, which is thrown into the æther after being cut into small pieces. It begins to swell in a very short time; the æther penetrates it, and appears to act slowly on it at first, but at the end of five or six hours, or later, the liquor is saturated and remains transparent. If there be a surplus of the gum it falls to the bottom, and on being removed from the bottle may be moulded into any form and will preserve its elasticity.

Having now described the manner of dissolving this curious substance, I shall add the most simple method of applying the part completely dissolved to use. A tube may be made in the following manner: Prepare a small cylinder of pipe-clay of the diameter and length of the intended tube. It is unnecessary to bake it, but sufficient merely to dry it. The æther saturated with the gum is poured into a glass or tin cylinder a little larger than the clay rod, and filled up to the brim with the said liquor. The operator then plunges the clay pipe into the æther, withdraws it suddenly and allows it to remain for an instant in the air, replunges it anew, and repeats the operation in proportion to the intended thickness of the tube, as each immersion leaves a small coating. The tube being thus formed of the elastic gum, is thrown into water in order to dissolve the clay-pipe. This the water very soon effects, and the gum is left in the form of a perfect tube.

By a similar process to the above, elastic bottles, &c. may be formed of any size or dimensions.

If you think the above worthy a place in your useful Journal, you are at liberty to insert it, and by so doing, satisfy the wishes of your correspondent, Medicus.

I remain, Gentlemen,

With great respect, and esteem,

Yours, &c.

W. HAMILTON, Surgeon.

Ipswich, Sept. 2, 1811.

To

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IN a former volume you inserted a letter respecting the very meritorious "Society for the Relief of the Widows and Orphans of Medical Men in London and its vicinity;" this emboldens me to trouble you with a few lines respecting another Medical Society, which once enjoyed considerable estimation, but is now dwindled away to nothing. The Society to which I intend to call the attention of your readers is the "Lyceum Medicum Londinense," founded upwards of twenty years ago by the late *Dr. George Fordyce*, and *Mr. John Hunter*. This Society continued to flourish for many years; after the death of its founders the spirit of the Lyceum vanished, and several years have now elapsed since any regular meeting of the Members took place.

That a Medical Society of this kind should, after a time, fall into decay, is not much to be wondered at, however much it may be regretted; for it has happened to many Societies, much more celebrated than the Lyceum Medicum Londinense. It is not, therefore, to indulge in vain lamentations on this score that I now address you, but I am influenced from a consideration of compassion towards several unfortunate tradesmen, to whom this Society is indebted; and truly, Gentlemen, this is not a time when tradespeople can afford to lose their just demands. If, indeed, the Society had become insolvent, there would be nothing more to be said, the tradesmen must of necessity submit to the loss; but the Lyceum Medicum Londinense possesses money in the funds to a considerable amount, besides an extensive library, which is yearly becoming less valuable, thanks to the dust and to insects. Under these circumstances there is a paramount obligation attached to the surviving members of this Society, to see their creditors duly paid, for which purpose I venture to suggest that a general meeting of the Society be called, to order payment of the money justly due to their tradespeople, and afterwards to determine upon the proper means of disposing of the rest of their property. Perhaps the money could not be better employed than in encreasing the funds of the Society for the Relief of the Widows and Orphans above alluded to; nor the books be put to a better use than to be presented to some other Medical or scientific society; this, however, the members at large must decide upon.

I remain, Gentlemen,

Your obedient Servant,

A MEMBER of the Lyceum Medicum Londinense.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IT appears, by recent accounts from France, that the sale of Quack-medicines has been prohibited in that country; the French government having, with a laudable policy, bought up the secrets of those remedies which were found to possess efficacy, and entirely suppressed those that proved to be noxious or inert. Now, I cannot help suspecting that the noted *Eau Medicinale d'Husson* ranked in the proscribed class; and in this conjecture I have been in some measure confirmed by the circumstance of a *transfer* of the sole right to vend the medicine having been made by the proprietor, M. Chardron, to his agent in this country, much about the time that the above-mentioned suppression of secret nostrums is said to have taken place. Perhaps some of your correspondents may be able to furnish further information on this subject.

I am, Gentlemen,

A QUERIST.

Golden Square, Oct. 17.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

HAVING long witnessed the prevailing prejudices of the public respecting the mode which is adopted by apothecaries of sending in medicines, I take the liberty of offering two or three observations on the subject. Amongst the middling orders of society, the prevailing cry is, that if an apothecary is consulted, no matter in what case, whether medicines are absolutely necessary or not, he is sure to send in *loads* (as the term is) of medicines; and before a week has elapsed, the patient begins to loath them, either from an idea of their expence, or the frequency of their repetition. Thus the general idea is confirmed, that one half or less of the medicine is *not necessary;* and to strengthen and confirm these prejudices, (whether the cause of them is real or not), the physician *too frequently*, if he is called in unknown to the apothecary, or happens to have an opportunity of seeing the patient alone, broaches the same fascinating doctrine, viz. that so much medicine is absolutely unnecessary; that he believes there is a great deal too much given; and that he is a most decided

enemy to such practice, and as great a friend for *dieting*, *rest*, &c. Thus the patient's prejudices are confirmed by the physician: he gains esteem and favour; and his end is answered, as his fee is just the same, whether the invalid takes a larger or a smaller quantity of medicine. I am sorry to observe, that I have lately seen an instance where an apothecary, in an acute disease, had ordered a draught to be given every two hours. When the physician called he deprecated giving the medicine so frequently; desired the stomach might be suffered to rest, *(soothing language)*; and, *cook* like, ordered some soup to be given instead. Thus the patient, in an acute disease, where the apothecary was obliged to call three or four times a day, was suffered to be without medicine for twelve or fourteen hours, merely to humour the patient, gain esteem, and injure the apothecary.

I am perfectly aware that, on many occasions, the apothecary is obliged to send in a proportionate share of medicine, in order to remunerate him for his attendance, he having no other regular *mode of charge*. This is the grand source of evil. If medical men were generally to adopt a plan of charging for their attendance, and include what medicines are *absolutely necessary*, the prejudices of the public must be soon abandoned; and surely such a plan is not unattainable: for instance, if the Company of Apothecaries were to set the example, by adopting a system of that kind—adapting their charges to the different classes of the community they respectively attend—I have no doubt but it would soon be universally followed. Perhaps an objection may be stated, that this kind of payment would be *arbitrary*; but I would ask, is not the present accustomed mode of affixing prices to draughts and mixtures *equally arbitrary*, there being no legalized or enacted *rule* of charge? for it must be observed, that the present existing system is open to the same innovations of arbitrary charge, as the alteration hinted at could ever possibly be subject to: but while matters remain in *statu quo*, and the old plan is adhered to, surely it reflects no great honour or credit on the physician to rob the apothecary of a fair remuneration for his trouble, either by not ordering a fair quantity of medicine, or by sending prescriptions to a chemist, in a family even where a medical man has been in the constant habit of attendance.

OBSERVATOR.

London, Sept. 13, 1811.

To

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IN looking over your Journal for last month, I noticed a paper from the pen of Mr. Knowles, on the subject of diarrhœa; now, as I am a sincere lover of the profession, I am always glad to see any new road pointed out which may lead to a more successful mode of treating diseases, and the improvement of the medical art; but if medical men will relate cases which contain neither novelty, interest, or amusement, they certainly come under the lash of public opinion; and I would ask Mr. Knowles what there is in this case of either? Is there any thing in the treatment of it different from the common routine of practice; or are obstinate diarrhœas of "uncommon occurrence," as he has in the outset of his paper declared them to be? They are, I am sure, met with by every practitioner. Mr. Knowles supposes that "some morbific matter, producing irritation in the bowels, was the predisposing cause of this disease;" but this is impossible. It might be the *exciting* cause, but the predisposition must be sought for in something else: I should be inclined to think in nervous irritation, and a deranged state of the digestive organs, connected with a faulty action of the liver and irregular secretion of bile; but Mr. Knowles's account of the case is extremely defective: he has not even noticed the *colour* of the stools, a circumstance of the greatest importance, as Mr. Abernethy has very justly remarked, in all disorders of the chylopoietic viscera. Had he given small alterative doses of mercury, in all probability he would not have experienced the "long and tedious trial" which he did. I shall forbear making any further remarks on this case, and beg leave to offer a few observations on some other of Mr. Knowles's papers, in different Numbers of your Journal.

In April, 1810, "On the management of Leeches," he has sagaciously told you that he "believes there is no *insensible* membrane on the mouth of a leech;" that in order to make a leech disgorge herself of blood, you should gently draw it through your fingers!!; and, to keep them alive, that *you should put them into a bottle of water, covered over at the mouth with a piece of leather, having holes pricked in it to admit air!!*

In your next Number, I again find him on a most curious subject, "Plica Polonica," in which he states "being in the shop of Mr. Rogers, printer, of this town, (Newmarket), he presented to me, for inspection, a plica nine feet long, which

is now in his possession." I have also seen this "plica," as he is pleased to term it; and there is not the least reason whatever to suppose that it had any thing to do with the disease in question, being simply a morbid growth of the hair, unattended by any of the symptoms which precede or characterize the genuine disease; as general lassitude and heaviness, pains in different parts of the body, particularly of the head and eyes, and some degree of febrile affection; for he has said nothing about them: neither were the hairs enlarged in their diameters, or glued together with the viscid matter which issues from the roots in the true trichoma; as may be gathered from the following passage of his paper: "She was in the habit of running a comb through it, *to keep it together*; and she used to consider it as a great ornament." Finally, none of the dreadful consequences would have followed, had this lock of hair been extirpated at any time; or had it been the genuine plica polonica: for, in opposition to the authority of M. de la Fontaine, we have the following fact, which occurred at Breslau, and communicated by Dr. de Carro, of Vienna, in a letter to the editors of the Bibliothéque Britannique.

"Some years ago, one third of the recruits of the regiments of artillery brought from South Prussia were attacked with plica polonica. An order was received from Berlin to send to that city all those that were infected, and to take care that the disease was not communicated to others. This order, it appears, was not agreeable to the commanders of companies, as it would have occasioned the loss of at least 200 young soldiers. M. Hanel, surgeon-major to the artillery regiments, became mediator in the case; he made the recruits be brought on the ramparts, and ordered that a general shaving should be made. In a little time a pile of plica was accumulated; these trophies were then cast into a ditch, and the heads of the men carefully washed with soap and water daily, for some weeks. By this simple method of treatment, these dirty Polanders were speedily transformed into good soldiers, without having in the least suffered by the loss of this precious ornament of their head."

In the Number for August, 1810, I find a "Case of Ascites" successfully treated by Mr. Knowles. Now, gentlemen, as I know you are sometimes liable to be imposed upon by the relation of cases with a successful mode of treatment subjoined, which have nevertheless terminated in a very different manner; and as I have great reason to suppose that you have been so in the present instance, I am exceedingly anxious to detect it, if possible. I am much inclined to think that the subject of this case was a woman living at Thetford, and under the care of two eminent practitioners of that place, who, as Mr. Knowles

Knowles has remarked, did differ in opinion with respect to the tumor of the hypochondrium. She had also a brother, a medical gentleman, who communicated, in a letter to Mr. Knowles, a statement and history of her case; but so far from this lady ever being under his care at any time, I believe he never saw her but once; and I can also most confidently affirm, that he never met the two medical gentlemen who attended her: nor did she ever at any one time take a single grain of medicine of his prescribing. The powers of the constitution being gradually worn down, she died, poor woman, contrary to Mr. Knowles's statement, who has said that she recovered, and was afterwards the mother of two children. The treatment of ascites has always been of acknowledged difficulty; and I would ask, whether it appears probable that Mr. Knowles should have succeeded so easily by a few doses of calomel and digitalis, after the united efforts of two medical men, of great experience, had been exerted without benefit to the patient, who had more than once undergone the operation of paracentesis.

Mr. Harrold, whose name I am at liberty to mention on this occasion, communicated the case of his sister to Mr. Knowles, in 1809. Mr. Knowles states his case to have happened in 1803; but *where* did it happen? Not in the neighbourhood of Newmarket, because he was not in practice there, till the latter end of 1809, or beginning of 1810.

Finally, I may close my remarks by observing, that it is extremely improbable that Mr. Knowles should meet with a case so exactly agreeing, both in *circumstances and date*, as to require the *very words* of Mr. Harrold's letter to designate it; for I have seen a copy of the letter to Mr. Knowles, and can affirm, that the whole of the description and history of his case, is given, word for word, from this identical letter in question.

A NORFOLK PRACTITIONER.

For the Medical and Physical Journal.

DEAR DOCTOR,

YOU were probably very much surprised (though you could not be more so than myself) on seeing a communication from me, in the last number of the *new* Journal, edited by your predecessor, Dr. Shearman. You will agree with me, that there is something very disingenuous in reprinting a paper from another periodical work, not only without acknowledgment, but interpolating at the same time the little words,

words, "*I am, &c.*" before the signature, in order to deceive the reader into the belief, that such a communication had been made directly by the writer. The fact is, I drew up this summary of the latest official Reports relative to vaccination, at the suggestion of a friend, for insertion in a work, published for charitable purposes, entitled the Philanthropist; and it was not, of course, intended for the perusal of Medical readers. From this work it has been copied, with the sly interpolation before mentioned; and I now send the original to you, chiefly with the view of having this opportunity of explaining to you the circumstance of its unexpected appearance.

I am, Yours sincerely,
T. BATEMAN.

Bedford Row, Oct. 19, 1811.
To Dr. Fothergill.

On the Progress and present State of the Practice of Vaccination.

THE objects, which the general adoption of vaccine inoculation will accomplish for mankind, if time and experience shall confirm the promises of its benevolent discoverer, are so important, that every friend of humanity must have followed, with anxious hope, the progress of the practice, and rejoiced at the general result of the evidence in its favour. It is not easy, indeed, to calculate the sum of human misery that will cease to exist, when the prospect, which vaccination holds out to us, shall be realized. In its casual, or *natural* occurrence, as it is termed, the small-pox is not only the most loathsome distemper that visits the human frame, but the most fatal pestilence: sweeping off multitudes, during its prevalence, and destroying the sight, corrupting the habit, or otherwise inflicting disease, on great numbers of those, who escape its more destructive effects. The practice of inoculation had, it is true, already diminished those evils, among the individuals who resorted to it; but it had unfortunately augmented the evils, among the people in general, by the perpetual infection which it disseminated, and the artificial epidemic which it constantly kept up. In London, for instance, during the first thirty years of the eighteenth century, before inoculation could yet have had any effect, the proportionate number of deaths occasioned by small-pox, as stated in the bills of mortality, was about seventy-four out of every thousand: but, during an equal number of years at the end of the century, the number amounted to nearly one-tenth of the whole mortality, or ninety-five out of every thousand.

So

So that, as far as we are able to judge from hence, the practice of inoculation, which in itself might be esteemed one of the greatest improvements ever introduced into the medical art, has actually multiplied the ravages of the disease, which it was intended to ameliorate, in the proportion of above five to four.* And the extent of the mischief inflicted on the survivors is manifest from a statement, published by the Society for teaching the Indigent Blind, that nearly one-fourth of the persons admitted into that Charity have been deprived of their sight by the small-pox; not to mention the various forms of scrofula, and other diseases, which it frequently excites.

It is true, that the more intelligent classes of society, who have generally adopted the practice of inoculation, have in a considerable degree avoided the worst of these consequences of small-pox: they have seldom been deprived of the blessing of sight; and they have only been destroyed by the disease in the proportion of about one in three hundred. But the humane will shudder at the recollection, that this exemption has been obtained at the expense of so much additional misery inflicted on the people at large; and that they have but shifted a part of the evils from themselves, to be aggravated in the families of their less enlightened neighbours; while they perpetuate a plague, which would otherwise have had its periods of absolute cessation.

Such is the condition in which the most *improved* state of the art of medicine had placed us, before the benefits of vaccination were discovered; and such is the condition, to which some persons would advise us to return, in consequence of the alleged insecurity of this preventive. But it would seem to be only necessary to take a clear and dispassionate view of the state of the facts, relative to the efficacy of the cow-pox, up to the present time, in order to be convinced of its incalculable advantages, even were all the reported failures proved to have occurred,—nay, if they had actually occurred to double the extent that has been represented. It is the purport of this paper to detail, in as brief a manner as possible, the sum of the facts which have recently been brought to light, and to point out the inference, which seems to be justly deducible from them.

The National Vaccine Establishment, supported by Parliament, has published two Reports during the present year, containing the evidence which they have collected from va-

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* See the Tables drawn up by Dr. Heberden, in his "Observations on the Increase and Decrease of different Diseases, &c." p. 36.

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rious authentic sources. The Colleges of Physicians and Surgeons at Edinburgh, and the Faculty of Glasgow, have again given their decided testimony in favour of vaccination. They assert unanimously, that the practice of vaccination is generally approved of by the profession throughout Scotland; that no bad effects can be ascribed to the practice; and that, since its introduction into Scotland, the mortality occasioned by small-pox has very greatly decreased. The Faculty of Physicians and Surgeons of Glasgow further state, that, since the middle of May, 1801, they have gratuitously vaccinated in their Hall 14,500 persons; and that, as far as is known, the "vaccination in all these has succeeded."*

The accounts from several public Institutions, in and near London, are equally favourable.† In the Royal Military Asylum for the children of soldiers, where between eleven and twelve hundred are now received, vaccination has been practised since its first establishment in the year 1803. From that period to the present time, but *one* instance of death from small-pox has occurred; and, it is worthy of remark, that the individual had not been vaccinated, in consequence of a declaration of the mother, that he had passed through the small-pox in his infancy. Vaccination was introduced into the Foundling Hospital in the year 1801, and every infant, soon after its admission, has since that period been vaccinated. From the commencement of this practice to the present time, no death has occurred from small-pox, and in no instance has the preventive power of vaccination been discredited, although many children, as a test of its efficacy, have been repeatedly inoculated with the matter of small-pox, and exposed to the influence of its contagion. A similar success has attended the practice of vaccination at the Lying-in Charity of Manchester, where, in the space of nine years, more than nine thousand persons have been effectually vaccinated,

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* Report from the Vaccine Establishment, 1811.

† 1811.

It appears, that since the last Annual Report of the London Vaccine Institution, there have been inoculated by

by Dr. Walker	2,490
From the commencement of the Institution in 1806	8,595
By the appointed Inoculators in the metropolis last year	1,046
From the beginning	3,109
By the appointed Inoculators in the country	20,801
From the beginning	177,474

Last year, Charges of Matter . 31,992 to 6,589 Applicants.
From the commencement of the Institution, 93,080 to 18,900 Applicants. EDITOR of the Philanthro.

and

and secured from the small-pox. The officers of the Vaccine Establishment in London, through the medium of their correspondence with many similar Establishments in the country, have learned, that practitioners of the highest respectability are earnestly engaged in promoting the extension of the practice; that, among the superior classes of the people, vaccination is every where generally adopted; and that, although the prejudices of the lower orders, which have been excited by interested persons, still exist, they appear to be gradually yielding to a conviction of its benefits. This inference is likewise confirmed by the fact, that 23,362 charges of vaccine matter have been distributed by the Establishment to various applicants from all parts of the kingdom, which exceeds by nearly one-third the number distributed in the preceding year.

Of the immense benefits resulting from the universal adoption of vaccination in other countries, the accounts from India have furnished the most interesting example. The number vaccinated in the island of Ceylon, from the year 1802 to January 1810, amounts to no less than 128,732 persons; and, the small-pox has literally been exterminated from the island. From the month of February 1808, to the last mentioned date, the disease had not existed in any part of the island, except in October 1809, when it was carried thither by a boat from the Malabar coast: but, in this instance, the contagion spread to only six individuals, who had not been vaccinated, and was immediately arrested in its progress, and disappeared. The medical Superintendant General observes, that they have no apprehension that the small-pox will ever spread epidemically in Ceylon, while vaccination continues to be generally practised; at the same time, that its occasional appearance there has the good effect of proving the preservative power of the vaccine pock, and of rouzing the natives from their apathy on the subject. Even the Brahmins are now surmounting the prejudices of their education, and submitting to be vaccinated.*

It appears from a Report of the Central Committee of the Vaccine Institution, at Paris, published on the tenth anniversary of its establishment, that the benefits of vaccination, in augmenting the population of a country, have not escaped the attention of the present ruler of France, who has formed depots of vaccine fluid in twenty-four of the principal cities, communicating with the Central Committee, at Paris. In some of the departments, it is said, the zeal of the prefects

* See the Report of the Vaccine Establishment.

has been such, that there remain none to vaccinate, but the infants born in every year, and that the small-pox is already unknown. And the returns of the mortality in the city of Paris, for the year 1809, exhibit only 213 deaths by small-pox. "This number," say the reporters, "though yet too considerable, since the vaccine offered to these 213 victims a certain method of preservation, is yet extremely small in comparison of that of some years, when the epidemic small-pox has carried off, in the same city, more than 20,000 individuals." The Committee, consisting of sixteen of the principal physicians of Paris, express their conviction of the efficacy of vaccination in these terms. "Ten years of labour and success have at length decided the important question, as to the vaccine possessing the power of preserving all those, in whom it has regularly gone through its progress, from the small-pox. This has been carried to such a degree of certainty by the experiments of the Central Committee, and its numerous correspondents, as well Frenchmen as strangers, that there is not at present any fact in medicine better proved, or more certain, than that which establishes the truly *anti-variolous* power of the vaccine."*

Such is the result of the progressive experience of professional men, in regard to the efficacy and preventive powers of vaccination: such is the confirmation, which the inferences, drawn from the early investigation of this subject, have received from subsequent and more extensive research! Insomuch that the conclusion of the College of Physicians upon the subject, in the year 1807, must now be deemed indisputable, that "the truth seems to be established as firmly as the nature of such a question admits."†

The opposition to the practice, which is still but too successfully kept up by a few clamorous individuals in the medical profession, rests principally upon a mistaken view of the nature of the question. It rests upon the notion that the result of the practice should be uniform and invariable,—that the *rule* should be void of all *exceptions*. But there is no such regularity in the operations of the animal economy; there is no disease without its anomalies; and the diversity of human constitutions is infinite. Several of those anomalies, or exceptions to the general rule, have doubtless occurred in the practice of vaccination; "but" to use the words of a judi-

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* A copy of this Report may be found in the Edinburgh Med. and Surg. Journal, for Jan. 1811, p. 117.

† See the Report of the Royal College of Physicians on Vaccination, July 1807.

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cious and experienced observer, " certainly not so often as was expected by those, who considered the subject from the first dispassionately, nor have they been in sufficient number to form any serious objection to the practice founded on Dr. Jenner's discovery."* In truth, if this principle were received, that no operation ought to be performed on the human body which was liable to occasional failure, what medicine would remain for us to exhibit, or what surgical assistance for us to offer?

But let us examine the nature of these exceptions, or " failures," as they have been emphatically called, which have occurred in the practice of vaccination. The very sound of the word excites an alarm, in the minds of many persons, as if *failure* were synonimous with *death*, or implied the certain occurrence of a desperate or mortal small-pox. But this is so far from being the case, that upon a deliberate view of the facts, we do not hesitate to affirm, that, if all the cases of alleged failure, which the opponents of vaccination have raked up, upon any sort of evidence, and often upon none, had really occurred, and that number had been doubled or tripled, its advantages over the inoculation of small-pox would still be incalculable.

In the first place, it has been ascertained by the concurring observations of almost all the practitioners who have attended to the subject, that (to use the words of the College of Physicians) " in almost every case in which the small-pox has succeeded vaccination, whether by inoculation or by casual infection, the disease has varied much from its ordinary course; it has neither been the same in *violence*, nor in the *duration* of its symptoms, but has, with very few exceptions, been *remarkably mild, as if the small-pox had been deprived by the previous vaccine disease of its usual malignity.*"† Dr. Willan states, that the feverishness, which precedes the eruption in these cases, is often considerable, but the pustules are small and hard, containing little or no matter, and begin to dry off on the sixth day.‡ It must not be omitted, indeed, that, in a very few instances, the small-pox, subsequent to vaccination, has assumed the confluent form, and put on a dangerous aspect (as in the recent case of the son of Earl Grosvenor); but even in these rare instances, the modifying influence of the previous vaccination has been manifest, the disease, when near its height, receiving a sudden check, and the recovery being

* See Dr. Willan's Treatise on Vaccination, p. 21.
† See the Report of the College.
‡ See his Treatise, Sect. iv.

unusually rapid.* One case of this sort occurred to the observation of the writer of this paper, in which on the seventh day of confluent small-pox, the child became suddenly free from constitutional complaint, and ran about at play;—a circumstance, he believes, that is never known to occur in confluent small-pox, where the previous influence of vaccination had not been exerted. In this statement, then, we have admitted the worst consequences that have ever accompanied the "failures" of vaccination, in any one instance.

But, in the second place, let us attend to the proportionate number of these failures. "It does not appear," says Dr. Willan, who minuted the cases as they happened, "that failures in the preventive effect of vaccine inoculation, including *mistakes*, *negligences*, and *mis-statements*, have occurred in a greater proportion than as *one* to *eight hundred*.†" It is very improbable, then, that the actual failures amount to one in a thousand, or to any thing near that number. But let us suppose, for the sake of argument, that the failures amount to the proportion of one in five hundred; that is to say, that one of every five hundred persons vaccinated, remains liable to be infected by small-pox: and let us further imagine that this subsequent small-pox is not mitigated in any case, and therefore, that (as in the case of the ordinary *natural* small-pox) *one* in *six* of these will die. Then the worst result would be, that *one*, out of every *three thousand* persons vaccinated, would die. But we know, that *one* of *three hundred* persons, who receive the small-pox by inoculation, perishes of that disease.‡ The conclusion is therefore obvious, that the worst result that could be calculated upon from vaccine failures, would leave the balance in favour of vaccination, in the proportion of *ten* to *one*. But, when we consider the actual state of the circumstances;—that the number of deaths from inoculated small-pox really exceeds the number of "failures" of vaccination;—that these "failures" are, in a great majority of instances, the means of insuring a very mitigated and harmless small-pox;—and that they have, perhaps, in no instance, been followed by a fatal small-pox;—the chances of fatality from a failure of the vaccination are so trivial as to elude calculation, and the only chance of in-

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* See his last Report of the National Vaccine Establishment, July, 1811.

† See his Treatise, p. 23.

‡ Doctor Willan states that "the inoculated small-pox still proves fatal in *one* case out of *two hundred and fifty*."—*Ibid.*

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jury that ensues, is reduced to that of a temporary inconvenience.

Lastly, let us reflect on the non-contagious nature of the vaccine disease, which, while it secures the individual from blindness, deformity or fatality, too often consequent on the small-pox, injures no one, and spreads no epidemic around, and we shall be compelled to admit, that, "with all its imperfections on its head," with a frequency of failure that its most active opponents have never yet ascribed to it, vaccination would still prove a blessing, such as few individuals have had the happiness to confer upon mankind.

We might here have terminated our observations, but the leading circumstance, communicated in the late Report from the National Vaccine Establishment, demands some notice. It is singular, that at the time when the public attention was attracted by the occurrence of small-pox, after vaccination, in the sons of the Earl of Grosvenor and Sir Henry Martin, the second occurrence of small-pox in the Rev. Joshua Rowley, Miss Booth, and two other persons, should have happened.* In three of these cases, the previous small-pox had been taken by inoculation, and in the fourth, in the natural way. But the truth is, that the small-pox itself, in whichsoever of these two ways it is produced, is liable to the same anomalies and exceptions as the cow-pock. There are several examples of the fact on record; one of the most striking of which is the case of Mr. Langford, related in the 4th volume of the Memoirs of the Medical Society of London. This person was so "remarkably pitted and seamed" by a former malignant small-pox, "as to attract the notice of all who saw him:" yet he died at the age of fifty, in an attack of confluent small-pox, in which he communicated the infection to five other individuals of the family, one of whom also died. It will be unnecessary here to detail the various examples which authors have described. The writer will just notice an instance, which occurred under his own observation not long ago, the particulars of which will be detailed in the 2d volume of the "Medico-chirurgical Transactions," about to be published.† This occurred in a woman, of twenty-five years of age, who was considerably pitted by a former confluent small-pox, which she had suffered in her childhood. She caught the second disease, which went through the usual variolous stages in a mild way, by nursing

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* See the Report of July 1811.

† Several cases and many references will be there found, which are omitted here for the sake of brevity.

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her infant under a confluent small-pox, which proved fatal to it. It is remarkable, that her two elder children, who had been vaccinated a few years before, lived in the same apartment during the progress of the small-pox in the infant and mother, and escaped the infection; the cow-pock in them having exerted a preventive power, which the previous small-pox had failed to effect in the mother. The poor woman had been prevented, by the terfors excited by the anti-vaccinists, from vaccinating her youngest child: a faet which should induce these opponents of the practice to reflect on the serious responsibility which they assume, in thus discouraging the adoption of this important preventive.

T. BATEMAN.

Bedford Row, August 19, 1811.

CRITICAL ANALYSIS

OF

RECENT PUBLICATIONS

IN THE

DIFFERENT BRANCHES OF PHYSIC, SURGERY, AND MEDICAL PHILOSOPHY.

A Treatise on Surgical Anatomy. Part the First. By ABRAHAM COLLES, one of the Professors of Anatomy and Surgery in the Royal College of Surgeons in Ireland, &c. &c. &c. 8vo. Dublin, 1811, pp. 219.

THE importance of anatomical knowledge to the surgeon is so obvious and so indisputable, that when practitioners are found defective in this fundamental principle, we are struck not only with regret but surprize. Anatomy, unlike abstruse and speculative inquiries, is open to the senses. It is a practical art; every thing in it may be seen, felt, and understood; therefore every student, with a certain portion of application, may as readily find his way in it, as he can from Dublin to London. But still students and practitioners are deficient in anatomical knowlege. Of this our author is fully sensible: and the object of his publication is to lay down "a plan of instruction, which should point out at each step the practical application of *anatomical researches to surgical uses.*" The utility of this plan we readily admit, because it keeps constantly within the student's view the direct application of his anatomical acquirements. Of all the motives that impel to

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the acquirement of knowlege, those which point out its direct application to actual practice are the most powerful.

Two papers, "on the preparatory education necessary for the surgical student," and a "plan of study to be pursued by the surgical pupil," precede the particular business of the volume. In the first of these, which is addressed to the pupils of the Royal College of Surgeons in Ireland, Mr. Colles enforces the necessity of certain preliminary and collateral studies. Among these he ranks classical learning, and proposes that no person be admitted a registered pupil of the College of Surgeons, until he has undergone an examination in Greek and Latin. The Sciences, especially those which have been denominated natural philosophy, he also especially enforces. That part of this branch of human knowlege, which investigates the properties, principles, and relations or affinities of things, under the term chemistry, we shall particularly notice, as containing an opinion hostile to the fashion of the day.

"The advantages which the surgeon derives from the knowledge of chemistry, are not confined to the composition and administration of medicine. This science is of still more material use to him, in elucidating several important phænomena in the animal œconomy; for by chemical analysis, we acquire a more accurate knowledge of the component parts of many substances, which are secreted from the general mass of the blood, and lodged in various cavities of the body. Thus we learn more clearly the composition of urine and of bile; and thus we gain a more distinct idea of certain morbid changes which take place in these fluids, as in the formation of biliary and urinary calculi. Nor perhaps will it be deemed too sanguine a hope, to expect that chemistry may one day furnish us with remedies which shall possess the power of dissolving those concretions, and thus free mankind from the sufferings of a most painful disease, and the necessity of a most dangerous operation. In a word, chemistry applied to the investigation of any phænomena in the animal system, which do not strictly depend on the vital principle, or employed to discover the composition of substances, which, though deposited in certain appropriated receptacles of the living body, are yet to be considered as not under the immediate influence of the living power: chemistry, I say, applied thus far, will not only facilitate researches into the animal œconomy, but may also ultimately guide our practice to a more judicious treatment. But this is the utmost extent of its utility to the healing art. Thus far, and no farther, are the principles of the one science applicable to the phænomena of the other. Here nature seems to have fixed so immoveably the common boundaries of both, that beyond those limits it appears scarcely possible for chemistry ever to extend her empire over the province of medicine. I know how contrary this is to the prevailing opinion. I know well how fashionable it is to lavish on chemistry

chemistry the most unqualified praise, and to attribute to it the most unbounded utility to the study and practice of medicine; but however popular the study of this fascinating science may be; however ardent the hopes, and enthusiastic the expectations of its admirers; I trust I shall be able to satisfy ingenuous and unprejudiced minds, that the vital properties of the human system depend not on its chemical principles, and that the great and complicated operations of the animal œconomy are not subject to the same laws that govern the minute and detached particles of inanimate matter. And if I shall thereby prove the means of preventing that total disgust which will naturally be conceived to this science, on finding that time and industry had been thus thrown away, upon an attempt no less laborious than impracticable; I am confident it will be believed, that so far from being inimical to this beautiful and useful study, I am, on the contrary, strongly actuated by a sincere solicitude for the advancement of its real interests.

"To show how little the science of mutual affinities is calculated to elucidate the phænomena of animal life, we shall begin with the most simple facts, and from thence proceed to an investigation of the more complex.

"For this purpose we shall, in the first place, consider chemistry as applied merely to explain the composition and properties of the fluids, and the texture and uses of the solids. By chemical analysis then we discover, that all our fluids and solids (with the single exception of bone), are composed of nearly the same chemical principles; and that they differ from each other chiefly by having those principles combined in different proportions:—but how is it possible to suppose, that such slight differences in the proportions of the same elementary principles, can be the cause of such astonishing differences in the living properties? or indeed how is it possible, that any conceivable combination of chemical elements can impart any living property whatever? Can any chemical analysis teach us, for instance, why the elementary particles of animal matter, combined in muscle, possess the astonishing properties of motion; or how those combined in nerves communicate the still more surprizing properties of sensation? or can it explain to us, why it is, that both these extraordinary agents retain their respective powers during life, and yet lose them immediately after death, although no alteration in their component principles have taken place? If the science of chemistry then be sufficient to explain the more simple properties of any individual part, how can we sxpect it to elucidate the complicated process of any particular function? For example, can chemistry elucidate the wonderful process of digestion, by which dead vegetable matter is converted into living animal matter, and the food taken into the stomach is made to participate in the sensations of the animal whose body it nourishes? If then chemistry can neither explain the properties of individual parts, nor the process of particular functions, is it from this science we are to expect an explanation of the vital principle itself—that mysterious principle which, pervading every part of the sentient system, at once

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directs, sustains, and harmonizes all those wonderful and complicated movements of the animal machine?

"Such are the considerations which induce me to think that the value of chemistry to the surgeon is extravagantly overrated by modern authors.

"Had these wild ideas of the perfectibility of medicine, by the aid of chemistry, remained confined to the speculations of the theorist, I should have passed them over in silence; but when I see the crude and imperfect principles of animal chemistry extensively applied to the practice of medicine, to detect the proximate causes of disease, to discover the appropriate remedies, and to explain the specific mode in which those remedies chemically operate; I feel it my bounden duty to warn you, as strongly as I can, against so dangerous a delusion. And perhaps I cannot do this more effectually, than by stating to you some few of many cases in which this attempt has been already made. The chemico-medical philosophers of the French school, a few years since, laid it down as a theory of intermittent fever, that the disease consists in a general debility of the muscular fibre, arising from the defect of gelatin in the constitution, and from the imperfect fixation of oxygen or pure air in the gelatin. From this theory it immediately followed, that the proper remedy was to make gelatin the food of the patient, and to let him enjoy the benefit of fresh air. They therefore resolved to substitute this new medicine with the modus operandi of which they conceived themselves to be perfectly acquainted, for the established specific which cured the disease, it is true, but cured it in a manner to them inexplicable. They accordingly did actually administer jelly for the cure of the ague, instead of Peruvian bark. And what was the success of the remedy? Exactly such as any man of common sense must naturally have anticipated. Thus, by the misapplication of an useful science, have these men been induced to abandon the established and successful treatment of intermittent fever, and to adopt a practice perfectly inert, founded on a theory perfectly puerile. In the same manner, and with nearly the same success, has factitious air been applied to the cure of pulmonary consumption, and oxygenated to the cure of lues venerea.

The observations of Mr. Colles on the extravagant application of chemistry to explain the causes and lay down the cure of the morbid alterations in animal bodies, perfectly accord with our own opinions. The quarrels between acids and alkalies which once shook the medical world, the notions of Silvius on the cause of fever, and the reveries of the alchymists, have hardly surpassed the wild speculations and absurd conclusions of the modern chemists. The high talents, the ardent mind, and the ceaseless inquiry of Dr. Beddoes, we cannot but reverence; but it is painful to recollect the visionary expectations which he once cherished on pneumatic chemistry. In no instance, however, have the conclusions of

Thomson's London Dispensatory.

(Concluded from page 337.)

In our preceding number having given some account of the first and second parts of this work, and subjoined the article on Cinchona as a specimen of the author's design and a favourable instance of its execution, we now proceed to notice the third and concluding part.

In this part, under the title of "Preparations and Compounds," are described the compositions of the London, Edinburgh, and Dublin Pharmacopœias. These are arranged in the following classes :—Acids, alkalies, and neutral salts—earths, and earthy salts—preparations of sulphur, —metallic preparations--preparations of vegetables, expressed oils, volatile oils, distilled waters, decoctions, infusions, mucilages, extracts, mixtures, spirits, tinctures—preparations of æther—wines, preparations of vinegar, preparations of honey, syrups, confections, powders, pills, troches—preparations from animals, plasters, cerates, ointments, liniments, and cataplasms. To this is appended a history of common and mineral waters, the method of analysing the latter, and a useful table containing the synonyms of the Lond. Edin. and Dub. Pharmacopœias, with the doses of the various articles.

From this part we shall extract an original article on water, inasmuch so as it has not been thus treated of in Dispensatories, though its importance in the operations of nature, its efficacy in the cure of diseases, its supposed agency in the production of morbid effects, and the share it has in pharmaceutical operations entitle it to be distinguished among the bodies that constitute our Materia Medica.

"The appearance of common water is too well known to require description. It retains its fluidity under the ordinary pressure of the atmosphere, at any degree of temperature between 32° and 212° ; but under 32° it crystallizes and becomes solid, and above 212° assumes an aëriform character, expanding to 2000 times its ordinary bulk. One cubic inch of pure water at 60° and under a pressure of the atmosphere, indicated by 30° of the barometer, weighs 252,422 grains, or $\frac{1}{11}$ of a grain less than 252½ grains.

"Although water is almost universally diffused over the surface of the earth, yet it is not found perfectly pure in any place ; which is owing to its great solvent powers enabling it to take up a portion of many things with which it must come in contact in its natural state. These impregnations, however, are not sufficient, in general, to give it any sensible taste or odour, or to render it unfit for the ordinary purposes of life ; and it is in this state that ordinary

nary water is usually obtained. Common water varies considerably according to the source whence it is derived, and other circumstances; but all varieties may be reduced under the following heads:

1. Rain water—*Aqua pluvialis.*
2. Spring water—*Aqua fontana.*
3. River water—*Aqua pluviatilis.*

"Rain water is the purest of natural water: but it, nevertheless, contains in solution, in every 300 cubic inches, about 3½ cubic inches of air, rather more oxygenous than common atmospherical air, and about one cubic inch of carbonic acid gas, beside minute portions of carbonate and muriate of lime. Its specific gravity scarcely differs from that of distilled water, and after precipitating the muriate of lime, by dropping into it a little barytic water, and exposing it to the atmosphere until the precipitate be totally deposited, it is sufficiently pure for most pharmaceutical purposes. (Morveau, *Annales de Chimie*, xxiv. 320.) When rain water, however, is collected in towns, or from the roofs of houses, it contains a small portion of sulphate of lime, soot, and other impurities, and requires to be boiled and filtered before dropping in the barytic water.

"*Snow water*, when newly melted, is destitute of air; and when allowed to remain for some time exposed to the atmosphere, it does not differ in its qualities from rain water.

"2. Spring water, if it has not been filtered through a very soluble soil, is almost as pure as rain water. The best springs are those which rise through sand or gravel, at a small depth.* It generally contains, besides the above mentioned ingredients, a small portion of muriate of soda.

"*Well or pump water*, which is spring water obtained by digging to a considerable depth, is by no means so pure. It is commonly distinguished by a property named hardness, implying an incapability of dissolving soap;† which is owing to its containing many earthy salts, the principal of which is sulphate of lime. Many of the foreign ingredients contained in hard water are simply suspended in it; for pump water is rendered softer and purer by only passing it through a filtering stone. The best mode of freeing hard water of its earthy salts, is first to boil it; then, after it has cooled, to drop into it an alkaline carbonate; and lastly, to filter it. It cannot be employed for pharmaceutical purposes.

"3. River water, when the stream is rapid, and runs over a pebbly or siliceous channel, is as pure as the softer spring waters; but when the current is slow, and the bed clayey, it approaches nearer to the nature of well water, and frequently contains putre-

* The water conveyed to Hoddesdon, in Hertfordshire, rises through a fine white sand, and is so pure, that Dr. Hales affirms, it left no incrustation in a boiler which had been in constant use for fifteen years. *Statical Essays*, 2. 242.

† Soap when agitated with hard water is decomposed; the alkali of the soap uniting with the acid of the earthy salts, while the oil and earths combine, and form new nearly insoluble soaps, which swim in a curdy form on the surface of the water.

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fied vegetable and animal matters, as is generally the case in water of lakes and marshes.

"Such are the foreign ingredients contained in *common water.* Boiling frees it from air and gases, and precipitates many of the earthy salts; but distillation in glass vessels frees it entirely from them, and it is obtained almost perfectly pure, transparent, colourless, insipid, and inodorous.

"The varieties of water enumerated above may be almost indiscriminately employed as diluents, the small proportion of foreign ingredients they contain, occasioning no difference in their diluent properties. When the quantity of sulphate of lime and aluminous matter, however, is over considerable, as is the case in many pump waters, there is some reason for concluding that deleterious effects may arise from the use of the water; although it may be doubted whether the scrophulous and glandular swellings, peculiar to some populous towns, can be justly ascribed to this cause.* Even a few of the waters which are regarded as mineral waters owe more to the diluent property of the water for their efficacy, than to the impregnations they contain. This is particularly the case with the Malvern spring, which has been found to contain very little foreign matter. The diluting power of water is much modified by temperature; warm or tepid water being a much better diluent than cold water.

"The medicinal properties of water as a diluent were well known to the ancients; and cold water used as a drink in fevers, was the principal remedy of the father of physic in these complaints. The temperature of 60° is the proper degree, when it is intended that water should produce its diluent effects without the aid of heat. Under 45° it produces a sedative and astringent effect; above 60° and under 100°, it relaxes the fibres of the stomach, and is apt to induce nausea, particularly when bulk is added to the range of temperature; but at a higher temperature the stimulus of heat, in the same manner as the addition of other stimulants, prevents that effect. Simple water may supersede the use of all other diluents; but animal and vegetable infusions are generally employed, or toast and water *(infusum panis tosti,)* which is more agreeable to most palates, and is an excellent remedy in fevers and inflammatory diseases. The temperature of water as a diluent should be regulated by the nature of the disease: in internal hæmorrhages the temperature should not exceed 45°, but it may be 60° in fevers; unless in the cold stage of the paroxysm of fever when thirst should be allayed by tepid or warm water, or other bland fluids; and the same precaution is necessary when the sweat has become general and profuse. In cases in which there exists a morbid increase of bile disturbing the functions of the stomach and irritating the bowels, the temperature of the water used as drink may be from 90° to 114°;

* Percival ascribes the glandular swellings common in Manchester to this cause. See *Essays*, 1. 291.

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and in some cases of dyspepsia, which are attended with the sensation of coldness at the stomach, and with cold extremities, a cupful of water, taken as hot as it can be drank, affords very considerable relief. In cases of redundant bile, by drinking half a pint of tepid water every morning before breakfast, and taking immediately afterwards moderate exercise, the acrid bile is diluted, and its passage through the bowels assisted, without the irritation, which in its undiluted state it always excites; and it produces the same benefit in cholera morbus in the commencement of the disease, the stomach being rendered by it more fit to receive opiates and other remedies. Some medicines, as sudorifics, diuretics, and emetics, scarcely produce their effects, unless their operation be assisted by copious dilution with water, or watery fluids.

"Water is also an external remedy of great importance, but its effects are much modified by the degree of temperature at which it is applied.

"Cold water, or of a temperature under 70°, gives the sensation of cold to the skin, and is applied under the form of *bath* and of *affusion*.

"The cold bath, when the body is immersed in it, first induces the sensation of cold, excites shivering, renders the skin pale and contracted, so as to produce the papillous appearance denominated goose skin *(cutis anserina)*; the respiration at the same time is quickened and rendered irregular, producing sobbing; and the pulse is diminished in force and velocity, but is also rendered firmer and more regular. If the immersion be not long continued, reaction takes place on coming out of the bath, a glow, or agreeable sensation of heat is felt over the whole body, the tone and vigour of the muscles are increased, a buoyancy of spirit and aptitude for action succeed, and a sense of general refreshment is experienced by the bather. The protraction, however, of the immersion for a considerable space of time, particularly if the temperature of the bath be under 50°, is not followed by this reaction, but the cold water operates as a powerful sedative; the action of the heart and arteries becomes languid, the pulse ceases at the wrist, the animal heat is rapidly diminished, and a sensation of coldness at the stomach is felt, which is succeeded by faintness, delirium, torpor, and death. Sometimes these unpleasant effects are experienced in some degree, even when the immersion is not protracted, and the temperature of the bath is not under 60°; in which case cold bathing proves always hurtful, and ought not to be repeated; but when the contrary effects are experienced, it is found to be useful in many diseases of debility, particularly in scrophula, if the water be impregnated with salt; or see bathing be resorted to. The use of cold water as a general bath is never employed with a view of producing its sedative effects; but for this purpose is partially applied either by the immersion of the affected parts, or by means of cloths dipped in very cold water, laid over or near the parts. It is used as a remedy in uterine active hæmorrhages, burns and scalds, and in local inflammations, even when arising from general disease, as gout and acute rheumatism,

rheumatism, when the surface of the pained part appears red and inflamed.

The cold effusion, or the suddenly pouring cold water over the whole surface of the body, operates as a powerful stimulant, although its effects are of short duration. They are produced by the suddenness of the application affecting the nervous energy, and by the shock rousing the dormant susceptibility, so as to induce a new action, as it were, of the nervous system, dissolving the spasms on the extreme vessels on the surface, carrying off a large portion of morbid heat by general evaporation, and the remainder by insensible perspiration; thence restoring the healthy action of the exhalents and the capillaries. In typhus fever, this mode of applying cold water has been productive of the best effects It should be applied in the first hot stage of the disease, if possible, and repeated every time the morbid heat returns. If the water can be impregnated with salt, so much the better; but when the disease is advanced, its temperature should not be more than 26° under the heat of the body. It often stops suddenly the disease, if it be used during the three first days, and sometimes so late even as the fifth; but after this period, it can be regarded as an useful auxiliary only, when properly used. In tetanus, Currie affirms (*Reports on cold Water*, i. 138.) that the cold affusion also proves useful, particularly when the shock is considerable, and applied during the presence of the convulsions. It is, however, in idiopathic tetanus only that it proves useful, no advantage being obtained from using it in tetanus arising from wounds. Its utility has also been proved in many of the exanthemata; for instance, during the hot stage of the eruptive fever of small-pox; and we can bear ample testimony to its efficacy in scarlatina maligna, when the heat rises to above 100°.* This remedy, however, is productive of much mischief when misapplied; and therefore it is necessary to observe that it is contraindicated in the cold stage of fever, and when a sense of chilliness is present, although the thermometer indicate the real heat to be more than natural. It is also improper in fevers, when diarrhœa or dysentery are present; after the sweating stage of intermittents is performed; after the eruption is completely formed in confluent small-pox; and in symptomatic fever occasioned by great local inflammation. The cold affusion, in the form of the shower bath, is advantageously employed as a stimulant and tonic in diseases of general debility, when no fever or increased heat is present.

Warm Water, or of a temperature from 70° to 100°, gives the sensation of warmth to the body, and is applied both locally and generally in the form of vapour, fomentation, and bath. Water is found in

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* Currie gives the following results of the affusion:—The heat of the body in fever, as indicated by the thermometer, being 103°, was by it reduced to 98° in half an hour, and the pulse from 112 to 80 beats, (Vol. i. 22.)—the heat 101 was reduced to 99, and the pulse from 112 to 98 in the same time. The heat 106 was reduced to 98; and the pulse from 130 to 90. (Vol. i. 46.)

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a state of nature, combined with different quantities of caloric, within the above range of temperature. In the Buxton hot-springs the temperature is about 82° ; at Bristol it is from 76° to 84° ; and at Bath the range is from 110° to 114°. The necessary degree of temperature, however, is generally observed by artificially heating the water.

"The general application of warm water is obtained by means of baths. When the greater part of the entire body is immersed, the water constitutes properly a bath *(balneum)* ; but when half only is immersed, it is a half bath *(semicupium)*. These may be either

a. The hot bath *(balneum calidum,)* from 97° to 100°.

b. The tepid bath *(balneum tepidum,)* from 62° to 90°.

c. The vapour bath *(balneum vaporis.)*

"The two first differ in temperature only ; but the last; from the water being applied in a very minutely divided state, acts with much greater effect than water in a liquid form. The operation of the first of these forms of applying water is stimulant ; it augments the action of the heart and arteries, renders the skin red, quickens respiration, and produces a copious flow of sweat; but the others, although they excite the sensation of heat, yet lessen the frequency of the pulse, relax powerfully the skin and simple solids, and diminish, generally, increased excitement. It has been a question of some interest, whether water be ever taken into the body by the cutaneous absorbents ? That it is taken in has been denied by many philosophers, and facts brought forward to support the opinion. Dr. Currie and Dr. Pearson, after half an hour's immersion into the Buxton bath, at 82°, found that the weight of the body was rather diminished than increased ; and in a case of disphagia, in which neither food nor drink was taken by the mouth for a considerable time, the patient when put into a tepid bath felt his thirst alleviated, and received much comfort, without his weight being at all increased. Dr. Currie supposed that the abatement of thirst in this case arose from the relaxation of the exhalents of the surface produced by the bath, and those of the stomach sympathizing : and that although the exhalents terminate by open mouths which pierce the epidermis, yet as the mouths of the absorbents terminate under it, and do not come into contact with the open air ; so while the epidermis remains unirritated and entire no absorption of fluid can therefore take place from the surface. Many experiments made by Seguin are also in favour of the opinion that no cutaneous absorption is effected in the bath. Among others, he immersed venereal patients in baths containing oxymuriatic of mercury in solution, and found that while the cuticle remained entire, no salivation, nor other effect of the mercury on the system, was apparent ; but the specific effect of the remedy always took place when the epidermis was injured or destroyed, as in itch. It must, however, be observed, that in the case of disphagia the urine flowed as if drink had been taken by the mouth ; a circumstance which Currie supposes to depend on the absorption from the atmosphere by the lungs. This, however, is an assumed position : the free exhalation from the lungs is evident, but it is by no means proved that any absorption takes place. It is true that the weight of the body in the above case was diminished ; but from the sum of this loss we must abstract the cutaneous exhalation of the part of the body not immersed, the pulmonary exhalation, and the weight of the egesta :

and were a supposition to be admitted as argument, it might be suggested that the relaxant power of the warm water acting on the epidermis as on inert matter, may open a way through it to the mouths of the absorbents. The question is still undecided, and fortunately it is not of much importance in a practical point of view.

Warm and vapour baths are efficaciously employed in acute rheumatism, inflammation of the abdominal viscera, of the kidneys, bladder, and uterus, in suppression of uterine, and in spasmodic affections, particularly those to which infants are liable, arising from dentition and other irritations. The general relaxation produced by their use has been taken advantage of for assisting the reduction of strangulated hernia; for, although the effect be not topical as it regards the hernial tumour, yet the general relaxation produced gives a disposition to all the parts to regain their proper place. The tepid bath is found to be useful in the rigidities which follow some acute diseases, as gout and rheumatism, in nodosities of the joints;* and according to some, the rigidities attendant on old age.† Its effects in promoting the natural excretions by the skin, render it very serviceable in promoting the cure of herpetic eruption; in slight cases of lepra the use of it with friction is all that is required; and in all cutaneous foulnesses it is a most important auxiliary.

"The partial application of warm water as a remedy, is made by means of

1. a. The foot bath *(pediluvium.)*
   b. The hip bath *(coxæluvium.)* And
   c. The hand bath *(manuluvium.)*
2. d. Fomentations of vegetable decoctions: And
   e. Flannel cloths wrung out of boiling water, by which the moisture is applied in a state of vapour.

"These partial baths are useful in the same diseases for which the general baths are employed; but are better adapted for relieving the rigidity of single joints, and topical inflammation; and the hip bath has lately been found to be very beneficial in suppressed menstruation, and for relieving the pains of cancer in utero.

"For fomentations it is the practice to employ vegetable decoctions, but the best of these can be regarded only as vehicles for retaining the heat and moisture. At all times, flannel cloths, wrung out of boiling water, are superior: both because the water is applied in the form of vapour, and also while they continue as long warm, they do not wet the bed and linen of the patient. The flannel cloths should be each about two yards long, with the ends sewed together; so that by means of two sticks, one being at each end, turned in opposite directions, they may be wrung much dryer, when taken

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* Haygarth, *Clinical History of Diseases.* 8vo. Lond. 1805.

† Tepid bathing with friction is said by one author, "vitam sæpe per plures menses, interdum etiam per aliquot annos, protraxisse." Gregory, *Conspectus Med.* ij. 100.

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out of the boiling water, than could be effected by the hands. The principal circumstance to be attended to in the application of fomentations, is the frequent renewal of them, in order that a steady and constant heat may be applied to the fomented part."

Although we admit, and we do it very readily, that this London Dispensatory has considerable merit, we cannot but observe that a history of the Materia Medica is not a mere commentary on this or that Pharmacopœia; it is a detailed view of whatever the store-house of Nature contains for the preservation of health or the cure of disease. After the most laborious compiler has gone over the London, Edinburgh, and Dublin Pharmacopœias, and all the continental dispensatories, he will have left many medicinal substances untouched. Valuable as these works may be, they have been influenced by the fashion of the day, and are always published under the partialities or prejudices of particular schools. Nations of high antiquity, as Hindoostan; partially civilized people; the untutored savage; and the mass of European population, have among them many substances, rejected by these official volumes, though known to afford efficacious remedies, and which claim a place in the records of science. We should have been better pleased if this gentleman, who appears well qualified, had undertaken a history of the Materia Medica on this broad basis. We also believe it would have given him a higher station in the scale of medical literature. From his present work he must be content to derive no more than the character of an imitator. He may have gone a few steps further than his prototype; but as his arrangement and design are nearly the same, his work can be considered as little more than an improved edition of the Edinburgh Dispensatory. Was, however, such a volume wanted? The booksellers' shops are full of them. But there is an hiatus in this branch of medical literature, which Mr. Thomson might well have filled up. A work on the Materia Medica, elaborate in its research, classically perspicuous in its composition, comprehending the knowledge of all periods and places both scientific and popular, on this subject, made, not for the dispensor's shop but for the physician's library, is yet a desideratum. To the Materia Medica this book might be what Burney's History is to music.

If we mistake not, Mr. Thomson has feelings above a mercenary compiler; and as we are not disposed to doubt his powers, we recommend such a plan to his notice: yet, as this plan will involve laborious research, and no inconsiderable expence, we cannot expect to see it executed, except by some person who unites an attachment to the subject with exten-

sive acquirements; and, above all, an ardent desire for reputation.

> "Fame is the spur that the clear spirit doth raise,
> (That last infirmity of noble minds),
> To scorn delights and live laborious days."

Journal Générale de Medicine, de Chirurgie et de Pharmacie; ou, Recueil periodique de la Société de Médecine de Paris; Redigé par M. Sedillot (In), D. M. &c. &c. Tom. XL. Paris.—No. 173.—Janvier, 1811.

As many of our readers, especially those who reside in the country, can have few opportunities of perusing foreign journals, we purpose to present an analysis of the articles (in such of them as we can obtain) which possess sufficient interest.

The first number of the volume before us opens with a memoir on the different modes of treating tetanos in America, preceded by an account of the good effects of the fruit of *Solanum carolinense*, and the juice of the garlic (*Allium sativum*), in that disease, by Dr. Louis Valentin.

In the first case, the patient was affected with *emprosthotonos*; the spasms were general and frequent, the lower jaw pressed firmly against the superior, and deglutition was extremely painful. After trying various remedies, stimulating, emetic, cathartic, &c. for three days, they were discontinued, and Dr. Valentin prescribed an infusion of the fruit of *solanum carolinense*. The potion was repeated every evening, the strength of the infusion being augmented, with the effect of procuring sleep and perspiration, relaxing the spasms and stiffness, and in a few days the patient was entirely restored.

The author professes to have only tried this remedy in two cases, and admits that doubts may arise respecting the cure of the disease being fairly attributable to its use.

The garlic was applied by friction along the spine and extremities, and the juice was at the same time taken, in the dose of a spoonful two or three times a day. The friction produced painful irritation, with redness of the skin, and the spasms yielded. In some instances this remedy proved anthelmintic. It must be observed, that none of the cases of tetanos, treated in this manner, were the severe forms of the disease which sometimes are occasioned by wounds, and are seldom cured.

The author proceeds to the treatment usually employed in America, where punctures, and even slight wounds, particularly in the extremities, frequently occasion tetanos.

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During the civil war in St. Domingo, he mentions that they had numerous cases of the disease, and most of them from gun-shot wounds; they generally were fatal; he does not recollect a single case being cured in the hospital.

The treatment which proved most successful, consisted in applying, immediately after the accident, emollient cataplasms, and embrocations, with oil of olives or almonds; bathing the fingers, hands, or feet in it, if there was laceration of the tendonous sheaths, or aponeurotic membranes. Sometimes it was necessary to add opium to the embrocations.

As soon as the first symptoms of the tetanic affection appears, if it is a contused wound, the author directs an incision to be made; if a punctured wound, incision and cautery with red hot iron.

He remarks, that it is very common to see negroes attacked with tetanos from the prick of a nervous filament, by a very slight wound made by a nail in the feet or toe, sometimes without the cause being apparent. Upon attentively examining the extremities in these cases, he sometimes only discovered a slight contusion, covered with a scab: upon making an incision, and exciting suppuration by sinapisms or cantharides, the convulsive motion and stiffness gradually yielded.

A negro, after having the sole of the foot (very near the little toe) punctured by a nail, had been affected for two or three days with locked jaw and clonic spasms. The mark where the nail entered was hardly perceptible. He was cured by the local application of hot iron, sinapisms, anodyne embrocations, and pumping sea-water over the head and whole body. It is remarkable, that this man having refused the introduction of nourishment which was proposed, by means of an elastic gum catheter up the nostrils, took no food or medicine internally for more than seven days.

The author mentions, that the son of Blanchard, the aëronaut, died suddenly of tetanos, at New York. A shed, in which were placed a balloon and apparatus necessary for an ascension, being struck by a thunder storm, fell; in attempting to extricate them, a nail entered into the heel of the unfortunate youth. Incision and the actual cautery, for which nothing could be substituted, were neglected.

Numerous facts, he continues, prove the importance of topical treatment in such cases. In some instances it should be applied immediately after the accident: for want of this precaution, Edward Wyer, a physician, at Boston, sunk under tetanos; a nail had perforated the sheath of the flexor tendons of the second toe; as some drops of blood flowed from

from the wound, he contented himself with applying a little oil of petroleum. The third day he was able to pursue his professional avocations;—on the thirteenth, the first symptoms of tetanos declared themselves by contraction of the muscles of the neck, and difficulty in swallowing. Notwithstanding the employment of various remedies, and the constant care of his friends, he died on the twenty-second day of the puncture, and the tenth of the disease.*

The author found a solution of opium united to emollient lotions, and in some cases alone, of use in dressing the wound: also embrocations of camphor, oil, and opium round it; and along the spine, and the inner part of the limbs. Cataplasms with opium were serviceable; and in some instances excision of a part, and amputation of a finger or injured member, prevented or removed tetanus.

The case of Johnson, a young Virginian, was thus treated. Firing off a gun it burst in his hand, which was much torn, and the flexor and extensor tendons were laid bare. On the first indication of constriction of the throat and jaws, Dr. Valentin, fearing the consequences, obtained permission to amputate the hand. The patient took a few grains of calomel and opium and was cured.

Several other successful cases, in which amputation was performed, are selected; and some fatal ones in which it was omitted.

The author mentions that opium is very freely used in America in tetanic affections; Dr. Chalmers of Charlestown gave an ounce of laudanum in twenty-four hours; Dr. Gloster, of Antigua, gave fifteen hundred grains of opium in seventeen days; Dr. Dazille, who practised a long time between the tropics, especially at St. Domingo, only found it useful when several grains were taken at once. From half a dram to a dram of solid opium may be given to adults with safety every three or four hours. The only inconveniences which have resulted in these cases have been constipation, scanty urine, dysury, or strangury. But sometimes these symptoms are peculiar to the disease. To obviate costiveness purgative glysters were used.

Dr. Blane, our author observes, has stated that opium and the warm bath proved the most efficacious in cases of tetanos from wounds after a sea-fight. After the battle in April 1782, he observes, 354 of the wounded died, and of these sixteen were carried off by *trismus*.

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* The particulars of this interesting case are detailed in Memoirs of the Academy of Arts and Sciences of Cambridge (New England), Vol. II. Pt. I. p. 192.

Dr.

Dr. Petit, of Lyon, out of fourteen cases of traumatic tetanos, only attributed two cures to opium combined with aq. ammonia acetat. theriaca, and oily embrocations. All those which proved fatal, he says, were treated with opium, camphor, vermifuges, bark, blisters, baths.*

The author cites various authorities in support of the benefit derived from opium, several of them English; he concludes this part of the subject with considering the effects of cold baths and cold affusion. The result seems to be in favour of the application.

(*To be continued.*)

Recherches de Physiologie et de Chimie pathologiques, pour faire suite à celles de Bichat sur la vie et la mort. Par P. H. Nysten, M. D.†

This work is divided into five sections. In the first, the author determines the effects produced upon the animal œconomy by the presence of gas in the sanguineous system. In the second, he considers the chemical phenomena of respiration in diseases. The third treats of the changes in the secretion of urine. The fourth contains an examination of the vital properties after the extinction of general life. In the fifth, the author inquires into the stiffness which bodies contract some time after death.

Several eminent authors, as Ruysch, Morgagni, Haller, Lieutaud, &c. have remarked that upon puncturing the blood-vessels, in the corpse of certain individuals, bubbles of air are disengaged. M. Nysten, and with him several respectable physicians, have recently observed the same phenomenon.

It has hence been supposed that death might be attributed to the presence of these air-bubbles in the sanguineous system; even about the middle of the seventeenth century this simple conjecture seemed to be converted into a demonstrated truth, in consequence of the experiments of Redi, and a number of physiologists, who had witnessed the injection of a certain quantity of gas in the venous system, followed by the death of the animals submitted to the experiments. Even Fontana and Bichat believed that a very small portion of gas would suffice to produce fatal effects.

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* Discours sur les maladies observées pendant neuf annés à l'Hotel-Dieu de Lyon. Essai sur la médicine du cœur.

† (Journ. Gen. de Med.)

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Some experiments, however, having given M. Nysten results very different from these opinions, he was convinced,

1st. That of thirteen gases which he has examined, there is not one which may not be injected in the sanguineous system, in small quantity, even of those which are termed deleterious, such as nitrous gas, sulphureted hydrogen, ammoniacal gas, and oxigenated muriatic acid.

2. That the non-deleterious gases, injected in the sanguineous system, produce their consequences by acting mechanically on the organs of circulation; an action in the inverse ratio of the solubility of the gas.

3. That, on the contrary, the deleterious gases act by their chemical properties; thus, ammoniacal gas and oxigenated muriatic acid, by producing a sensible irritation on the organs; nitrous gas by changing the condition of the blood; lastly, sulphureted hydrogen by especially affecting the cerebral nervous system, and quickly destroying its sensibility.

In his researches into the chemical phenomena of respiration in patients, M. Nysten used the machine of Girtanner, which he simplified by some slight modifications. The following are the results of a certain number of experiments conducted by this apparatus.

1. In chronic diseases, without fever, and without lesion of the organs of respiration, the air expired is nearly the same as in the healthy state.

2. Acute severe fevers sometimes appear to occasion an increase of carbonic acid.

3. When there is considerable obstruction in the respiratory organs, the air expired contains less carbonic acid than in the ordinary state.

4. If the same air used in the experiment is breathed a long time, it will be found to contain an augmentation of azote.

5. The residue of pure oxigen, and that of hydrogen respired in the same manner, present a notable quantity of azote and carbonic acid.

6. The product of the respiration of carbonic acid gas also contains azote, and the residue of the respiration of azote includes a certain quantity of carbonic acid; but, in this case, the azote, far from augmenting, diminishes.

Although most of these facts have already been ascertained and disclosed by Messieurs Bertholet, Allen, Pepys, and others, the researches of M. Nysten are nevertheless interesting and important, and it is to be desired that he will continue his investigation on the subject.

Upon the alterations in the urinary secretion, the author gives an exposition of the analysis which he has made of the urine in nervous, inflammatory, and dropsical complaints.

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The urine in nervous cases resembled that voided after drinking; in inflammatory cases urea, saline substances, and albumen abounded; the turbid scanty urine in dropsy is ammoniacal; contains acetic acid, sulphates, alkaline muriates and phosphates, coloring matter, and albumen, but urea is not evident.

M. Nysten then treats of the deviation of urine; after quoting some observations from the ancients on this singular affection, he relates two facts which occurred to his notice, one in a young woman aged 26 years; the other in a woman aged 40. According to the author, these females voided their urine by vomiting. Upon the authenticity of the first of these cases we cannot decide, but the second was an imposture; for since M. Nysten's publication it has been ascertained, that there was no deviation of the urine, no fœcal matter, no menstrual flux, discharged from the mouth, as affirmed by the pretended patient. It seems that this miserable creature had swallowed the matters in question, unknown to the attendants; and being watched, and not allowed the use of her hands, the cheat was discovered. The French editor remarks that it is not so astonishing that M. Nysten, and several other French and foreign physicians, who only paid transient visits to this woman, should be duped; but he very justly observes, that it was indeed remarkable that the learned Professor to whose care she was confided, and numerous pupils who daily examined her, should suffer themselves to be imposed upon so grossly for upwards of ten months. This example, he continues, shews the reliance we should place on most of those extraordinary facts which certain authors are so fond of communicating, and warns us at the same time to be very circumspect, whenever we have occasion to decide upon a fact which seems to derogate from the usual laws of nature.

Most of the experiments relating to the vital properties examined after the extinction of general life, had already been published by the author, in the year 11; since that epoch, he has considerably multiplied them, and corroborated the results which he formerly obtained. The following is the order in which the contractile organs of a healthy man, killed by decapitation, appeared to M. Nysten, to become insensible to the galvanic stimulus. First, the aortic ventricle; then, the intestines, stomach, bladder, pulmonary ventricle, œsophagus, iris, muscles of animal life; lastly, the auricles of the heart.

M. Nysten has thus demonstrated, by means of galvanism, what many authors had asserted before, the sensible organic contractility of the iris after death. He has also confirmed Bichat's observation upon the absence of this property in the arteries. From the different experiments which he has made

upon various animals with red blood, it results that the excitability after death is less in proportion as the muscular energy has been more developed during life.

Examining the contractile power in subjects that had died from disease, he found it was affected more by the duration than the nature of the malady.

The work concludes with an inquiry into the stiffness of bodies after death, with the circumstances which influence its degree and duration. The author regards it as an unequivocal sign of death, and gives an exposition of the character by which it may be distinguished from tetanic stiffness and that of congelation.

Such are the principle facts contained in this book; they are neither new nor extraordinary, but they have some appearance of accuracy, are clearly narrated, and confirm the observations of previous inquirers; there is still, however, a considerable space to fill up between the maturity of Bichat, and the precocious labour of his emulous pupil, whose present performance can, with no sort of propriety, be regarded as a continuation of that of Bichat.

Of the Medicinal Leech. By M. Vitet, Professor in Medicine, Honorary Member of the Academy of Lyon, and of the Agricultural Society of the department of the Seine*.

We are informed in an advertisement by the editor, that M. Vitet was occupied 15 years in the composition of this work, and that in 1801 he caused the plate which accompanies it explanatory of his descriptions, and representing the most remarkable parts of the external and internal structure of the Leech, to be engraved; the editor, in consequence, asserts his priority over those modern authors who have published their works before him. It is, however, to be regretted that this work was not published in 1801, with the engraving, for we are now obliged to accord the rank of priority to M. Thomas, D. M. M. who published, in 1806, a treatise entitled, "*Memoire pour servir a l'histoire naturelle des sangsues.*"

Cuvier also would merit the precedency, as in his lectures on comparative anatomy, printed in 1800, there is a good anatomical description of the leech.

It is asserted in the advertisement, "that till the present time, the Leech was very imperfectly known, as one of the most useful remedies, and at the same time, one of those the most frequently applied in medicine; and that we had to correct

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* Journal de Medicine.

many false notions respecting its structure, functions, and effects." This supposition is completely refuted by the writings of the ancients; they made great use of the Leech, and regarded it as a very powerful remedy.

Themison, who lived in the first years of the Christian æra, used it on several occasions, and frequently applied cupping glasses to the part which the Leeches had quitted, to extract a greater quantity of blood.

Oribasius, towards the fourth century, wrote on the advantage of bleeding with Leeches. Aretæus recommended them in angina, accompanied with dyspnœa, when the patient feared the lancet.

Paulus Æginus, in the reign of Theodosius, applied them to the occiput, for pains of the head with fever, &c.

Ætius, in his book *de atra bile*, mentions his successful application of them upon the region of the liver in diseases of that organ. He also found them serviceable in tumours, diseases of the skin, the bites of venomous animals, and violent affections of the head, applied to the veins of the nose, the forehead, the temples, and behind the ears.

Horatius Augenius, in his treatise *de sanguinis missione*,* contemns bleeding children by means of the lancet, and advises Leeches to be substituted for it. Zacutus Lusitanus, in *de medicorum principum historia*, mentions a case in which he applied, at four different times, forty Leeches to a young man's face, which was affected with ulcerated pustules; they were healed, in consequence, in a few days. The same author also has related a curious history of a man who laboured under a sensation of heat in the back, and an unpleasant feeling of the skin, so insupportable, that he declared death would be preferable to the longer endurance of life with sufferings which had entirely deprived him of sleep. Zacutus finding that the remedies which had been employed were ineffectual, directed the patient to be placed for an hour every morning during the spring and summer, naked, in a brook frequented by Leeches. The patient pursued this plan for six months, at the end of which time he was cured.

Many other ancient authorities might be cited to prove that

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* *Horatius Augenius*, a writer on medicine very little known, was born about 1527, and died at Padua in 1603, where he was professor of the theory of medicine. There remain now seven works of his on medical subjects; the one here cited has the title "de curandi ratione per sanguinis missionem, lib. xvii." The three first books were printed at Venice in 1570—reprinted with the remaining books, 4to. Venice 1597—folio, Francfurt, 1598. The author treats largely of the use of leeches and cupping, and of the methods of applying these remedies.

EDITORS.

the functions and medicinal effects of Leeches were known to physicians in the most remote ages.

M. Vitet could not have been ignorant that the anatomy of the leech had been ascertained by Redi, Vallisnieri, and Reaumur; that descriptions of it are given by Poupart in the *Journal des savans* for 1697; by Dillenius, in the *Ephemerides naturæ curiosæ*, in 1718; by Morand, in the *Mémoires de l'Académie des Sciences*, in 1739; by Durondeau, in the *Journal de Physique* de l'abbé Rosier, 1782; by Bibiéna, in the *Commentaires de l'Institut de Bologne*, 1791; by Cuvier, in his Lectures on Comparative Anatomy, in 1800; and lastly, by M. Thomas, in 1806.

The work of M. Vitet is divided into nine chapters. The first contains the anatomical description of the leech. In the second its functions are described. The third gives an account of the author's experiments upon the leech. The fourth treats of the sensible effects of the leech upon a person in health. The fifth, upon a person in disease. The sixth offers reflections upon the nature of blood extracted by leeches. In the seventh, the inconveniences attending the application of leeches are considered. The eighth, enumerates those diseases in which bleeding with leeches is indicated. The ninth chapter directs the mode in which they should be applied.

Chap. I.—*Anatomy of the Leech.*—M. Vitet has conducted his experiments upon the leech employed in medicine, *hirudo medicinalis*, Linn. to which he gives as characters of the species, *hirudo depressa nigricans, supra lineis flavis sex, intermediis nigro arcuatis, subtus cinerea nigro maculata, habitat in aquis dulcibus.* He begins with a description of the teguments, which he divides into epidermis, papillous coat, colored coat, and muscular coat. The epidermis is fixed, transparent, covers the whole surface of the body to which it adheres, and penetrates into all the external openings which it lines. When it is detached, a number of small holes or pores may be seen by the aid of a magnifying glass. The epidermis is readily separated from the colored coat in the dead leech, by putting it in vinegar or oil of turpentine.

Mr. Thomas thinks that the epidermis of the leech differs in structure from that of other animals, although it performs similar functions: he is induced to believe that it nearly resembles serous membranes.

The colored coat, situated between the epidermis and the papillous coat, viewed with a magnifying glass, presents the appearance of a spongy texture, in which is lodged the coloring matter. The papillous coat lies between the colored coat and the muscular coat. The papillæ differ in size and form: between each of them are cellular membrane, nerves, and blood vessels.

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The muscular coat, situated beneath the papillous coat, incloses all the internal parts of the leech; it is of a dark grey colour, and is more or less thick, according to the different parts of the body. This coat has two sorts of fibres; one circular, having a spiral direction; the other, interior, is chiefly longitudinal. These are interlaced and united by fibres which prevent them from separating, even in the dead and macerated leech. These two sets of fibres change in direction round the external openings of the body; and interlace together, so as to form a kind of sphincter.

The external openings appertain to the head, the belly, and the back. The head has only one opening, which is the mouth: its edges are called the lips; they are divided into upper lip and lower lip. The external surface is of a dark grey, and the internal of a light grey colour. A number of small papillæ are on the surface, from which a bland and limpid fluid continually exudes in small quantity.

The openings in the belly are two in number; one anterior, named generative; the other posterior, called opening of the vagina.

The generative opening, round and small, is situated in the middle of the belly, about ten lines from the inferior lip of the mouth in a leech four inches long; it has a kind of muscular sheath, which has the power of enlarging, elongating, and retracting itself.

The opening of the vagina, situated in the middle of the belly, is smaller than the generative opening, from which it is distant two lines; it communicates immediately with the vagina, a short, narrow canal, having a delicate membrane continuous with the womb.

The openings of the back are two in number; one anterior, named dorsal; the other posterior, termed anus.

The dorsal opening, situated upon the brown band which occupies the middle of the back, is nearer the tail than the head: there proceeds from it a papilla, open in its centre, which supplies a serous matter. The author has not been able to discover the internal part with which this dorsal opening communicates, nor ascertain the use of the papilla observed upon it. M. Thomas has been more successful in his researches; he says, that it is by means of this membranous sac that the excretion of the glutinous humour, which restores the leech, is performed; and that if this humour, which lubricates the exterior surface of the skin, be absorbed either with powder or with paper, or fine linen, the animal makes efforts to expel a larger quantity of the fluid from the sac. He also contends, that the skin contains glands or follicles, which secrete the unctuous and glutinous fluid with which the leech is always covered.

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The anus is situated towards the posterior extremity of the brown band of the back; it is continuous with the intestine, and is provided with a sphincter.

Organs of digestion. The teeth, three in number, have the form of an obtuse angle, with a cutting dentated edge; they rest upon small, whitish, fleshy masses, to which they adhere so tenaciously, that it is impossible to extract a tooth without bringing away with it some muscular fibres.

The author next demonstrates the œsophagus, its serous ducts, the alimentary canal, and the stomachs; the structure of the last is curious. They are twenty-six in number, and are situated regularly along the course of the alimentary canal, one below another, to the number of thirteen on each side; they are of a whitish colour, susceptible of contraction and relaxation; and all of them open into the alimentary canal.

The number of stomachs however is not always, as M. Vitet asserts, twenty-six. Out of a hundred leeches examined by M. Jacquemin, only one contained that number; two had twenty-five; and most of the rest twenty-four, as has been observed by Cuvier.

In each stomach may be distinguished the opening and the extremity. The opening towards the head is the widest part; the extremity much narrower, is directed to the posterior part of the tail: it is round, and fits into the next stomach behind it. Thus, divided from space to space by membranous diaphragms which streighten them, they join one into another.

This description of the alimentary canal certainly does not give a correct idea of its organization. An excellent demonstration of it may be seen in M. Cuvier's work.

Neurology. This comprehends the brain, the lateral ganglion, and the two great lateral nerves.

The brain is enclosed, with the organs of generation, in a sort of sac, situated between the posterior part of the œsophagus and the first stomach; it is divided into two equal portions, termed lobes, united by loose cellular membrane; it furnishes a nervous longitudinal cord, composed, according to this author, of twenty-eight ganglions, and, according to Cuvier, of twenty-three. Each of these ganglions supplies nervous filaments, which are distributed beneath the internal canal; they produce, on each side, two nerves which penetrate the substance of the longitudinal and transverse muscles.

M. Thomas has observed, that the nerves of leeches are nearly insensible to stimulants, whether mechanical or chemical. We may divide them partially, without the animal appearing to suffer, in the same manner as we may divide them wholly, without the neighbouring parts appearing to suffer much: this, doubtless, is owing to the numerous centres

tres of action established by the ganglions, and to the isolation of their vitality. Sensibility in leeches presents a variety of modifications; this has been shewn by Batarra, who placed marine leeches in fresh water: they died in two hours—whilst salt water is fatal to common leeches.

Angiology. The blood-vessels of the leech are tubes nearly cylindrical, filled with red blood. The author thinks that they ought not to be divided into arterial and venous. All the means that he has tried to ascertain the motions of systole and diastole, have failed; he has never been able to observe them. M. Thomas, however, is of a different opinion; he says that he has seen, on each lateral part of the body, a membranous vessel full of red blood, extending from one extremity of the body to the other, having a regular systole and diastole, which occur very slowly; for only seven or eight pulsations are performed in a minute.

Organs of generation.—These are enclosed in the same membranous sac with the brain: they comprehend, 1. fœcundating vesicules, situated on the anterior part of the lobes of the brain; they are terminated by a canal which communicates with the generative conduit. 2. The generative conduit, which folding back twice on itself, gives rise to a filiform tube: this, slender, white, and nearly cylindrical, is about six or eight lines in length, out of its sheath. The living leech sometimes makes it project beyond the external opening; it is then more or less stiff and long, its extremity usually faces the tail. Occasionally a small drop of a limpid fluid may be observed at the exterior orifice of this conduit. 3. The womb; it is a kind of bladder, of an oval form, situated behind the two lobes of the brain, and terminates towards the left side, in the manner of a bag-pipe, by the vagina. The parietes of this organ are composed of a membranous and a muscular coat. 4. The ovary, which is a round white body, of a pretty firm consistence; it terminates by a slender cylindrical tube, which goes directly towards the middle of the anterior part of the womb, with which it communicates.

To Bibiena we owe the discovery of the mode of hermaphroditism in the leech; he was the first who spoke of it, without, it is true, having described the organs which constitute this species of hermaphrodite in a satisfactory manner, especially the organ which performs the function of the penis, a description of which may be found in the work of Cuvier, in that of Thomas, and of Vitet. Bibiena supposed that leeches possessed two modifications, or two species of hermaphroditism, that is, that the same individual being of both sexes, it might, by means of its organization, either impregnate itself without the union of another individual, or

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it might be impregnated by reciprocal copulation. He says, *Primum itaque conjicio, hermaphroditum hunc nostrum in illis esse numerandum, qui et cum aliis suæ speciei copulari possunt, et sibimet ipsis etiam conjungi, patris simul matris officio fungentes.*

M. Thomas, considering particularly the length of the penis, determined, in some measure, by the distance between the opening of the vagina and that of the male organs, thinks that reciprocal copulation can only be performed by the two individuals presenting themselves to each other, in an opposite direction. His observations have enabled him to determine with Rédi, Durondeau, and others, that the leech is viviporous; the young ones are like threads; it is only by a progressive growth that they acquire the form peculiar to the leech.

When the leech is disposed to multiply itself, says M. Vitet, it curves back on itself; the generative tube issues from its sheath, it stiffens, elongates, and penetrates into the vagina, situated about two lines below the opening of the generative member. The author exerts himself ineffectually to explain what passes during this mysterious act, whether in what concerns the seminal emission from the male organ, or in describing the contracting of the womb, at the moment of supplying the liquor for fecundation.

Respiration.—All the attempts of M. Vitet to discover the organs of respiration in the leech, by dissections, by injections, by the magnifying glass, or by the microscope, completely failed. He admits, however, that the leech respires, and that it seeks the external air, although water is its most frequent receptacle. Those which he subjected to the action of the pneumatic machine, gave out air-bubbles by the mouth, and surface of the skin; they died the sixth day of complete privation of the external air. M. Vitet, therefore, denies the opinion of authors who have asserted that the leech respires, by means of organs subservient to that function. All naturalists of the present day agree that the leech respires; the experiments of M. Thomas leave no doubt on the subject. He says, that at certain distances on each side of the body of the leech, there are transparent membranous sacs, of a vesicular form; they appear to contain only air, and are placed in a regular manner on both sides the animal. Numerous blood-vessels ramify on these respiratory organs, and the air passes to them through follicles on the surface of the skin.

Of the Senses.—The senses of the leech relate chiefly to feeling, which resides principally in the internal and external surface of the lips.

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The smell is a kind of feeling, by which the Leech ascertains the odorous substances that are noxious or useful to it.

Taste is the sense which enables the Leech to discern the savour of the blood, and which causes it to prefer this fluid to every other nutritive substance of which animals make use. Milk, sugar and water, yolk of eggs, &c. are nutritive fluids for which the Leech shews more aversion than desire. It is needless, then, says the author, to bathe with milk, or sugar and water, the part of the integuments where you wish the leech to fasten; instead of these substances, he proposes that the skin be well washed with warm water, or rubbed till it is red, when the Leech will bite with the greatest promptitude.

Experiments with Leeches in water and out of water.—The Leech kept in a bottle with free access to the air, and the water frequently changed, will live six years. Kept in a vessel without water, far from acquiring in the first six or eight hours vigour and eagerness to bite, it loses all power. It is not advantageous, therefore, to keep it dry in a vessel, with the expectation of its biting more readily.

Leeches never bite each other; they often lye upon one another in a heap, but seem rather to caress than to wound each other.

The Leech will live a long time in water without either mouth or tail.

The quantity of blood which a strong Leech can draw, never exceeds an ounce. M. Vitet then gives a description of various experiments which he has made with different oils, camphor, alkalis, metallic salts, gases, the electrical machine, and galvanic pile, to ascertain the sensibility and vital force of the Leech.

Exposed to the action of the galvanic pile, the Leech contracted and bent back on itself, the mouth disappeared, and the extremity of the tail was drawn in. As soon as it was put into water it resumed its former state. Similar effects took place on the application of electricity.

In the 4th chapter, the author says, that Leeches do not act alike, on the infant, the young man, the adult, the old man, or the female. They fasten on the vessels of infants with avidity; they suck much blood, and when they drop off, the wounds bleed freely. This is not the case with the other individuals.

In the 5th, 6th, and 7th chapters, M. Vitet opposes the practice of bleeding with the lancet: he gives a decided preference to Leeches, in all inflammatory diseases. In pressing cases, however, such as comatose affections, wounds with great disturbance of the sensorium, sudden suppression of habitual sanguineous evacuations, followed by urgent symp-

toms, he recommends the lancet. When Leeches are used, he generally prefers applying them to the thighs.

The 8th chapter treats of the diseases in which Leeches are indicated: it contains little that is new or interesting.

In the 9th chapter, the author teaches the art of applying Leeches, and the means of stopping the flow of blood when they have fallen off. This chapter is beneath his reputation, and had better have been omitted.

Upon the whole, much curious matter is contained in this work; from the method which he has pursued, the great research which he has evinced, and the minute anatomical description which he has given of the Leech, M. Vitet has performed a difficult task, and merits a distinguished place amongst the authors who have written on this branch of natural history.

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

Extract from the Report of the Vaccine Pock Institution in Broad-Street.

"1. With regard to the occurrence of small-pox subsequent to vaccination—out of 5000 patients registered in our tables, it appears that nine have subsequently taken the small-pox, as admitted by the Medical Establishment:—they had all gone through the distinct stages of vaccination:—the matter with which some of them had been inoculated was from patients ascertained to have been rendered unsusceptible of the small-pox; and some of them had furnished matter for inoculation which rendered persons incapable of taking the small-pox, as appears by the test of variolous inoculation. Some of them had evidently constitutional disorder at the usual time. They had all distinct scars. Four of these failures occurred in two families, viz. two in Maber's and two in Lemon's. None had dangerous symptoms, and the pocks scabbed sooner than usual in most of them; sooner by at least two or three days; most of them had the disease so mildly that they would have been considered as even the mildest cases of inoculated small-pox. These failures induced the Medical Establishment to inquire concerning their occurrence in the practice of others: a great number of communications were accordingly made; but after investigation, not more than forty* were found to be substantiated: of these, three died. Most of them had the small-pox very mildly; more so than the inocu-

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"* Three more failures have been communicated since this paper was written, viz. One the son of a person of high rank, by Mr. Walker, at present the general topic of conversation; the other, by Mr. Tegart; the third, a very decisive one, was communicated by Mr. Marshall.

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lated small-pox; some having merely a slight fever, and an eruption of pimples, or of vesicles, so small, and so speedily scabbed, that they would not perhaps have been allowed to be the variolous disorder, if other children in the same family had not been ill in the distinct sort, and who had apparently infected one another. Two of these failures occurred on inoculation for the small-pox; and the rest, of course, occurred in the natural way.

"2. It has been proved that a large proportion of our patients have been rendered secure against the small-pox by means of re-inoculation of above sixty children publicly, in 1804*, at the Small-Pox Hospital; and of several hundreds, at different times, at the Institution, with small-pox matter.

"3. A great number of our patients, it is well known, have been repeatedly exposed to the effluvia, or contact, with persons in the small-pox; and hence such a degree of confidence has been produced, that notwithstanding the proposed reward of five guineas to any who should take the small-pox after having been certified to be secure by the medical officers, very few would submit to the test required of the second inoculation.

"4. One of the physicians of this Institution, (Dr. Pearson), after repeated trials, found that a person who had gone duly through the cow-pox, was equally incapable of being infected with the vaccine matter a second time, as by the variolous. Many trials of this kind were instituted publicly, at the Institution, in 1807, in the presence of several Fellows of the College, to shew that the re-inoculation with vaccine matter was equally a test of security of the constitution against the small-pox as variolous matter. The same member announced the result of his experience on this point as early as 1799. In the printed directions of the Institution for Vaccination, in January, 1801, the test of re-inoculation is recommended, by the Institution‡, to answer the same purpose as inoculation with variolous matter. To afford the most decisive proof, vaccine matter has been often inserted into one arm and variolous into the other, or both in different parts of the same arm; and in no instance has the small-pox been produced at all, or the vaccine a second time: but if a local affection, viz. a large pimple, or a small vesicle, has been produced by one kind of matter, it has been equally produced by the other; and if no affection at all was excited by one, there was none by the other.

"5. Numerous trials have shewn, at the Institution, that the same constitution cannot take the cow-pox subsequently to the small-pox, contrary to a high authority, who asserts also, that the cow-pox is producible a second time. Hence the variolous matter and the vaccine are mutually tests, or afford a counter-proof, of each other having affected the human subject, to be incapable of taking either of these diseases a second time.

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* See Statement of Evidence, 1804.

‡ See the Minute Books.

"6. We have made a great many trials, by which, perhaps, may be determined the exact period when the constitution is by vaccination rendered incapable of being affected by the small-pox, and which appear in our minute-book, viz. by re-inserting either vaccine or variolous matter on any one or each succeeding day from the first insertions. It has appeared that the succeeding insertions can only produce pimples, or vesicles, of the figure and magnitude they usually do, according to the time after inoculation, but cease to grow larger at the period the constitution is supposed to be affected by the first inoculation. Mr. Bryce has proposed these re-insertions, during the vaccination, as a test; and we agree with him that they may be relied upon; but we do not think they will be so satisfactory to the patients as the second inoculation, some weeks, or longer, after the first.

These experiments, if the explanation could be given in this place, would prove further the fact ascertained, that a person who has gone through the small-pox cannot take the cow-pock, nor can a person who has gone through the cow-pock take it a second time.

"7. Farther proofs of the proposition just stated may be found in the trials at the Institution, of inserting variolous and vaccine matter in different places of the same arm on the same day, in which cases the respective vesicular pocks of each kind of matter are produced in the inoculated parts; but in some cases the small-pox fever and eruption are produced, and in others only the vaccine affection.

"8. The inoculation, with a mixture of the vaccine and variolous matter, does not produce a hybrid disease, but sometimes the cow-pock distinctly, and at other times the small-pox only.

"9. With respect to the subsequent health: children have been frequently brought to the Institution some time after the cow-pock, with various eruptive complaints; but as most or all of these have been seen in those who have not been vaccinated, we doubt whether they can be reasonably imputed to vaccination. If any of these be peculiarly the consequence of inoculation, it is a kind of rash not unlike the red gum, and also the tooth rash, the nettle rash, and some undescribed cutaneous affections.

"10. We have only seen one great anomaly in the course of our practice, which occurred four years ago, in August and September. The vaccine pocks had not their usual distinct figure; a cutaneous affection attended; and the patients had sore arms; but they appeared to be quite unsusceptible of the small-pox, and in a few months the same matter, by succession, produced the regular vaccina.

"11. We have had very little trouble with sore and inflamed arms, especially the last three or four years.

"12. It is now twelve years since the original matter for the Institution was taken from the cows by Dr. Pearson, and we can perceive no deterioration or difference in its effects.

"13. With respect to the effects of matter, according to the state of the pock, of the arm, and the constitution, the result of eleven years experience is—

"1. That

" 1. That matter taken before the scabbing begins, is the most efficacious.

" 2. If taken later, there is no other consequence but frequent failure to infect.

" 3. When the scab itself was used, it in no instance produced the cow-pock.

" 4. The presence or the absence of the areola appeared to be of no consequence.

" 5. No difference has been observed according to the health of the patient from whom it is taken.

" 6. The rule for taking the matter should be according to the state of the pock, and not according to the day after inoculation; but the usual course is such, that in general it is more efficacious before the 8th or 9th day than later.

" 7. Matter of the usual, regular, distinct pock, should always be preferred: not perhaps on any other account but to prevent disappointment in producing the vaccine affection.

" 8. We have met with no such matter as that called *spurious*, or which produces a similar affection somewhat like the cow-pock by inoculation from subject to subject, but does not destroy the susceptibility of the small-pox.

" 14. The deviations from the usual course are imputable

" 1st. To certain peculiarities of the constitution,

" 2dly. To the pre-occupancy and intervention of other diseases, and

" 3dly. To cutaneous affection of the part inoculated.

" 15. We have not been able to observe a constitutional disorder on the fourth day referable to the agency of the matter on the constitution, distinct from that usually on the ninth day from the local affection.

" 16. The inoculation of vaccine matter, in several places in each arm, does not appear to produce more local inflammation than a single pock, but it seems attended with the advantage of more frequently affecting duly the constitution.

" 17. In a few instances the cow-pock cannot be produced at all even by repeated inoculation; and in such cases the small-pox cannot be produced; there being, perhaps, a connate unsusceptibility of both disorders.

" 18. We have seen no unusal inflammation from repeatedly inserting matter of small-pox, or cow-pock, to determine the question of susceptibility of either of these disorders.

" 19. No danger is to be apprehended from the inoculation for the cow-pock at any time after exposure to the small-pox: the two diseases do not subsist together constitutionally; so that nothing can be lost, and advantage may be gained by vaccination.

" 20. We have had no deaths by vaccination, as already said, in our own practice; but accounts have been communicated—1st. Of the case of an infant of which we could get no particulars to determine the cause of the death;—2d. A few cases proved fatal in the practice of others, from the state of the arms;—3d. By deficiency

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of food, by exposure to cold, and externally injuring the arms inoculated.

"21. With regard to the influence of vaccination in diminishing the mortality by small-pox, the following statement may give some satisfaction, or serve to assist the judgment. For this purpose we shall state the number of deaths by small-pox from the bills of mortality of parish clerks, of London, during the twelve years since vaccination was introduced, viz. from January 1799 to January 1st, 1811; and also during the twelve years immediately preceding the vaccine practice, viz. from the 1st of January, 1787, to January the 1st, 1799. But in order to judge more accurately, we shall arrange the two periods of twelve years under three heads, each comprehending four years."

(To be concluded in the next Number.)

INSTITUTE OF FRANCE.—M. Odier, of Geneva, in a memorial read before the first class of the Institute, on the 18th of February, attempts to prove the advantages that would be derived from a permanent endowment, for the purpose of sending physicians to visit foreign universities. "This project," he observes, "has been realized in England by Dr. Radcliff, who proposed that two graduates of the University of Oxford should receive a certain revenue for their support during six years, on condition of passing five years of that time out of Great Britain." The little care in making a proper choice of these physicians, and the want of regulations to exact from them an account of the employment of their time, have paralysed an institution which, M. Odier thinks, might prove essentially advantageous. He has drawn up a table of measures which should be pursued to derive the utmost possible benefit from the plan, and render it worthy of Imperial munificence.

The travelling physicians should visit foreign schools; should inform themselves of the therapeutics, and mode of instruction there taught; should themselves observe on the spot, the characters of endemics; the shades of difference caused in epidemic and sporadic diseases by climate and habit; should especially extend the catalogue of Materia Medica, either by introducing into general practice remedies of which the use is confined to a particular country, or by making known properties in a medicament different from those which we have assigned to it; finally, they should carefully note the police of hospitals, and the modes of practice therein pursued.

Without pretending to refute the arguments of M. Odier, or to attack the supposed advantages of his project, we may remark, that Medical Journals are sufficiently numerous to maintain a communication between all the practitioners of the civilized world; offering an effectual means of publishing and readily circulating opinions, facts, and observations, which could not properly form a subject of a special work; or which, if so published, would not, in so short a period of time, obtain the same degree of publicity.

We may also observe that, unless these travelling physicians possessed a sound judgment, (which is rare) they would return from their tours, fraught with the errors, and useless and trifling productions of the countries they visited, without obtaining any new information, or collecting any thing valuable or essentially important, whilst no discovery of consequence

sequence remains long unpublished. When do we hear of any interesting work, or see any brilliant speculation realized by those who, after having been long Cosmopolitan physicians, have ultimately fixed their residence at Paris?

As for the penury of the Materia Medica, which, according to M. Odier, demands the adoption of his projects as a means of enlarging that branch of science, by importing new treasures, we think, that so far from being limited, it is much too extended. For, though many learned physicians have laboured to simplify it, this science still embraces a variety of useless articles. To prove the acquisitions which might be made to the Materia Medica, M. Odier cites the use which he has made of the *muriate suroxigéné de potasse.* This salt, given in a case of anasarca for which a variety of means had proved ineffectual, acted as a powerful diuretic; "every thing seemed to be going on well, when unfortunately," says M. Odier, "the patient died suddenly, *le malade mourut subitement.* *(Journal de Med.)* J. B. N.

The third session of the medico-chirurgical society of the University of New York was holden during the winter of 1809 and 1810. The following are the titles of the essays read at the sittings of the society.

1. Upon Typhus; 2. Upon the vitality of the blood; 3. Upon Nicotiana tabacum; 4. Upon hepatitis; 5. Upon Conception; 6. Upon pregnancy as a state of disease; 7. Upon respiration; 8. Upon Diabetes; 9. Upon life; 10. Upon the existence of frigorific particles; 11. Upon mania; 12. Upon Generation in different animals; 13. Upon the theories of generation; 14. Upon the febrile diseases of Orange county, and the treatment which proved most successful; 15. Upon dysentery; 16. Upon *febris introversa*; 17. Upon parturition; 18. Upon spasm; 19. Upon phthisis pulmonalis; 20. Upon the cause of inflammation; 21. Upon anasarca; 22. Upon acute rheumatism; 23. Upon croup; 24. Upon the non-existence of sympathy; 25. Upon animal heat; 26. Upon the nature, cause, and treatment of yellow fever in the United States and West Indies; 27. Upon fevers; 28. Upon cynanche trachealis; 29. Upon theoretic errors; 30. Upon the sedative properties of opium; 31. Upon the nyctalopia which has appeared in the prison of New York; 32. Upon dysentery; 33. Upon necrosis; 34. Upon the nourishment of the fœtus in utero; 35. Upon the treatment of dysentery; 36. Upon the mode of communication between the mother and fœtus.

Attention is beginning to be paid to medical topography in some states of the American federation. It has been discovered that goitre has become more common in certain countries to the west of the States. Epidemic catarrhs, during the last three years, have been the subject of several memoirs. The diseases of domestic animals, especially those affections common to the human species and some tribes of the brute creation, have fixed the attention of naturalists. Experiments and observations upon cutaneous absorption continue, particularly in Philadelphia, where a difference of opinion respecting that function is maintained. Chemistry, botany, and natural history are cultivated in all the great cities with extraordinary zeal.

Professor B. S. Barton, a learned naturalist of Philadelphia, has composed

posed two memoirs on the *Opossum*, an animal peculiar to North America, of the species *didelphis marsupialis*; but he names it *didelphis wooaptink*; it is *le sarique de Buffon*. The female of this species has a bag or pouch beneath the belly. In the first of these memoirs, the author gives at length the natural history of the animal; indicates the place which it ought to occupy in the system, its nourishment, habits, the places on the continent where it may be found, the periods of coupling, &c. He describes in the female, the whole process of utero-gestation, which comprehends a period of 22 to 26 days.

The second memoir treats of the second epoch of gestation, which the author terms marsupial gestation; it dates from the moment when the embryos pass from the uterus into the pouch, and is longer than the uterine gestation. The Professor has ascertained the volume and the weight of several embryos immediately after their exclusion from the uterus. One of them weighed only a grain; six others weighed rather more. These observations have been confirmed by M. Palisot de Beauvois, member of the Institute.

The mechanism by which the embryos quit the uterus, glide to the teats, and adhere to them by an invariable and determined instinct, is regarded as one of the most astonishing phenomena which natural history presents. They remain in their new situation about fifty days, in which time they have attained the size of a common mouse; they then detach themselves from the teats, but return to them till they have reached the size of a rat, when they entirely leave the pouch and feed on flesh and vegetables.

It has been supposed, and especially by Vic D'Azyr, that the mother assists the abortion with her paws, and places the embryos in the pouch. Professor Barton proves that this opinion is erroneous. He also disproves the assertion of Beverly (in the History of Virginia) and many others in the United States, who pretend that generation is effected in the false belly, where the embryos grow, attached to the teats. He has proved that young opossums, weighing nine grains each, cannot be detached from the pouch, which is as a second uterus, without some loss of blood.

Dr. Kiesser, of Nordheim, has given an account in Hufeland's Journal of a diuretic linament which he considers as specific in retention of urine from spasm. It is composed of half an ounce of oil of turpentine, two drachms of the yolk of fresh eggs; these are to be rubbed in a glass or earthen-ware mortar till perfectly mixed, when six ounces of peppermint water should be added. The liniment is to be applied to the inguinal region. After some frictions, in general, the violent spasm ceases and the urine flows readily.

In the same Journal, a singular fact is related by Consbruch. He knew a family in which the male children were subject from their youth to fatal hæmorhages, which took place spontaneously, either from the nose, or from the slightest wounds. The hæmorrhage sometimes could not be stopped by any means, and two individuals sunk under it in spite of every remedy. The females, as well as the parents, were entirely exempt from this peculiarity; but two male infants of one of the daughters in this family were subject to it; one of them died in consequence of hæmorrhage occurring from a very slight wound; the other is still living,

living, but is subject to hæmorrhage from the nose in spring and autumn; when the hæmorrhage does not occur, he is subject to severe and continued attacks of gout. To avoid these, it is necessary to bleed him from the arm at least once in the spring. The blood, in this case, cannot be stopped by common means; strong compression is obliged to be used for several weeks. The uncle of this young man, who, in his youth, had been subject to alarming hæmorrhages; is not always exempt from a return; he also suffers much from the gout. Towards the end of the paroxysms, considerable echymosis appears on the parts which have chiefly been affected with gout. The other individuals of this family enjoy perfect health. The subjects of the hæmorrhage are distinguished by dark and sparkling eyes, black hair, and the complexion of the atrabilious temperament.

We have seen, within these few days, another case of small-pox, occurring some years after the person had gone through the casual disease in its severest form. This person, now 35 years of age, had confluent small-pox in her youth, (sufficient evidence of which now remains on her face), about a month since, nursing her child in *Variola confluenta*, received the disease. The eruption, which appeared only where the child came in contact with the skin of the mother, was preceded by the usual symptoms of fever. On one side of the face, where it appears that the face of the child was laid against the mother's, numerous pustules, large, distinct, and going through the regular stages, were placed. On the nipples, where the child had applied its lips, and on the areola, pustules also appeared. A few pustules were scattered on the mother's arms where the naked surface had been placed in contact, with the eruption on the child. The mother had likewise pustules in her mouth, where the spoon with which she fed the child had touched. This case presents a curious anomaly in the history of *Variola*. It appears, from the statement given by the woman, that she was ill three or four days before the eruption shewed itself; but if this fever was the genuine eruptive fever of Variola, it is obvious that the susceptibility in the system had been so modified by the patient having before passed through the disease, that it was incapable of producing pustules but where the variolous fluid was applied by actual contact.

The Lectures which are annually given at the *Scientific Institution*, in *Princes Street, Cavendish Square*, will commence on the 20th of Nov. and will consist of a popular course of twelve Lectures on the most interesting branches of experimental science:—twelve Lectures on chemistry, comprising an exposition of all the recent discoveries; by *Mr. George Singer*:—and twelve Lectures on the philosophy of the mechanic arts, with new experiments on the tenacity of metals; by *Mr. E. Lydiatt*. These Lectures are delivered every Tuesday and Saturday, at eight o'clock in the evening.

Mr. Pearson, F. R. S. Senior Surgeon of the Lock Hospital, &c. is now engaged in delivering a course of Lectures on syphilis, cachexia syphiloidea, gonorrhœa, and diseases of the urinary passages, connected with it, or subsequent to it, at the particular request of a very respectable number of gentlemen in London.

These subjects constituted, formerly, one division of the course of Surgical Lectures delivered every winter; but which his engagements in practice have rendered it inconvenient for him to continue.

We understand, that in addition to an ample detail of the symptoms and treatment of lues venerea, Mr. Pearson enters largely into an account of various appearances resembling those which are produced by the poison of syphilis, but which actually derive their origin from other sources. These are classed under the general term of cachexia syphiloidea, which includes under its subdivisions:—

1st. Diseases appearing after the cure of lues venerea.

2d. Diseases produced by the direct and indirect agency of mercury.

3d. Spontaneous appearances unconnected with syphilis, or the action of the specific remedy.

The history of the cachexia syphiloidea constitutes a very important addition to what has been already collected on the subject of syphilis. And Mr. Pearson thinks himself authorized in asserting, that the symptoms attending this peculiar form of disease are neither less in number, nor less injurious to the human constitution, than those which are derived from the lues venerea.

Mr. Parkinson's third volume of the Organic Remains of a former World, will be published in November.

The History of the Royal Society, by Dr. Thomas Thomson, will be published in the ensuing winter, in one volume, quarto, as a companion to the recent Abridgment of the Phil. Trans. The object of this work is to trace the progress of the sciences since the commencement of that illustrious Society, and to take a comparative view of the degree in which they are indebted to British and how much to foreign cultivation. A considerable portion of biography will find a place in this volume.

MONTHLY CATALOGUE OF MEDICAL BOOKS.

Anatomico-Chirurgical Views of the Male and Female Pelvis; with appropriate explanations and references to the Parts. By John James Watt, Surgeon. The engravings executed from original drawings, by Lewis. Folio. Coloured plates. Lond.

Practical Observations on Cancer. By the late John Howard, Fellow of the Royal College of Surgeons, and Surgeon Extraordinary to the Cancer ward in the Middlesex Hospital. 8vo. Lond.

Engravings of the Arteries; illustrating the second volume of the Anatomy of the Human Body, and serving as an Introduction to the Surgery of the Arteries. By Charles Bell. Third edition, with additional plates. Royal 8vo. Lond.

The Principles of Midwifery; including the Diseases of Women and Children. Second Edition, much enlarged. By John Burns, Lecturer on Midwifery, and Member of the Faculty of Physicians, and Surgeon of Glasgow. 8vo. Lond.

The Æsculapian Monitor; or, Faithful Guide to the History of the

the Human Species, and most important branches of Medical Philosophy. By the Rev. Edward Barry, M. D. 8vo. Lond.

Vaccination Vindicated; or, an address to the People of England, upon the important subject of Vaccine Inoculation, with remarks on the necessity, in its behalf, of Legislative and Clerical interference. Written with a view to remove some prejudices inimical to its Progress, and to guide the Public to a right consideration of its great and real merits. 8vo. Norwich.

An Essay on the Disease called Yellow Fever, with observations concerning Febrile Contagion, Typhus Fever, Dysentery, and Plague, &c. &c. &c. By Edward Nathaniel Bancroft, M. D. 8vo. Lond.

BOTANICAL REPORT.

Six Numbers of the Botanical Magazine have appeared since our last mention of this interesting work, which continues to be carried on with unabated spirit; and Mr. Edwards's drawings, if possible, continue to increase in merit.

Anacampseros *filamentosa* and *arachnoides* are separated from the genus Portulaca, by Dr. Sims, the propriety of which had been before suggested by Mr. Haworth. Neither of these appear to have been figured before, or even mentioned by any botanical author except Mr. Haworth.

Aristolochia tomentosa; a new species from the Hammersmith nursery, nearly allied to A. *siphо*; with which Dr. Sims seems to think it may have been confounded even by Michaux.

Erica *monadelphia*, a new species considered by Mr. Andrews as a variety of E. *banksii*, and omitted in the new edition of Hortus Kewensis. Very different from E. *monadelphia* of Andrews and Willdenow, which is E. *furfurosa* of Salisbury and of the Hortus Kewensis.

Rhapis *flabelliformis* β. A male plant. This is one of the humblest of the palms; all of which, from their being so seldom seen to flower with us, are subjects of curiosity.

Lachenalia *lucida* and *unicolor*; the latter appears to be badly named, three colours being distinguishable in the figure here given. The species of this genus appear to be very numerous; and the distinction of species from varieties perhaps not yet well understood.

Pothos *pentaphylla*, native of Guiana and St. Lucia, from Mr. Vere's collection, Kensington Gore.

Mesembryanthemum *minutum*; a species never described but by Haworth, and not taken up by Willdenow, though very distinct from *minimum*.

Rosa *bracteata*; a hardy ever-green Rose, brought from China by Lord Macartney, on his return from his celebrated embassy to the emperor. Though of so late introduction into Europe, this Rose has been twice before figured, by Wenland in his Hortus Herrenhausensis, and by Ventenat, from the garden of M. Cels. Communicated by Messrs. Malcolms, nurserymen, at Kensington.

Idia *monadelphia* β, and *fucata*.

Drimia *lanceæfolia:* considered as a species of Lachenalia by all botanists before Mr. Ker. This number contains an enumeration of all the species of this genus known to Mr. Ker.

Allium *bisulcum* of Ridouté; the only author who has before noticed this species.

Neottia *speciosa.* Native of the West Indies; an ornamental plant in our stoves, flowering in the midst of winter.

Eriospermum *latifolium* (α). With an enumeration of the known species of this very curious genus. From Mr. Knight's nursery, in the King's Road.

Crocus *sulphereus* β. One of the least splendid of the species of this harbinger of the spring.

Allium *ampeloprasum;* native of the Levant, of Portugal, and of Home's Island in the Bristol Channel. Mr. Ker suspects it to be the origin of the common cultivated Leek.

Geranium *ibericum;* a species known to Tournefort, but only lately introduced into Europe. Communicated by Messrs. Whitley and Brame, nurserymen, at Old Brompton and at Fulham. It makes a remarkably beautiful drawing.

Cytisus *divaricatus* (β), a smooth-leaved variety, and rather an ornamental shrub, requiring to be protected from severe frost. From Messrs Loddige.

Tussilago *fragrans;* a late introduction among us, though commonly cultivated in France for the sake of its odoriferous flowers. From the Hammersmith nursery.

Podalyria *cupinoides;* a very rare species, and still more rarely seen in flower. Mr. Loddige, who has been in possession of the plant several years, never was so fortunate as to have it in flower before.

Tulipa *clusiana.* This article contains an enumeration of the species, as known to Mr. Ker.

Carex *fraseriana.* A new and very remarkable species, with leaves resembling a liliaceous plant. Found in North Carolina by the late Mr. Fraser.

Trichonema *caulescens.* From the Hammersmith nursery.

Iris *ruthenica* β. This plant was supposed to be Iris *verna;* but, from the account here given by Mr. Ker, it seems probable that I. *vernæ* of Gronovius, Linnæus and Miller, is only a variety of *cristata;* or, at least, it is much nearer akin to that species than to the one here figured; which has usually passed in our nurseries for it.

Pultenæa *daphnoides.* One of the first, and now one of the most common, of the plants from New South Wales.

Zieria *smithii.* Native of New South Wales. A shrub named by Dr. Smith, in honour of Mr. Zier, a learned botanist, of German extraction, but who lived and died in this country.

Pittosporum *tobira.* A fine evergreen tree, with sweet-scented flowers; native of China; from the collection of Messrs. Malcolm and Sweet, at Stockwell common.

Stapelia *reclinata;* from the collection of Messrs. Walker, at Stockwell. We have no doubt but that this genus, now so extensive, will be hereafter divided into several.

Bignonia *grandiflora.* This plant is really a great acquisition to our gardens.

gardens. It is not improbable but that it may be found as hardy as B. *radicans;* but if not, it promises to be a splendid ornament of our green-houses. The drawing of this plant is very characteristic, and one of the most beautiful in the work.

Erica *odorata.* The heaths have few of them any scent, but this and *fragrans* make two exceptions, both of them having a powerful and agreeable perfume; that of the former is compared by Dr. Sims to a mixture of roses and honeysuckles. It is likewise very elegant in its growth.

Ruellia *formosa.* A highly ornamental stove plant, producing splendid scarlet flowers most part of the summer. From Messrs. Whitley, Brame, and Martin's.

Lachenalia *contaminata.* L. *lucida, unicolor,* and *contaminata* appear to be nearly allied, in their flowers, though their foliage is sufficiently different.

Uvularia *sessifolia.* Native of North America, introduced by Messrs. Fraser and Sons.

Smilacina *borealis.* This is the same plant as was figured in the former edition of the Hortus Kewensis, under the name of Dracœna borealis. The one before published under this name as a supposed variety, Mr. Ker is convinced, upon having seen both, is a different species, which he calls *umbellata.* Dianella ensifolia *α.* An old stove plant; but its native country and time of introduction, both uncertain.

NATURALIST'S MONTHLY REPORT.

SEPTEMBER.

Now golden fruits on loaded branches shine,
And grateful clusters swell with floods of wine;
Now blushing berries paint the yellow grove.

On the 1st and 2d of September the wind was northerly; from the 3d to the 19th inclusive, it was either easterly or north-west; on the 20th southerly, on the 21st south-west, on the 22d variable, on the 23d northerly, on the 24th north-west, from the 25th to the 27th westerly, on the 28th north, on the 29th westerly, and on the 30th north-west.

The weather from the 8th to the 15th was extremely hot, the sky being unobscured with clouds, and there having been no refreshing breezes, except for a few hours on the 11th. The only rain we had during the whole month fell on the 19th, 20th, 23d, 24th, 25th, 26th, 28th, and 30th.

The night of the 19th was stormy with thunder, and there was some thunder the next morning. There were strong gales on the 6th, 29th, and 30th; and squally weather on the 24th, 25th, and 26th.

September 1st. I have just been informed of a singular notion entertained, in some parts of this county, respecting toads, that, during the month of August, they are innoxious; and that, in consequence, the common people do not then so eagerly seek their destruction as at other times,

times. On the first of September, therefore, toads as well as partridges become again fair game.

Partridges this year are peculiarly scarce.

September 2d. Black grapes begin to change colour. Mulberries are in great profusion. The eclipse of the moon this evening was more beautiful than any eclipse that I recollect.

September 4th. About this time last year the swarms of wasps were innumerable, and these insects proved extremely injurious to the ripening fruits. This year there are very few indeed.

September 7th. Several of the autumnal plants are now in flower, particularly in the gardens, the Michaelmas daisies, and autumnal crocus; and of wild plants, the pale-flowered snakeweed *(polygonum pallidum)*, orpine stonecrop *(sedum telephium)*, common mugwort *(artemisia vulgaris)*, and sea starwort *(aster tripolium)*.

September 9th. Damsons are gathered. The second crops of clover are cut.

The bank martins *(hirundo rustica* of Linnæus) began to congregate amongst the reeds and sedge along the banks of the rivers; and particularly in the evenings, they are to be seen in immense numbers.

September 10th. In this part of Hampshire the barley harvest is completely ended.

September 13th. Gossamer floats. Winged ants come to life and fly abroad.

September 15th. The fishermen, for several evenings past, have been on the look out for herrings. The easterly winds, which have prevailed for several days past, are favourable for their arrival upon our shores; but hitherto, except a few stragglers, none have been caught.

September 18th. In consequence of the late dry and hot weather, the ponds and brooks begin to shrink. The water also in the rivers is very low.

September 20th. Martins and swallows congregate on the roofs. Thistle down floats. The goldfinches and other small birds eat these, and the seeds of numerous other weeds that are injurious to the farmers; thus rendering him much more service than he is aware of.

September 23d. This was a rainy day, and the farmers will now be able to begin their ploughing. The turnips also will be greatly benefitted; and vegetation altogether recovered from the effects of the late drought.

Hazel nuts and filberts are very scarce; and, with respect to walnuts, the trees, at least in this neighbourhood, are almost wholly destitute of them.

September 26th. Winter potatoes are taken up, and the crops upon the whole are very favourable. Grapes are gathered.

September 29th. This evening a considerable quantity of herrings was caught. On the following day they were sold for about seven pence per dozen.

Berberries are ripe. Wheat sowing is begun.

September 30th. The leaves of the walnut and lime trees begin to fall; and the heath and fern to turn brown.

The goat suckers have left us.

Hampshire.

METEOROLOGICAL

METEOROLOGICAL TABLE.

From September 26, to October 26.

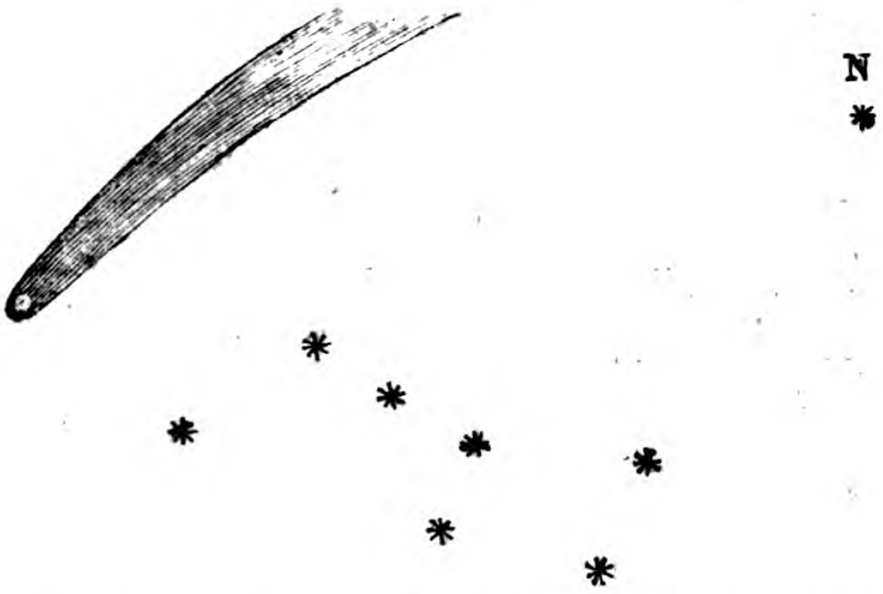
D	Therm.			Barom.		Hygrom. dry——damp			Winds.	Atmos. Variation.
27	45	48	47	29²	—³	10	14	15	W . .	C ... R .... F ...
28	44	56	52	29⁴	—⁵	15	—	—	NW .	C ... F... C ... R .
29	52	58	55	29⁶	—⁷	15	10	—	NW .	C .. F ... — ....
30	52	61	57	29⁷	—	14	9	10	W . .	F .... R ... F ....
1	59	61	54	29⁶	—	15	12	10	S . . W . .	C .. F .. R ... F ...
◐ 2	54	62	54	29⁷	—⁸	— 5 —	84	—	6	W . .	F .... — .... — ....
3	50	57	—	29⁹	—⁵		8	15	20	NE . SE .	Fog . R . —.. —...
4	60	67	62	29⁵	—		30	35	—	S . .	C .... R . F ....
5	66	64	59	29⁶	—		42	20	27	S . .	C ... F ... R ...
6	57	61	58	29⁸	—⁹		32	16	20	W . .	C .... F .. — ....
7	61	66	62	29⁹	—⁸		45	50	44	SW . .	C .... F .. R . C ...
8	60	61	59	29⁹	30		48	15	23	W . .	F ... — ... — ...
○ 9	61	66	62	30	—		35	32	33	W ..	R . F . C ...
10	59	—	61	30	—		35	33	35	W .	C .... — ... R ..
11	61	66	62	29⁹	—⁸		38	30	36	W . .	C .... F .. C ... R .
12	57	62	56	29⁸	—⁷		32	34	33	S . . SW . .	C ... F .. R ...
13	52	61	55	29⁸	—⁹		30	1	11	W ...	F ... — ... C ...
14	55	62	60	29⁹	—		20	43	41	SW . .	R .. C .... F ...
15	60	70	65	29⁹	—⁸		39	14	19	S .	F .. — .... — ....
16	62	63	64	29⁸	30		26	20	25	SW . .	F .... C .. R . F ..
◐ 17	63	68	62	30	30¹		27	24	27	W .	C .. F . . — ....
18	57	67	63	30¹	—²		20	—	27	SW . .	Fog... F.... R...
19	61	65	58	30²	—		32	36	30	W .	R.. F...C..Fog....
20	58	63	59	30²	—¹		32	30	—	SW . .	C . F ... C ...
21	58	64	62	30	29⁷		30	25	32	W . .	C .. F ... C ...
22	62	64	56	29⁵	—		33	30	32	SW . .	C .. R .. — ...
23	54	58	54	29⁶	—		30	16	23	W . .	F .. —.. — ...
24	54	55	54	29⁵	—⁴		28	25	26	SW .	C .. R .. C ..
● 25	49	54	48	29⁴	—¹		24	2	18	W . .	F.... R.. R... in N.
26	49	50	48	28⁸	—		23	20	23	SW . .	F ... R ... — ..

Quantity of rain from September 26 to October 26, two inches and $\frac{5}{100}$.

The temperature of this interval has generally been considered as unusually great; but it will be seen, by referring to the registers of last year, that a very small difference has existed between the heat of October 1810, and 1811. In 1810 the greatest height of the therm. in the middle of the day, on the 8th, was 71; in 1811 the greatest heat was on the 15th, when the therm. in the middle of the day was 70. The lowest point in 1810 was 50, in 1811 also 50. The quality of the heat of the present October has, however, been peculiarly oppressive, and this has arisen possibly from the great humidity of the atmosphere, which has, at times, occasioned the metropolis to be involved in a vapour bath.

The most interesting meteorological occurrence of this month, as of the last, is the Comet. As the moon ceased to give light in the evening this orb became very conspicuous, and early in the month shone with considerable splendour. At eight o'clock in the evening of the 6th it was particularly distinct, and, perhaps, better defined than at any other period. It was seen to the west of the great Bear, illumining all that region, and extending its *coma* over an immense space. Its apparent position, and relative magnitude, as observed on the evening of the 6th, will be understood by the annexed diagram.

On



On the 9th of September, the time of the perihelion passage of this Comet, it was distant from the Sun 94,724,260 miles. On the 13th of September, its distance from the Earth was 142,500,000 miles. On the 15th its distance from the Sun was 95,258,840 miles; the distance of the Earth from the Sun, at that time, being 95,505,923 miles. The length of the Coma 33,000,000 miles. The motion of this Comet is from E. to W. being the reverse of what it appears to a spectator on this earth. Its real size, as deduced from its appearance in the grand Herschelian telescope, is about that of our moon: the brilliant central nucleus is invisible in the 10 feet Herschelian, and in every smaller telescope. This statement, determined on the formula of the Mechanique Celeste of la Place, has at least an air of precision.

Opinions respecting the nature, qualities, and influence of Comets, have generally been portentous. We have before slightly observed on the popular notions; nor does it seem that philosophy has been altogether free from conclusions improbable if not absurd. Sir Isaac Newton (*Principia*) calculated that the Comet of 1680, when in its perihelion, was to the mean distance of the Earth to the Sun, in the ratio of about 6 to 100; from whence it was inferred that its heat in that part of its period should have been to our summer heat reciprocally as the squares of their numbers, that is, as 1,000,000 to 36, or 28,000 to 1; and on this data he computes the heat of that Comet to have been 2000 times greater than red hot iron. But of what matter must this orb have been made to be susceptible of such a prodigious and terrible heat? If Comets are in their nature like our Earth, and have an atmosphere similar to ours, they are incapable of being heated to that enormous degree.

Princes Street, Cavendish Square.

NOTICES TO CORRESPONDENTS.

Communications have been received from Messrs. R. Harrup, T. Smith, H. Davies, T. Mackell, A. Pearson, Surgeon to the English Factory, Canton, through Mr. Weeding; Medicus, &c. &c.

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THE

Medical and Physical Journal.

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For the Medical and Physical Journal.

Theory of Sensation.

(Continued from P. 371.)

IN the small-pox, scarlatina, &c. the application of cold water to the surface of the body has been often practised with striking advantage. The rules which Dr. Currie has laid down with so much justness and precision, if strictly attended to, would, I firmly believe, render the use of this remedy in these diseases at once perfectly safe and highly salutary. It cannot however be altogether void of utility to ascertain, if possible, upon what principle it is that the good effects of cold applications to the skin in these diseases, have uniformly appeared to be confined to those cases in which it was agreeable, at least not disagreeable to the patient's sensations. Was this owing to its having *diminished* or *increased* action? This question cannot be decided without having particular cases in view: and I cannot do better than solicit the reader's attention to three cases of scarlatina, communicated by Dr. Gregory, Professor of the Practice of Medicine in the University of Edinburgh, to Dr. Currie, and published by him in the 2d Vol. of his Medical Reports. We may safely reason from these cases, as they contain a minute and faithful picture of the effects of cold ablution in scarlatina; by a physician whom it is impossible to suspect of any undue bias in favour of the practice. How much the cold and tepid ablutions relieved painful or uneasy sensation in these cases may be inferred from the following extract, from the end of the second letter: "I have had much pleasure," Dr. Gregory remarks, "in observing repeatedly in the youngest child

(the two-year-old gentleman) the great and immediate good effects of the cold or tepid washing, not only in lessening the frequency of pulse and heat of skin, but in relieving the febrile oppression and uneasiness. The little patient who just before was crying very much, unable to hold up its head, incapable of being pleased or amused with any thing, nay almost incapable of looking at any thing, immediately after being washed (I mean in two or three minutes) would begin to look up, and take notice of the people near him, then amuse himself with his play-things, then get upon his legs and run about upon the floor, and at last go quietly to sleep." Perhaps it may be urged that these striking effects arose from the morbid actions being diminished by the ablutions. But is it certain that any action essentially belonging to the disease was diminished? Were the actions by which the eruption is formed on the skin diminished? No, for the rash was permanent, and went its due course; nay, if I may judge from my own experience, the course of these actions is quickened by subduing uneasy sensations, whether that be done by bleeding, purgatives, or by the cold or tepid washing. Were the actions by which caloric is evolved diminished? A common effect of the cold washing (particularly when the benefit resulting from it is to be permanent) is, that a general, free and lasting perspiration succeeds to it.—Sweating is now known to be a very cooling process, under which the system could not possibly long maintain its temperature at the natural standard, much less above it, if the evolution of caloric were not considerably greater than natural. Hence it appears probable that the coolness of the body in the perspiration that succeeds to the cold affusion or washing, is not owing to a decrease of the actions by which caloric is evolved, but to an increase of the actions by which the body is cooled. But this is not all. When the cold ablution is not succeeded by sweating, or when the flow of sweat is not lasting, the temperature of the body rises, (as I have often observed, and as may be inferred from the cases on record), with *increased rapidity;* a fact which proves that the actions by which caloric is evolved are not only not diminished, but considerably increased by the abstraction of the redundant caloric. But the same increased evolution of caloric may be inferred to take place when the temperature of the system is kept down by copious sweating, which is only another way for removing the excessive caloric. In every point of view therefore it appears that the cold affusion, or ablution, in relieving painful or uneasy sensation, increases *action;* and that instead of diminishing the peculiar actions *already excited* by the contagious matter, it allows them to be performed with greater quickness and facility,

facility, while at the same time it obviates the destructive effects of excessive temperature upon the actions and organization of the body.

There is perhaps no disease in which the prejudice against the use of cold applications has been more strongly and generally rooted than in *Erysipelas*. Cooling lotions, however, have been employed in this disease with advantage. Dr. Irvine strongly recommends them*. In a very able review of his work, when noticing this practice, the Reviewer makes the following observations: "†This practice is also commended by other writers‡; and for our own parts, we have been in the constant habit of employing cooling lotions, such as equal parts of aq. ammonia acetatæ and water, &c. in erysipelatous inflammation, with great benefit; and with immediate relief to the feelings of the patient, which the application of farinaceous powders most commonly aggravated or failed to relieve; but very able surgeons deprecate the indiscriminate use of them"‖.

The *indiscriminate* use of cold applications in any disease, whether fever, gout, scarlatina, small-pox, or erysipelas, cannot be too much decried. The following case occurred in my own practice, and first taught me the necessity of attending to the sensations of the patient in the use of that remedy. A young woman was in the fourth day of typhus. Her skin was hot, her face flushed; she had violent headach, and was at intervals delirious. At a time when the delirium was urgent, I applied cloths wet in cold water and vinegar to her head, with the immediate effect of removing the delirium. The patient expressed great satisfaction, and said it relieved the headach. After renewing the cloths several times, the patient began to complain that she felt them too cold, and that they brought back the headach. At that time I had neither the rules which Dr. Currie has laid down, nor any other safe principle to direct me when to stop. Pleased, however, with the obvious good effects derived from the cold applications in the first instance, I encouraged my patient to bear them to be continued; thinking, perhaps, they would be as effectual in preventing the recurrence of the headach and delirium, as they had been in removing them. She submitted; but in a short time her skin became deadly cold; she was seized with

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* See Observations on the Diseases of Sicily, Chap. 12.

† Edin. Med. and Surg. Journ. for July, 1811.

‡ See Cooper's Dictionary of Practical Surgery. See also his First Lines of the Practice of Surgery.

‖ See Pearson's Principles of Surgery, Ch. 10, Sect. 4.

a low muttering delirium; and her countenance assumed a cadaverous appearance. Alarmed at these very dangerous symptoms, I had immediate recourse to warm applications, and succeeded in restoring a due warmth to the skin, and removing the delirium. After this she soon fell into a quiet sleep, which continued for some hours with a warm moisture of the skin, and awoke, much to my satisfaction, greatly relieved of all the febrile symptoms. There can be little doubt that if the cold applications had been longer continued in this case, the effects would have quickly proved fatal. To caution against the indiscriminate use of cold affusion in fever, Dr. Currie has very properly given a case which occurred in his practice, in which the cold affusion was used in the cold stage of a tertian, with very dangerous and alarming effects*. Elsewhere† he mentions, with just indignation, his having heard of two cases of scarlatina maligna, in which, on the supposed authority of the Medical Reports, several gallons of perfectly cold water were poured over the patients, at a time when they were under low delirium, with the *skin cool and moist and the pulse scarcely perceptible.* In a case of confluent small-pox, *in which the patient was constantly complaining of cold*, I have been informed, on good authority, that the medical attendant caused him to be taken out of bed, carried into the open air, and exposed for a considerable time, almost naked, to the wind in a bleak day in December. The patient, a boy about seven or eight years of age, soon became comatose and died the same day.

On the whole, I hope it will appear, that the bad effects ascribed to cold applications in the above diseases, have arisen from the *indiscriminate* use of them in such cases as the above, in which neither the *temperature* nor the *sensation* of the patients admitted of their employment; and consequently in which, instead of promoting, they interrupted the actions going on at the time.

With regard to inflammation affecting internal parts, any attempt to ascertain the relation between the plastic actions and the pain in them must be entirely fruitless, if we are not permitted to reason from analogy, or from observations in extreme cases.

It is allowed that inflammation may exist in internal parts, an extravasation of coagulable lymph take place, and new vessels shoot into it; yet the patient experience no pain‡.

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* Medical Reports, Vol. 1, Ch. 7. † Vol. 2, Ch. 2.

‡ See Hunter on Inflammation, p. 287. See also Baillie's Morbid Anatomy, 3d Edition, p. 59.

Inflammation

Inflammation of the heart and pericardium with adhesions*; of the pleura and lungs with adhesions†; of th stomach‡; of the peritoneum, &c. with adhesions‖; of the kidneys§; have been found upon dissection after death to have taken place, although the patients had complained of no pain (certainly not acute pain) in the part in which the inflammatory actions had been going on. And in numberless instances to which it cannot be necessary to refer, the degree of pain felt has been incomparably less when the action was considerable, than in other cases in which few or no marks of inflammatory *action* could be detected. From these facts, is it not allowable to infer that the same principle prevails in internal as in external inflammation?—and that in both, the pain indicates that the *action* is not equal to the *efforts* to act? If this is granted, we must conclude that the affusions, adhesions, suppurations, &c. found in some fatal cases of inflammation attended with violent pain, took place mostly or entirely after the pain abated, which it always does, if I am not mistaken, some considerable time before the fatal termination of the disease.

3. OF THE DILATATION OF THE BLOOD VESSELS IN PARTS INFLAMED.

If we reflect upon the nature of the plastic actions; that the organization is to be repaired by them, or new vessels formed; and that the materials for these actions are to be derived from the blood; it cannot but appear that the slow state of the circulation and increased quantity of blood which constitute so constant a feature of inflammation, are well adapted if not essentially necessary to the undisturbed performance of these actions. For as a very rapid motion of the food intended for nourishment through the primæ viæ would be totally incompatible with its digestion and absorption; so, an increased velocity of the blood through the vessels of a part in which the actions of formation and repair are to be accomplished, instead of being favourable to increased plastic action would,

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* Burns on the Diseases of the Heart. Med. and Phys. Journ. Vol. 25, p. 396.

† Morgagni de Sed. et Caus. Ep. 21. n. 9. also n. 17. Ep. 3. n. 20—n. 26. Edin. Med. and Surg. Journ. Vol. 6, p. 437.

‡ Ibid. Vol. 7, p. 160.

‖ Morgagni de Sed. et Caus. Ep. 17. n. 17. Ep. 53. n. 3. Edin. Med. and Surg. Journ. Vol. 4, p. 187; also Vol. 2, p. 409.

§ Van Swieten Comment. in Boerh, § 994.

it is self-evident, prevent that due separation of the materials without which these actions cannot be performed. But numerous facts concur in shewing this to be a general law of the animal economy, that in parts, in which actions either of repair or formation, morbid or salutary, are to be performed, there a lasting or temporary provision for diminishing the velocity of the blood, and for causing it to accumulate in larger quantity is formed. The following facts seem to testify that this law prevails in health.

1st. Organs which are liable to great or continual waste from the exercise of their several functions, mental, animal, or vital, and which in consequence require frequent or continual actions of repair, have the blood vessels naturally so disposed as to render the circulation slow, as well as the quantity of blood abundant in them—as the brain, heart, and voluntary muscles.

2d. Similar provision for diminishing the velocity and increasing the quantity of blood, is found in organs whose function it is to separate from the blood the materials of the various secretions—as the liver, kidneys, &c.

3d. In infancy, in which the rapid growth of the body proves that the plastic actions are predominant, the motion of the blood in the extreme vessels appears to be slower, and the quantity, cæteris paribus, greater than in adults, as the flushed or mottled red and white appearance of the skin in infancy evinces: and every matron knows that children in whom the skin is pale and bloodless neither thrive so well nor grow so fast, as those in whom it exhibits this mottled appearance.

4th. During pregnancy a very remarkable increase of plastic action in the uterus occurs; and a no less remarkable change takes place in the size of its blood vessels, and in the quantity of blood accumulated in them. The arteries and veins of the uterus in its unimpregnated state, though numerous, are small. But after impregnation they undergo an astonishingly rapid enlargement. "Even before the ovum enters the uterus, we find the uterine artery as large as the barrel of a goose quill, and sending large branches round the cervex uteri and up the sides of the womb. As pregnancy advances, the trunks, but especially the branches, become still larger, particularly near the implantation of the placenta. The veins are enlarged in the same proportion as the arteries*" "The enlargement of the veins during pregnancy is such that the orifices of some of them, when divided, will

* Burn's Principles of Midwifery, B. 1, Ch. 15, Sect. 5.

admit

admit even the end of a small finger*." That this vast enlargement of the arteries and veins must be attended with the effect of rendering the velocity of the blood almost insensible, as well as of increasing its quantity in the uterine vessels, is sufficiently obvious.

5th. In sleep a considerable increase of plastic action appears to take place in every part of the system, especially in the organs adapted to the mental and animal functions, to repair the waste the organization necessarily suffers in the waking state. This seems to be universally taken for granted. But during sleep the motion of the blood becomes slower than when the person is awake. This appears from the slowness of the pulse in sleep. I am aware that a very different cause has been assigned for this slow state of the pulse. But since this slowness of the pulse is spontaneous, since it answers so good a purpose, and since *mechanical compression of the brain* or *distention of its blood vessels*, would defeat that purpose, I hope it will appear to the intelligent reader that this slow state of the pulse (in healthy sleep at least) is more likely owing to this law of the animal economy, than to any mechanical cause.

These instances may suffice to shew the prevalence of this law in the healthy state of the body. It appears to be no less general in disease.

1. In the medullary sarcoma or fungus hæmatodes, not only the medullary mass is plentifully supplied with blood by its own vessels, but the vessels in the neighbourhood are greatly enlarged; a circumstance that always must render the motion of the blood in them slower than natural.

2. When the skin covering tumours is made to recede spontaneously (not mechanically stretched and thinned) as the tumour enlarges, the veins of the skin appear universally to become enlarged and varicose. In this enlarged state of the veins the velocity of the blood must be diminished. The veins of the skin covering the fungus hæmatodes, cancerous tumours, some cases of abscess, fatty tumours, &c. always exhibit this varicose appearance, when the skin recedes before the tumour by an apposition of new matter. When it is forcibly stretched and thinned the veins do not assume that appearance.

3. I have seen some cases in which the mamma preparatory to lactation have become enormously enlarged. An

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* Denman's Introduction to the Practice of Midwifery, Ch. 3, Sect 1.

enlarged

enlarged and varicose state of the veins preceded and accompanied this enlargement.

4. Universally this state of the circulation appears to exist, with certain modifications, in inflammation. Wherever plastic action is to be performed, whether it be slight or considerable, there an accumulation and slower motion of the blood is produced or attempted to be produced. Even in clean cuts, which heal without pain, the blood accumulates around the edges of the divided skin: and the slightest wound though confined to a point, becomes surrounded with a blush, (this is particularly visible in infants), which does not go entirely off till either the part be healed, or the materials thrown out for healing it.

Since therefore a very slow motion and large quantity of blood appear to be essentially necessary in parts where increased actions of formation or repair are to be performed, it seems highly probable that in parts, in which the quantity of blood is naturally too small, and the velocity with which it moves through the vessels naturally too great for the occasion—the first action of vessels when inflammatory action is excited there, will be, as Mr. Hunter supposed, an *action of dilatation;* than which, it is probable, nothing can be so well adapted to produce that slow state of the circulation which is necessary to the easy performance of the intended action.

But it is a remarkable circumstance, that parts in which the velocity of the blood is naturally greatest, and the quantity inconsiderable, are always most painful under inflammation. This is the case with all the dense colourless membranes, such as the tendons, ligaments, pleura, peritoneum, dura mater, &c. in which the quantity of red blood in their natural state is so small and its velocity so great, that little or no sensible redness is produced by it. The small vessels of these membranes, therefore, must be supposed to have most occasion for an exertion of this action of dilatation when extraordinary plastic action is to be performed in them. But it is obvious that if they stand most in need of dilatation, they also must in general present most resistance to its being accomplished. And this may be one reason why inflammation is so much more painful when it affects these dense colourless membranes, than when it takes place in parts more abundantly supplied with blood, and which more readily admit of dilatation, if that be necessary; as the substance of the lungs, liver, &c.

The action of dilatation in the vessels of inflamed parts does not appear to be a mere stretching of their coats—it is really a plastic action, the vessels becoming enlarged in capacity by an apposition of new matter, and sometimes also in thickness.

But

But since it has been shown that the blood ought to be at rest, or almost so, in order to the perfect accomplishment of this action, it is obvious that whatever increases the velocity of the blood must disturb the actions attempted, and more or less hinder them from being performed. Accordingly we find that when the velocity of the blood thrown from the heart remains unbroken till it reach an inflamed part, pain is uniformly produced at each diastole of the arteries. This appears to be the chief cause of the greater pain attending inflammation in dense colourless membranes.

By this unbroken impetus of the blood into inflamed parts, therefore, the actions to be performed appear to be interrupted, even after a sufficient quantity of blood is collected in the small vessels for the occasion. This is well illustrated by the sixth experiment related at the beginning of this paper, when treating of the state of the circulation in inflamed parts. The inflammation in that case arose from a burn. The parts were very red; and therefore it might be supposed the vessels already contained blood enough to furnish materials for the actions of repair, if they were not prevented by some other cause. Compression of the humeral artery allowed the blood to rest in the inflamed parts; the throbbing pain ceased; and the actions of repair appear to have been nearly completed in the course of three minutes afterwards. Yet the inflammation was appearing to increase before the artery was compressed.

The effect which resistance to the action of dilatation has of inducing pain independent of any other appretiable cause, is sometimes strikingly exemplified in utero-gestation. Towards the latter end of pregnancy it is very common for women to be affected with what are termed *spurious pains*. These pains are often very severe: but on examination no contraction of the uterus, or dilatation of its mouth are found to have taken place. Commonly in these circumstances I have found the membranes and head of the child high up, and the cervix uteri not completely dilated and somewhat rigid. By attending strictly to the effect of these pains I have found, that after a considerable interval of time, a very sensible dilatation of the cervix uteri had taken place; which must have been effected entirely by an action of dilatation or relaxation: as not the least symptom of contraction of the body of the uterus was distinguishable. But that the pain in such instances arises from resistance to the action of dilatation appears probable from this circumstance, that after venesection, or the operation of a laxative, the pain commonly has ceased; and the cervix uteri, notwithstanding, has been found more dilated in a given time than when the

pain was urgent; still without contraction of the uterus or pressing forwards of its contents. When this spontaneous dilatation of the cervix or os uteri is performed with great rapidity, but without difficulty, no pain is felt. The only symptoms by which it may be suspected are trembling of the limbs or of the whole body; sickness, with or without vomiting; and sometimes an indescribable anxiety not referred to any particular part of the body. The following case appears to be an instance of dilatation, first of the cervix and then of the os uteri, without resistance. I was sent for in great haste to attend a woman who was said to be taken in labour. She was the mother of a large family, and commonly bore her children with little pain, and without *professional aid.* I went immediately. She said she had not had any pain, but that she was sure her labour had begun, because her reckoning was out, and she was seized with a shaking which was always the principal symptom in her labours. On examination I found the os tincæ still close, the head of the child so high as scarcely to be felt, and the cervix uteri oblong and undilated. During the two hours that I sat with her, she was twice seized with a violent shaking of the whole body, which lasted for about a minute each time, and then left her. The change that took place in the cervix uteri during these *two minutes* was remarkable. At the end of the second shaking fit the cervix was quite obliterated, and the head of the child came to rest upon the os uteri, which, however, remained close. Yet during the time of the shakings, I could perceive no tension as if the contents of the uterus were pressed forwards; nor by applying the hand to the abdomen was the least symptom of contraction of the body of the uterus discernable. She now rested for a month. At the expiration of that time I was again sent for, but the child was born before I arrived. She had been several times seized with the shaking fit, such as I saw her have, at the interval of a few minutes between each, but denied she had felt *pain.* She knew she said that the child was advancing, but the sensation it produced could not be called pain. This is not a common case. But there are few labours in which opportunities are not given of observing the obvious effects of this action of dilatation when it comes to be little resisted, in diminishining the pain and facilitating the progress of the labour.

I have now examined all the *vital* actions which have been supposed, or which can be easily conceived to occur in inflammation: and if the observations of others agree with the above; it will be granted that the *pain* in inflamed parts is inseparably connected with interruption of the plastic actions; and therefore, that it is a further confirmation of the

Principle

Principle of Sensation. But even although the above observations are allowed on the whole to be correct, still one question respecting the cause of the sensation in inflammation suggests itself, viz. May not the pain depend not so much on the interruption of the action in the part singly, as on that action, being interrupted, giving an impression to the nerves, which is conveyed through them to the sensorium? Some facts appear to countenance this idea. The subject, however, is avowedly obscure. The word *impression* refers only to the agent, not to the manner the nerves are affected by it. Perhaps it might not be impossible to prove that *impressions* communicate sensation only as they interrupt action in the nerves; and that when vital action in the nerves ceases, impressions fail to communicate sensation. But I decline this subject at present, which might lead to discussions apparently more metaphysical than useful; satisfied with having shown that the pain in inflammation is caused by interrupted action, and that *actions* strictly morbid in their nature and fatal in their consequences may exist, without *pain* and without consciousness: facts, which I presume to hope, may be found neither void of interest nor utility.

Postscript.—In these papers on Sensation, I have had frequent occasion to employ the term *vital power*. I have not attempted to define that term, as it did not appear to me that I used it in a sense essentially different from that which is commonly attached to it. Generally, if not universally, it is acknowledged that actions or functions are performed on the living body, not explicable on any purely chemical or mechanical priciples *hitherto known*. The common sense of mankind revolts against the idea that these functions are affected by accident or without an established cause. They have, therefore, agreed in ascribing the phenomena of life to the influence of an internal principle, *sui generis*, to which the name of *Vital Power* has been given. In taking for granted the existence of such a power we no more offend against the laws of true philosophy, than in ascribing the phenomena of gravitation to a power inherent in matter. As it is by the *action* of the power of gravity that the planets are retained in their orbits; so it appears that the action of the vital power is that which gives form and motion to the materials of which the body is composed. The existence of either power cannot be proved but by its effects. But on attentively considering these effects, the understanding, if I am not mistaken, is as strongly impressed with a persuasion of the existence of the one, as of the other. I have elsewhere said, "it is not difficult to conceive that an active intelligent power should *feel* when its motions are interrupted." There is an

evident inaccuracy in this expression, which I conceive has given rise to the observations of your correspondent Mr. Woodham. The sentence, to convey my meaning, should have run thus: "it is not difficult to conceive that an active intelligent power should feel when its *actions* are interrupted." The word motions refers properly to the effect of the vital actions upon matter; and the expression as it formerly stood implied an hypothesis which it was certainly far from my intention to assume. I therefore feel myself highly obliged to Mr. Woodham for having called my attention to that expression, and furnishing me with an opportunity to correct the inaccuracy. But if sensation uniformly depends on interrupted vital action; and if, as Mr. Woodham asserts, "intelligence is mind and sensation a mental affection," I am yet to learn wherein I have deviated from the strictest principles of philosophy, either in the above expression as it now stands corrected, or in concluding from *facts* that the vital power feels when its actions are interrupted or obstructed.

T. SMITH.

Bristol, 1811.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IF the Cases inclosed merit a place in your valuable Journal, I will thank you to insert them, and will do myself the pleasure of giving any further information in my power, should it be required.

I am, Gentlemen,
Your most obedient Servant,
THOMAS MACHELL.

Wolsingham, Durham, 28th Sept. 1811.

From the fatal nature of the Scarlatina Anginosa, the little success of the remedies employed, and the very short period in which an opportunity can be had for the practitioner to do more than become a mere spectator to the dreadful shades which this disease so frequently assumes; we may reasonably conclude that our present state of medical knowledge is deficient: any thing, therefore, that may rouze our attention, or that may tend to put us upon our guard, must be acceptable to the feeling part of the medical profession. The chief object is not to omit the first, and in my opinion, the only opportunity of giving assistance. In many cases, if deferred until to-morrow, it never can be accomplished; and the object

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our regard is hurried, in the space of a few days, a miserable sight, from his friends to perpetual silence.

Cases where success has been obtained in the application of any remedy, or which may assist in attracting the attention of practitioners to a disease which requires every exertion to subdue it in its first stage, and which may prevent that alarm we so often experience from delay, will, it is presumed, be always acceptable to your readers. In your valuable Journal for February, 1811, there are several well detailed cases of the scarlatina anginosa, treated by Dr. R. Hamilton and his nephew. I feel much gratification in saying, that I have followed their mode of treatment pretty closely in the following cases, which I have ventured to lay before the public, sincerely wishing that they may tend to establish a better mode of treating the scarlatina anginosa.

CASE I.

The family of Mr. Cumming of Cornsey, near Durham, in May, 1811, was visited by the scarlatina anginosa in a very inveterate form. A fine boy, ten years of age, was taken ill on the night of the 18th, immediately on his return from school, and died on the 21st. The second, a girl aged five, begun on the 23d and died on the 25th. The same night, a girl twelve years of age, was seized with the fever, and died on the 27th. On the first of June, a most amiable young woman of the same family, fifteen years of age, was the next victim of this formidable disease. I was sent for on the fourth of June, which was the first time of my attending the family, and saw her at six in the evening; but was only in time to witness the awful scene; for in a few hours death terminated her sufferings.

The following day a young man, brother to the above, seventeen years of age, began with the fever. I observed, the night before, he was dull, heavy and weary, and mentioned my opinion to his friends, requesting to be informed immediately if he grew worse. My apprehensions proved true; for after passing a restless night, he was attacked about six in the morning with severe pain in his head, sickness, vomiting and purging; followed almost immediately by delirium. As I resided at the distance of seven miles, it was ten o'clock in the forenoon before I saw him, during which short time all the above symptoms had become extremely aggravated. His whole body was covered with a scarlet rash; his eyes looked wild and fiery; stools were frequent, dark, fœtid, and watery; pulse quick and strong, 130 strokes in a minute; throat sore; tongue and fauces covered with aphthæ; thirst great, and liquids were swallowed with uncommon eagerness.

Mr.

Mr. C. whose paternal affection had induced him to attend closely to his family during their illness, says that this patient, for the time, was far worse then any of the rest; and that the treatment pursued by two respectable medical gentlemen that were employed by his family previous to this case, was chiefly by bark, wine, and emetics: however, from the formidable shape of the disease in this family; the frequent disappointment in the above remedies; and the fortunate opportunity I just before had in meeting with that Number of your Journal, which contains Mr. Hamilton's treatment of the scarlatina anginosa by venesection, &c. I was strongly induced to abandon, as much as possible, all the other modes of treating this disease; for if a prognosis of the present case might be drawn from the past, the time, I concluded, would be very short indeed, in which something very effectual ought to be done. Into the room, which had previously been kept very close, a free access of air was admitted by the window; the fire was extinguished; the bedding changed: this I thought prudent to do, as all the family that suffered had died in one bed. The corpses were immediately interred, and every necessary precaution taken to prevent the spreading of the contagion. The heat of this patient's body was 109° of Fahrenheit; pulse 130, and strong. I took from his arm twelve ounces of blood, and in a few minutes employed the cold water: he was well sponged for the space of three minutes, and during its use seemed quite easy, and would frequently exclaim, "Wash me well!" The heat was readily reduced to 104°, his pulse to 115; delirium had subsided, and his head was quite free from pain. Half an hour after this, the purging and vomiting abated, and I gave the saline mixture. His throat was well rubbed with the spiritus ammoniæ, which gave immediate relief to it. His mouth was well gargled with equal parts of acetum distillatum and water, a tea-spoonful of which was frequently swallowed: he complained of its being sharp; but it had the good effect of producing a copious expectoration of phlegm. In three quarters of an hour from the time he was sponged, the heat of his body had increased, the purging and sickness returned, and he talked incoherently. The same happy effect was again obtained by sponging; and in the space of six hours it was repeated eight times, or as often as necessity pointed out; for he would frequently request to be washed, and when long delayed the heat of his body increased, and every particular symptom got worse, which invariably and almost immediately gave way on applying the water. Other professional engagements obliged me to leave him at eight in the evening, instructing his father in the use of the thermometer, and to

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know when the body was in a proper state for sponging. I was sent for again at twelve o'clock, midnight; he was again delirious in a very great degree, and it was difficult to confine him in bed; the heat of his body was 108, pulse 130, rather strong; the vomiting and purging had returned, his face was tinged, his lips, tongue, and teeth, of a darkish brown colour, and his eyes were very red; he had not been sponged for the last three hours, the purging returned and they had left it off; as the skin was still hot and dry, I immediately applied the water as before, with the same agreeable effect; the whole of the above symptoms readily abated, except the purging, for which I gave four drops of the tincture of opium in an ounce and a half of the saline mixture, and ordered it to be repeated every four hours. The next morning I saw him again and the purging had entirely ceased; he had been sponged thrice, and during the night had several short intervals of sleep.

On the 7th the sponging was employed twice, the last of which was followed by a gentle diaphoresis, which before never could be obtained. Saline mixture continued without the tincture of opium. Sponging omitted.

8th. Pulse 100, and soft, no delirium, thirst abated, the aphthæ covering the inside of the mouth, tongue, and fauces casting off in sloughs, tongue frequently bleeds from the whole surface, complains of great soreness of the mouth and griping pain in his bowels. R. Ol. olivar ʒiv. tinct. opii, gtt. xl. ft. enema.

9th. Pain in the bowels much relieved from yesterday's enema; had two stools this morning; mouth not so sore; some sleep in the night; thirst moderate. Saline mixture continued.

10th. Rested a little during the night; appetite better; pulse 96. Pain in the bowels quite gone, the scarf skin peeling off.

12th. Mending in every particular symptom; thirst quiet; tongue moist; sleep natural; and finds himself stronger.

14th. General health much improved, and since the last report has been quite easy, except a slight pain in the umbilical region, which he has felt since last night. R. Ol. ricini ʒss. 2nda quaque hora ad operationem usque.

15. Since yesterday has had three stools; he took twice of the castor oil, and its operative effect is perfectly easy, and to all appearance is improving very fast.

18th. Great improvement in every particular, only he complains of slight pains in his joints on endeavouring to walk, yet is entirely free from œdematous swelling. Appetite still good;

good; bowels soluble, and in every respect is fast approaching to his former health.

CASE II.

While attending Mr. Cumming's family in the case just related, a boy, eight years of age, of a weak constitution, brother to the above, on the 10th of the same month was suddenly seized with nausea, shivering, pain in his head, no appetite, and frequent purging and vomiting. I saw him about five hours after the commencement of these symptoms, during which time the nausea, vomiting and purging had continued to alternate in a very alarming degree; the pain of his head was quite severe; his face, breast, and arms, were slightly tinged with red; neck painful and stiff, throat beginning to be sore, and the heat of his body varied from 104 to 107 degrees. I employed the same powerful means as those already related in his brother's case, and the result was still more favourable, for by the 18th he had recovered so far as to be able to walk, and appears at this time, as I had marked in my notes, gaining strength faster than his brother. This family, at the commencement of their illness, were eight in number; an infant nine weeks, and a girl two years and an half old, escaped the infection; two recovered, and four died.

CASE III.

Mr. Borrow, of Hall-hill, in the same neighbourhood, had a family of seven children, all of which, except a boy two years old, took the scarlatina anginosa; the first that begun was a girl six years of age, I first saw her on the evening of the 19th of May, 1811, she had been ill six days, and was then lying upon her back in bed, in a comatose state; there was a fœtid discharge from her mouth; her lips, tongue, and teeth, were covered with very dark aphthæ; she breathed with great difficulty, the effluvia of which was intolerable; she had not been able to swallow any nourishment since the morning, and in this state she continued until the following morning, when the lamentable scene ended in death.

CASE IV.

Mr. Borrow's eldest son, aged 23, of a full habit and strong constitution, begun, on the night of the sixth of June, with violent fits of shivering, alternated by heat, much pain of the head, sickness, and vomiting. I saw him early the following morning, the sickness and vomiting were become very distressing, had a violent pain in his head, strong

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and quick pulse, inflamed tonsils, sore throat, and a wide spreading flush almost over his whole body, the heat of which was 108, his face was tumid, and eyes very red; from his arm I took twelve ounces of blood, and in less than an hour the violence of the whole symptoms was very much abated, so much so, that I determined on trying a little further before I applied the cold water, in any shape; I gave saline mixture and allowed a little cold water, which he drank occasionally; his throat was well rubbed with the spiritus ammoniæ. As he was very plethoric, and benefit had already been experienced from the first blooding, I took another pound of blood from the same orifice, which produced a slight degree of syncope, and which was immediately followed by a copious diaphoresis; at the end of two hours from the last bleeding there was still a more visible abatement of every particular bad symptom, and he felt very drowsy. I visited him the next morning, he had slept a great part of the night and appeared in every respect in a fair way of recovery; I ordered his bowels to be kept moderately open with small doses of calomel; he recovered in the space of five days.

All Mr. Borrow's family had the scarlatina anginosa in a somewhat similar form; and all, with an exception to the first that took it, ultimately recovered under the same mode of treatment: to save prolixity I have made choice of his eldest son's case, as being the most decided in serving to illustrate the beneficial effects of venesection.

CASE V.

Mr. W. Dodds, 26 years of age, was the next bad case that I attended; he had felt himself excessively weary, and frequently chilly, with fugitive pains for a day or two previous to the attack. When I first saw him the skin over his whole body was a bright red, his face swollen, throat, tongue, and palate, covered with aphthæ, violent pain in his head, sickness and vomiting, his pulse full and rapid, and the adnata of his eyes had a very red suffusion. I extracted from his arm fourteen ounces of blood,* this was the first day of the rash appearing, and in the space of three hours its good effects were very decisive, for, excepting the saline mixture and a purge occasionally, there was not any necessity for more medicine. On the following morning I saw him again, and his arm some time in the night had by accident bled from

* I confess my boldness in this practice, particularly when I have the good fortune to be sent for soon after the commencement of the fever

the same orifice, probably to the quantity of another six ounces ;* he had had some sleep, was quite clear of pain in his head, and excepting general weakness, he was free from any other complaint.

CASE VI.

——— Tayler, aged 23, servant to Mr. Dodds, of Adelpha, was very stout and robust, he had the scarlatina anginosa. I was sent for on the 12th of June, he had been ill two days, and was then rather delirious, had severe pain in his head, strong quick pulse, difficult deglutition, sore throat, no appetite, and much thirst; his body was all over very red. I took a pound and a half of blood from his arm, and ordered the saline mixture; his throat was well rubbed with the spiritus ammoniæ, and in the space of a few hours the relief he had experienced prevented the necessity of employing affusion or sponging; his bowels were kept soluble. His appearance when I again saw him, which was four days after, was much improved; at the end of the first week I heard from him, and he had got to his work.

CASE VII.

Mrs. Buckham, of a delicate constitution and slender make, begun with the fever on the morning of the 15th of June; she had frequent chills, succeeded by heat, during the day, which were very much increased towards night. When I first saw her she had severe sickness and vomiting, pain in her head, sore throat, no appetite, her face was turgid, and she was very full of the scarlet eruption; she was bled to the quantity of ten ounces, and in other respects was treated in the same way as the above; her recovery was very rapid and without any œdema.

I have also practised phlebotomy on Mr. William Gascoign, aged 17; and about a month ago on Mr. Thomas Rippon, aged 25, with the best effects; both of them had the disease in a very dangerous form.

The scarlatina anginosa has, since 1809, visited almost every little village in this neighbourhood, and frequently in a very awful form, but in no one instance, that I have seen or heard of, was its virulence so very terrible, or had spread more alarm in this part of the country than in Mr. Cumming's family; and it is also worthy of notice, that Cornsey, and Hall-hill, comparatively are two of the highest situations, from the level of the sea, of any in this neighbourhood, and had hitherto been remarked for being particularly healthy, and

* This accident, instead of retarding, seemed to accelerate the cure.

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the air pure in the extreme; and it is likewise rather extraordinary that the *miasma*, whatever it be, should have spread its baneful influence with a rapidity equal, if not greater, in those situations, than what has been generally observed in the most confined places. I should feel the highest gratification in seeing this phenomenon accounted for by an abler pen. If I may be allowed an opinion of this fact, it is that the situations of those dry and airy places are certainly less favourable to the production of the *miasma;* but by whatever means it once is either generated or has invaded such situations, the contagion will meet with less resistance, and spread its destructive qualities with greater rapidity under the influence of a light atmosphere, than where the air is more dense and loaded with grosser particles.*

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

I TAKE the liberty of sending you a few observations on a remedy for Acute Rheumatism, which is recommended by Mr. Davies in your last number.

Practitioners have long been in the habit of administering opium with calomel in various diseases, merely with the view of either relieving pain or of preventing the latter from passing off too quickly by the bowels. Dr. Hamilton, of Lynn-Regis, was, however, the first who pointed out the superior efficacy of these medicines, when conjoined in inflammatory affections,† after a successful employment of them for sixteen years. The general mode in which that gentleman administered the remedy was as follows: In the beginning of the disease he directed blood to be taken away, proportioned to the violence of the inflammatory symptoms and the constitution of the patient. The bowels were then emptied by a clyster, or more frequently by a purgative. Afterwards one

* These facts in a favour of a practice deemed rash by most practitioners, will obtain, we trust, all the attention which their importance demands. They strongly indeed, confirm the mode of treatment so ably pursued, and candidly stated by Dr. Hamilton and his nephew, in a former number of this Journal; we therefore solicit further communications on this very momentous subject. If the experience of other practitioners be equally favourable, we may entertain very probable hopes that the fatality of Scarlatina Anginosa, may be in a great degree obviated. In adopting this decisive practice, however, it must not be forgotten, that the beginning of the disorder is the only period at which we might expect it would be safe, or productive of essential benefit to the patient.

† Vide Edin. Medical Commentaries, Vol. 9.

grain of calomel, and from a fourth to a grain of opium in the form of a bolus, were administered every six, eight, or twelve hours, as the degree of inflammation or the threatening appearance of the disorder seemed to require.

Dilution with barley-water, &c. was at the same time strictly enjoined. After taking three or four doses of the medicine in the course of 24 hours, the patient was generally relieved; and in 24 more the distemper commonly gave way and soon terminated. When not relieved in the first 24 hours, and the high inflammatory symptoms continued with little or no abatement (which was rarely the case), more blood was taken away, and the mercurial composition directed to be more frequently taken, and continued until the disease resolved either by sweating, purging, or more commonly both, or by a ptyalism being raised.

He further observes, that if this method of cure was employed early in the disease, the patient was soon relieved, whatever was the operation of the mercury; but if employed late it was attended with more uncertainty, the case was rendered more doubtful, and the recovery more slow, but most commonly *the soonest when the salivary glands were affected.* When the skin was dry and contracted he added tartarized antimony, and sometimes camphor, to the composition; and observes, that he never found any medicine, either in a simple or aggregate state, produce so certainly, speedily, and effectually, a relaxation of the skin and a plentiful discharge from its pores, as a composition of calomel, tartarized antimony, opium, and camphor, which has also the advantage of increasing the evacuations by stool and urine.

Although, since Dr. Hamilton's recommendation, several practitioners have employed a composition of calomel and opium in such cases with great benefit, it is somewhat surprizing that the remedy has never come into general practice. From many years experience of its efficacy in the generality of acute inflammatory diseases, I consider it as superior to any other remedy with which we are acquainted in all such cases. If taken at the commencement of acute rheumatism, it checks the inflammatory symptoms in the course of twenty-four hours, and relieves the excruciating pains. At the same time it must be acknowledged, that in many cases it will not perform a cure unless the *mouth be affected by the mercury.*

In pneumonia it is a most valuable remedy; I have found it in a number of cases supersede the necessity of blood-letting, and consequently avoid the debility which taking away a quantity of blood never fails to produce, and which superadded to that debility, which is the natural consequence of

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the disease, too frequently lays the foundation of fatal chronic complaints.

In entiritis it will be found equally powerful; and in cases of gout, when attacking young plethoric habits, it is of very essential service in abating the inflammation and pain, particularly if the calomel is so proportioned as to freely affect the bowels. In short, if this remedy is properly and early administered in any of those diseases where acute inflammation is present, it will seldom, if ever, disappoint the expectations of the practitioner. I must, therefore, join with Mr. Davies in calling the attention of the medical world to a remedy so important in its effects. Some years ago an epidemic of a very singular nature and fatal tendency prevailed in this neighbourhood, (an account of which I may at some future period send you); the symptoms at the commencement were violently inflammatory, which in every case were completely removed by the exhibition of calomel and opium.

From long observation I am inclined to think with Mr. Davies, that the two medicines given separately will not produce the same effect as when combined. Opium is generally admitted to be injurious in acute inflammation, and calomel is never given with the view of mitigating the disease. What I conceive to be the most convincing proof of the composition being specifically efficacious, is, that I have very often observed the inflammatory symptoms greatly abated long before any evacuation whatever took place; Dr. Hamilton also makes the same remark.

In the case recorded by Mr. Davies the mouth was slightly affected with the calomel, which, I consider, renders the *composition* very doubtful. In that case I am convinced, from long experience, that if calomel or any other preparation of mercury had been administered alone till the mouth had been affected, the disease would either have been suspended or eradicated. To enlarge on this subject is unnecessary, having already delivered my sentiments in a former volume of the Medical Journal.

I am, Gentlemen,
Your obedient humble Servant,
ROBERT HARRUP.

Chobham, Sept. 25, 1811.

P. S. Your correspondent, Medicus, who desires to be informed of the process for dissolving elastic gum in æther, will find a minute account in the second vol. of your Journal, page 83; and some further particulars respecting the different solvents of that substance, in a letter inserted in the 17th volume, page 454.

To

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IF the following "Case of excessive Ptyalism without the exhibition of Mercury" be deemed worthy of insertion, you will have the goodness to assign it a page in your useful Journal.

Mrs. C. about 45 years of age, who for a few years past has been confined to her bed in consequence of loss of nervous influence, disabling her from standing or walking, was, during the course of my attendance on her, some time ago, labouring under a most distressing ptyalism, for ten days or a fortnight, insomuch that she spat daily two or three pints of viscid fluid. Not knowing exactly the source of so unusual a symptom, without any excitement from mercury, I could only trace it to the general debility of the system; therefore prescribed tonic remedies, with occasional aperients. Little or no relief being obtained by this plan; and, anxious to know if any other might prove more efficacious, recourse was had to the opinion of a physician of eminence. On my previously mentioning the history of her case to him, he could not be persuaded but the patient had been tampering with some empirical medicine containing mercury; but, on my applying the question closely on the subject to her, she *positively* avowed to the contrary, with no reason on my part to question her veracity. The physician proceeded on a similar plan of the tonic kind, which I had adopted before; but with no better success, the spitting still continuing as before. Impatient of relief, another physician was consulted, who prescribed a chalybeate plan, fully assuring her she would soon be cured; but this was easier promised than performed. All appeared to be equally inefficacious, the cure remaining in statu quo. The patient at last, disappointed in her expectations, desisted from pursuing the plan any longer, and left off her medicines altogether. However, in a moderate time after, the complaint gradually subsided, and she has had no relapse of it since.

It may be worthy of remark, that the principal relief she obtained during the urgency of the case, was from the aperients before alluded to; for such was the inactive state of the bowels during that period, that she took a mixture containing ʒvj. of sulphate of magnesia daily, to obviate that tendency.

My reason for submitting this cure for insertion in your useful miscellany, is to solicit the observation of some of your ingenious

ingenious and intelligent correspondents, respecting the connexion subsisting between the nervous system, in its morbidly deranged state, and the salivary glands of the mouth and throat; for I have since observed, the symptoms alluded to, in a slighter degree, occurring in patients of the same cast.

I am, &c.

H. DAVIES.

Piccadilly, Oct. 3, 1811.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

FROM your insertion in p. 488 of your 18th vol. of a communication of mine to Sir George Staunton, which was submitted to you by Dr. Maton, respecting the introduction and progress of Vaccination in China, I have been induced to present to you a report on the same subject in continuation, as an article of intelligence likely to partake of the interest which the Doctor is pleased to ascribe to the notice alluded to, with some of your readers.

It is merely to state, that the practice has been carried on, to this date, here and at Macao, extensively enough during the ravages of the small-pox, (the visits of which are in this country annual); but as I anticipated in the communication in question, has been much slighted when the danger went past, so as to render the preservation of it difficult: indeed from August, 1810, to January, 1811, we were entirely without it at both places; and when, in consequence of the reappearance of the small-pox, applicants for vaccination became numerous, I had the satisfaction to find that it had been kept up in a district at some distance from hence, by a Chinese whom I had instructed, and of receiving from that quarter a fresh stock, from which the practice is now amply kept up here, and has been revived at Macao.

I may add, however, that the estimate of the chances against its preservation, which I then offered, is not much less applicable at the present time, although confidence in its efficacy seems to increase; and I believe what I mentioned as a great desideratum, that some of the natives would prosecute the practice from views of emolument, will this season be supplied in one or two instances.

I have the honour to remain,

Your most obedient Servant,

A. PEARSON.

Canton, March 23, 1811.

To

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

OBSERVING a paper in your last, concerning the generation of Worms, I shall beg leave to state the following experiments, as having, I think, some relation to that long exploded doctrine, equivocal generation. After having read Mr. Hamilton's theory, to satisfy myself I took a small piece of buttock of beef, out of the inside, and put it into a bottle with a dram or two of distilled water upon it, merely to keep it from drying. I then stopped it completely down, and placed it in the heat of about 70. After suffering it to remain nearly a week, I opened it; there was a great deal of air extricated, and the meat was abominably fœtid. I examined a portion of it by means of a microscope, and found that there were a number of small worms or maggots in it, which were not perceptible to the naked eye. When I had finished this experiment, I was not perfectly satisfied, and therefore determined upon another. I had often observed a sort of small worm floating in vinegar, commonly known by the name of vinegar eels. I endeavoured to purify some of this vinegar by first boiling it, and then passing it through a filter: after having done this, I examined it by the microscope, and found it peefectly free from any thing of the kind. I filled a vial with some of this, stopped it, and set it by for a few days; when, upon examination, I found the same appearance as there was before I purified it, only that the worms were smaller. I was now perfectly satisfied that there was such a thing as equivocal generation; and it is upon this foundation that I suppose worms may be produced in any part of the body, by diseased matter being thrown out and entering into the putrefactive fermentation. If Mr. Hamilton, or any other of your readers, can give me reason to believe that these worms were not produced without ova, I shall be open to conviction; and they will greatly oblige your humble Servant,

MEDICUS.

October 14, 1811.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

THE following remarks occurred in perusing the last Number of the Medical and Physical Journal: should they be thought

thought deserving of a corner in the next Number, they are very much at your service.

ANNOTATOR.

Nov 4, 1811.

P. 377.—Dr. Beaver thinks that many cases of Cynanche Trachealis in adult subjects have not been recorded: he instances only that of the late General Washington. In addition may be mentioned the cases of two eminent medical characters, the late Dr. Pitcairn and Sir John Hayes.

P. 379.—The case of Small-Pox, received by casual infection eight or nine years after the same disease had been communicated by inoculation, would have been more perfect had Dr. Storer stated from whom the matter for inoculation had been taken: whether from the natural or the inoculated small-pox; and at what period of the disease. Those who deny the possibility of the small-pox being communicated twice to the same individual will, perhaps, with their wonted arrogance, assert that the boy was mistakenly inoculated with the virus of Varicella.

P. 386.—Many of your readers will, I presume, think that the physician was not very unreasonable, who requested that "the stomach might be suffered to rest," after the patient had been drenched with a draught "*every two hours.*" The apothecary seems to have thought that there was no safety but in medicine: the physician supposed, (no very absurd supposition), that nourishment might likewise be of service; and we are not told that the taking of food, or the delay in giving medicines, was eventually injurious to the patient.

If apothecaries will continue, as many do, to load their patients with medicines, with unbounded profusion, they must not wonder that the patients prefer employing a physician, and send his prescriptions to a druggist; and if they will, as many do, interfere with the physician's plans, by altering his medicines, or giving others in addition to those he orders; they must not be surprised that the physician should direct his prescriptions to be taken to a druggist in future.

At the same time that I blame the apothecaries for what is not only unwarrantable, but very impolitic conduct, in overloading their patients with medicines, without considering any thing but filling their own pockets, I must acknowledge that the conduct of the physician is sometimes as blameable, in not sufficiently consulting the interests of the honest apothecary, whose services are called for to visit the patient frequently. This reminds me of a story respecting the late Dr. Fothergill, which I have been assured is a fact.

As Dr. Fothergill was one morning walking to see some of his patients, he met an apothecary of his acquaintance, when a dialogue to the following purport took place between them.

Ap. Good morning, Doctor; I am thinking of coming to dine with you to-day.

Dr. F. Well, friend, I shall be glad to see thee.

Ap. And my wife will come with me, Doctor.

Dr. F. Well, friend, I do not often give dinners; but if thy wife will be content with my plain living, I shall be very glad to see her too.

Ap. And I must bring my children, and my shopman, and my servants with me, Doctor.

Dr. F. Friend, I perceive there is something about this that I do not understand. What is thy meaning?

Ap. Why, Doctor, you have been called in to visit my old patient, Mr. B——, who is always ailing, but never ill. Now, he *will* have me call upon him twice, and sometimes three times a day; and therefore I am obliged, in order to pay myself for my trouble, to send him three or four draughts a day, and an occasional mixture, or something of that kind. Now, Doctor, you have ordered for him a box of twenty-four pills, of which he is to take one three times a day. The pills, therefore, will last him just eight days. I reckon that the pills, the box, my shopman's time, paper, booking, &c. will cost me one shilling: so that if I charge him three shillings for the box of pills, which is as much as I can do, and make him only two visits a day during the time he is taking them, I shall receive only two shillings for sixteen visits; while you, for only one visit, receive a guinea. So you see, Doctor, that I and my family must dine at your expence, at least once a week.

Dr. F. Say no more, friend; thy complaint is reasonable. I will do thee more justice when I see thy patient next time.

The story says, that the good doctor kept his word, and that the apothecary was satisfied; but I cannot believe that the poor patient was drenched with a draught *every two hours.*

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

TOWARDS the middle of the last century, "*A circular invitatory Letter to all Orders of Learned Men, concerning an Attempt or Essay towards an History of the Lives, Deaths,*

Deaths, Writings, Characters and Opinions of the most celebrated British Physical and Chirurgical Authors, &c." was published by Dr. Edward Milward; and from the language of the author it may be inferred that he had made some progress in the undertaking, for which he thus solicited assistance: but the proposed work never appeared. Will you permit me to inquire, through the medium of your Journal, if any one can inform me how far he proceeded in his labour; and whether his papers are yet in being?

I remain, Gentlemen,
Your most obedient Servant,
A. HENDERSON.

Golden Square, Nov. 15, 1811.

To the Editors of the Medical and Physical Journal.

Gentlemen,

You did me the favour to insert in your 24th vol. p. 471, a Letter respecting the "*Society for the Relief of the Widows and Orphans of Medical Men in London and its Vicinity;*" I shall be further obliged to you to insert the following abstract of the present state of that society.

I remain, &c.
S. M.

Curzon-Street, Nov. 7, 1811.

The funded property of the Society at present amounts to 18,400*l.* 3 per cent. Consols. and 200*l.* Navy 5 per cents. which produce a permanent income of 562*l.* per annum.

During the present year, 1811, 328*l.* 10*s.* have been distributed among the widows and orphans of deceased members.

This society was instituted in the year 1788. The first application for relief was in the year 1792; since which time, 3338*l.* 3*s.* have been distributed, in *donations* and *apprentice fees*, among the widows and orphans of deceased members.

If a member of the society dies and leaves a widow and children, they are entitled, by the laws of the society, to receive relief; unless from the effects of the deceased member there shall remain more than 40*l.* a year, *certain income*, for the widow; and 12*l.* a year, *certain income*, for each of the children.

The *fine* for admission into the society is extremely moderate, (about three or four guineas), depending upon the age of the new member. The annual contribution is only *two guineas;* so that this society offers greater advantages than

are to be found in any other benefit society, or assurance office.

The greatest possible care is taken to prevent any undue bias, or partiality in the distribution of the relief granted to the claimants: in order to this, all the officers of the society are elected annually; and it is specially provided, that at least one fourth of the *directors* shall be renewed every year.

In a few instances relief has likewise been afforded to aged and decayed members, during their lives.

On a Case of nervous Affection cured by Pressure of the Carotids; with some physiological Remarks. By C. H. Parry, *M. D. F. R. S.*

(Phil. Trans. P. 1. 1811.)

ABOUT the year 1786, I began to attend a young lady, who laboured under repeated and violent attacks, either of head-ach, vertigo, mania, dyspnœa, convulsions, or other symptoms usually denominated nervous. This case I described at large to the Medical Society of London, who published it in their Memoirs, in the year 1788. Long meditation on the circumstances of the case, led me to conclude, that all the symptoms arose from a violent impulse of blood into the vessels of the brain; whence I inferred, that as the chief canals conveying this blood were the carotid arteries, it might perhaps be possible to intercept a considerable part of it so impelled, and thus remove these symptoms which were the supposed effect of that inordinate influx. With this view, I compressed with my thumb one or both carotids, and uniformly found all the symptoms removed by that process. Those circumstances of rapidity or intensity of thought, which constituted delirium, immediately ceased, and gave place to other trains of a healthy kind; head-ach and vertigo were removed, and a stop was put to convulsions, which the united strength of three or four attendants had before been insufficient to counteract.

That this extraordinary effect was not that of mere pressure, operating as a sort of counteracting stimulus, was evident: for the salutary effect was exactly proportioned to the actual pressure of the carotid itself, and did not take place at all, if, in consequence of a wrong direction either to the right or left, the carotid escaped the effects of the operation.

This view of the order of phœnomena was, in reality, very conformable to the known laws of the animal œconomy. It is admitted, that a certain momentum of the circulating blood

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in the brain is necessary to the due performance of the functions of that organ. Reduce the momentum, and you not only impair those functions, but, if the reduction go to a certain degree, you bring on syncope, in which they are for a time suspended. On the other hand, in nervous affections, the sensibility and other functions of the brain are unduly increased; and what can be more natural than to attribute this effect to the contrary cause, or excessive momentum in the vessels of the brain? If, however, this analogical reasoning has any force in ascertaining the principle, I must acknowledge that it did not occur to me till twenty years afterwards, when a great number of direct experiments had appeared to me clearly to demonstrate the fact.

From various cases of this kind, I beg leave to select one which occurred to me in the month of January, 1805.

Mrs. T. aged 51, two years and a half beyond a certain critical period of female life, a widow, mother of two children, thin and of a middle size, had been habitually free from gout, rheumatism, hæmorrhoids, eruptions, and all other disorders, except those usually called nervous, and occasional colds, one of which, about two years and a half before, had been accompanied with considerable cough, and had still left some shortness of breathing, affecting her only when she used strong muscular exertion, as in walking up stairs, or up hill.

In February 1803, after sitting for a considerable time in a room without a fire, in very severe weather, she was so much chilled as to feel, according to her own expression, "as if her blood within was cold." In order to warm herself, she walked briskly for a considerable time about the house, but ineffectually. The coldness continued for several hours, during which she was seized with a numbness or sleepiness of her left side, together with a momentary deafness, but no privation or hebetude of the other senses, or pain or giddiness of the head. After the deafness had subsided, she became preternaturally sensible to sound in the ear of the affected side, and felt a sort of rushing or tingling in the fingers of the left hand, which led her to conclude that "the blood went too forcibly there."

Though the coldness went off, what she called numbness still continued, but without the least diminution of the power of motion in the side affected. In aboutsix weeks, the numbness extended itself to the right side.

Among various ineffectual remedies for these complaints, blisters were applied to the back, and the inside of the left arm above the elbow. The former drew well. The latter inflamed without discharging: so that a poultice of bread and milk

milk was put on the blistered part. After this period, the muscles of the humerus began to feel as if contracted and stiff; and these sensations gradually spread themselves to the neck and head, and all across the body, so as to make it uncomfortable for her to lie on either side, though there was no inability of motion.

She now began to be affected with violent occasional flushings of her face and head, which occurred even while her feet and legs were cold, together with a rushing noise in the back of the head, especially in hot weather, or from any of those causes which usually produce the feelings of heat.

It is difficult to give intelligible names to sensations of a new and uncommon kind. That, which this lady denominated numbness, diminished neither the motion nor the sensibility of the parts affected. It was more a perception of tightness and constriction, in which the susceptibility of feeling in the parts was in fact increased; and the skin of the extremities was so tender, that the cold air produced a sense of uneasiness, the finest flannel or worsted felt disagreeably coarse, and the attempts to stick a pin with her fingers caused intolerable pain.

In the month of September 1803, not long after the application of the blisters, she experienced in certain parts of the left arm and thigh, that sensation of twitching which is vulgarly called the "life blood," and which soon extended itself to the right side. Shortly afterwards, she began to perceive an actual vibration or starting up of certain portions of the flexor muscles of the fore-arm, and of the deltoid on the left side; not so, however, as to move the arm or hand.

This disorder had continued with little variation to the period of my first visit. The vibrations constantly existed while the arm was in the common posture, the fore-arm and hand leaning on the lap. If the arm were stretched strongly downward, the vibration of the flexors ceased, but those of the deltoid continued. The arm being strongly extended forwards, all ceased; but returned as soon as the muscles were relaxed. The vibrations were of different degrees of frequency, and at pretty regular intervals, usually about 80 in a minute. They were increased in frequency and force by any thing which agitated or heated the patient, and were always worse after dinner than after breakfast. The pulse in the radial artery was 80 in a minute, and rather hard. That in the carotids was very full and strong; and each carotid appeared to be unusually dilated for about half an inch in length, the adjacent portions above and below being much smaller, and of the natural size. I much regret that I find in my notes of this case, no inquiry whether there was any coincidence

coincidence between the systoles of the heart, and the muscular vibrations. The patient's feet were usually cold, and her head and face hot. The feeling in her limbs was much as I have above described, except that the sensibility was somewhat less acute than it had been, and she complained of a tightness all over her head, as if it had been bound with a close night-cap. Her sleep was usually sound on first going to bed, but afterwards, for the most part, interrupted by dreaming. Bowels generally costive: appetite moderate: no flatulency or indigestion: tongue slightly furred, without thirst: urine variable, but generally pale.

The late Mr. George Crook, surgeon, was present while I made these examinations; and when we afterwards conversed together, I remarked to him, that if my theory of the usual cause of spasmodic or nervous affections were well founded, I should probably be able to suppress or restrain these muscular vibrations of the left arm, by compressing the carotid artery on the opposite or right side; while little effect might perhaps be produced, by compressing the carotid of the side affected. The event was exactly conformable to my expectation. Strong pressure on the right carotid uniformly stopped all the vibrations, while that on the left had no apparent influence. I may add that these experiments were afterwards, at my request, repeated on this lady in London by Dr. Baillie, and, as he informed me in a letter, with a similar result.

It is perfectly well known to many of the learned Members of this Society, that irritations of the brain, when of moderate force, usually exhibit their effects on the nerves or muscles of the opposite side of the body; and in the case before us, it is difficult to understand how the suspension of these automatic motions could have been produced by this pressure of the opposite carotid, in any other way than by the interruption of the excessive flow of blood through a vessel morbidly dilated; in consequence of which interruption, the undue irritation of the brain was removed, and the muscular fibres permitted to resume their usual state of rest.

From these and many other similar facts, I am disposed to conclude, that irritation of the brain, from undue impulse of blood, is the common though not the only cause of spasmodic and nervous affections; and I can with the most precise regard to truth add, that a mode of practice conformable to this principle has enabled me, during more than twenty years, to cure a vast number of such maladies, which had resisted the usual means.

On the Non-existence of Sugar in the Blood of Persons labouring under Diabetes Mellitus. In a letter to Alexander Marcet, *M. D. F. R. S. from* William Hyde Wollaston, *M. D. Sec. R. S.*

(Phil. Trans. P. 1. 1811.)

SIR,

ALTHO' Dr. Rollo had been assisted in the chemical part of his inquiry by the well known talents of Mr. Cruickshank, it appears that they "had not been so fortunate as to obtain a sufficient quantity of serum for chemical experiment;"* and were unable fully to satisfy themselves by the taste or by other means which they could employ, concerning the existence or non-existence of sugar in the blood of persons labouring under diabetes; but nevertheless they were persuaded of its presence.

For the purpose of forming some judgment on this question, Mr. Cruickshank made trial of the quantities of oxalic acid that could be formed from serum or blood in their natural state, and from the same serum or blood after the addition of a certain proportion of sugar; and from the difference perceptible in these trials, he formed a probable conjecture respecting the presence or absence of sugar in the serum of diabetic persons.

This method, it is evident, is liable to a two-fold objection; first, that an access of other ingredients beside sugar will cause an increase of the quantity of oxalic acid formed, and secondly, that slight variations in the process for forming oxalic acid will unavoidably occasion differences in the result.

The method which I employed appears to me capable of detecting much smaller quantities of such an ingredient, for though it might not enable us to distinguish exactly the nature of any small quantity that may be discovered, still the mere question of absence or presence admits of determination with great precision.

For this purpose I investigated, in the first place, how the albuminous part of healthy serum could be most completely coagulated; and by what appearance the presence of sugar that had been added to it would be most easily discerned.

When heat alone had been employed for the coagulation of serum, to which water had been added, that which exsuded from it was still found to contain a portion of albumen dissolved in it, and if this were allowed to remain any saccharine

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* Rollo on Diabetes, p 408.

matter

matter which might be present would be disguised, and could not with certainty be detected.

I found, however, that this residuum of coagulable matter might be altogether prevented by the addition of a small quantity of dilute acid to the serum before coagulation.* To six drams of serum I added half a dram of muriatic acid previously diluted with one dram and a half of water, and immersed the phial containing them in boiling water during four minutes. The coagulation was thus rendered complete. In the course of a few hours a dram or more of water exudes from serum that has been so coagulated. If a drop of this water be evaporated, the salts which it contains are found to crystallise, so that the form of the crystals may be easily distinguished ; they are principally common salt.

If any portion of saccharine matter has been added to the serum previous to coagulation, the crystallization of the salts is impeded, or wholly prevented, according to the quantity of sugar present.

If the quantity added does not exceed two grains and a half to the ounce, the crystallization is not prevented ; but even this small quantity is perceptible by a degree of blackness that appears after evaporation : occasioned, as I suppose, by the action of a small excess of acid on the sugar.

If five grains have been added, the crystallization is very imperfect, and soon disappears in a moist air by deliquescence of the sugar. The blackness is also deeper than in the former case.

By the addition of ten grains to the ounce, the crystallization of the salts is entirely prevented, and the degree of blackness, and disposition to deliquesce are of course more manifest than with smaller quantities.

As I was aware that the sugar obtained from diabetic urine is a different substance from common sugar (approaching more nearly to the sugar of figs), I had the precaution to repeat the same series of experiments upon serum, to which I made corresponding additions of dry sugar, that I had formerly extracted from the urine of a person who voided it in considerable quantity ; and I found the effects to be perfectly similar in every respect.

As a further test of the absence or presence of sugar, I found it convenient to add a little nitric acid to the salts that remained after crystallization of the drop. If the serum has been

* I presumed that this portion of albumen was retained in solution by the alkali redundant in serum, and added the acid for the purpose of neutralizing it.

successfully coagulated without any addition of sugar, the addition of nitric acid merely converts the muriatic salts into nitrates, and nitrate of soda is seen to crystallize without foam or blackness. But when sugar has been added, a white foam rises round the margin of the drop, and if further heat be applied, it becomes black in proportion to the quantity of sugar present.

Such are the appearances when the proportions have been duly adjusted, and the proper heat for coagulation applied. I must own, however, that I could not always succeed to my satisfaction at the time when these experiments were conducted, and I am inclined to ascribe occasional failures to having used more muriatic acid than was really necessary, which by excess of heat might redissolve part of the coagulated albumen, and thence occasion appearances, which, without careful discrimination, might be ascribed to sugar.

After having, by this course of experiment, satisfied myself as to the phenomena exhibited by serum in its natural state, and the effects of any small additions of sugar, I then proceeded to the examination of such specimens of diabetic blood or of serum, as I was able to procure.

The first which I examined was a portion of blood that had been taken from a person whose urine had been analysed, and found to contain sugar. This blood had been dried, when fresh, by a gentle heat, so as not to coagulate the serum. After being reduced to powder, it was mixed with water, in order that every thing which remained soluble might be extracted. A little muriatic acid was then added, and sufficient heat applied for coagulation of the albumen. The water that separated after coagulation was found to contain the salts of the blood, but no trace whatever of sugar.

A second specimen of dried blood, that had been ascertained to be diabetic on the same evidence as the preceding, was examined in a similar manner, with the same result, as no appearance of sugar could be discerned.

In a third instance, I had some serum from the blood of a person whose urine had been tasted, and found "*very sweet.*" (I had no opportunity of procuring any of this urine for analysis). After a portion of this serum had been coagulated, with the addition of the usual proportion of muriatic acid, there was no appearance whatever of sugar. But when three grains of diabetic sugar had been added to another ounce of the same serum, the presence of this quantity was manifest by the same process.

I had also a fourth opportunity of examining serum of a person whose urine contained so much saccharine matter, that an ounce of it yielded, by evaporation, thirty-six grains of extract.

extract. In this instance I was not so successful in my experiment; for, though I was satisfied that no sugar was present, there certainly was a degree of blackness, which might have been occasioned by about one grain and a half of sugar in the ounce of serum. But this black matter appeared not to be sugar: it was more easily dried than sugar: it was not fusible by heat as sugar is: and its refractive power * was too great for that of sugar.

I unfortunately had no opportunity of repeating the experiment on a second portion of the same serum, having inconsiderately employed it for other experiments, and coagulated it at the same time with the former.

In the next experiment I added half a dram of the urine of the same person to six drams of the serum, and with a due proportion of diluted muriatic acid coagulated as before. Although the quantity of extract added did not exceed $\frac{1}{40}$, or two grains and a quarter of extract, the difference was very manifest by the darkness of the colour and the defective crystallization of the salts.

To the remaining quantity of the serum I had added twice the former proportion of the urine, and found that this quantity did not wholly prevent the crystallization of the salts during the evaporation of the drop.

The result of these trials was such, as to satisfy me that the serum in this instance contained no perceptible quantity of sugar, or at least that the water separable from the coagulated serum did not contain one-thirtieth part of that proportion which I had found in the urine of the same person.

In order to account for the presence of sugar in the urine, we must consequently either suppose a power in the kidneys of forming this new product by secretion, which does not seem to accord with the proper office of that organ; or, if we suppose the sugar to be formed in the stomach by a process of imperfect assimilation, we must then admit the existence of some channel of conveyance from the stomach to the bladder, without passing through the general system of blood-vessels. That some such channel does exist, Dr. Darwin † endeavoured to ascertain, by giving large doses of nitre, which he could perceive to pass with the urine, but could not detect in its passage through the blood; and he imagined the channel by which it was conveyed to be the absorbent system, upon the

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* The method by which this was tried has since that time been described in the Philosophical Transactions for 1802.

† Account of the retrograde Motion of the absorbent Vessels, by Charles Darwin.

supposition that they might admit of a retrograde motion of their contents.

Without adopting the theory of Dr. Darwin, it did appear to me that the fact deserved to be ascertained by some test more decisive than nitre, and I conceived that if prussiate of potash could be taken with safety, its presence would be discerned by means of a solution of iron in as small proportion as almost any known chemical test. Upon trial of this salt, I found that a solution of it might be taken without the least inconvenience, and that in less than one hour and a half the urine became perceptibly impregnated, and continued so to the fifth or sixth hour, although the quantity taken had not amounted to more than three grains of the salt.

After a few previous trials of the period when the principal impregnation of the urine might be expected, and when the presence of the prussiate (if it existed in the blood) might with most reason be presumed to occur, a healthy person about thirty-four years of age was induced to take a dose corresponding to three grains and a half of the dry salt, and to repeat it every hour to the third time. The urine being examined every half hour, was found in two hours to be tinged, and to afford a deep blue at the end of four hours. Blood was then taken from the arm, and the coagulum, after it had formed, was allowed to contract, so that the serum might be fully separated. The presence of the prussiate was then endeavoured to be discovered by means of a solution of iron, but without effect; and as I thought that the redundant alkali (which had been ascertained to prevail in this serum) might tend to prevent the appearance of the precipitate, I added a small quantity of dilute acid; but still I could not discern that any degree of blueness was occasioned by it.

This experiment having been repeated a second time with the same result, seemed to me nearly conclusive with respect to the existence of some passage, by which substances certainly known to be in the stomach may find their way to the bladder without being mixed with the general mass of circulating fluids.

Being desirous of ascertaining whether the prussiate could be discovered in any other secretions, I have repeatedly examined my saliva, at times when the urine has manifested a very strong blue, by adding solution of iron, but I could at no time perceive the saliva to be tinged.

I have also, during a severe cold, accompanied with profuse running of water from the nose, made a similar examination of this discharge, but have not been able to perceive any trace of the prussic acid.

It was nearly in this state that I left the inquiry at the period I have mentioned, and I do not remember to have made any other experiments, when I requested your assistance in making trial of the serum that is secreted in consequence of the application of a blister. Your report upon the result of your experiments, in addition to those which I have above related, nearly satisfied me as to the existence of some ununknown channel of conveyance by which substances may reach the bladder.

With respect to Dr. Darwin's conception of a retrograde action of the absorbents, it is so strongly opposed by the known structure of that system of vessels, that I believe few persons will admit it to be in any degree probable.

Since we have become acquainted with the surprising chemical effects of the lowest states of electricity, I have been inclined to hope that we might from that source derive some explanation of such phenomena. But though I have referred* secretion in general to the agency of the electric power with which the nerves appear to be indued, and am thereby reconciled to the secretion of acid urine, from blood that is known to be alkaline, which before that time seemed highly paradoxical; and although the transfer of the prussiate of potash, of sugar, or of other substances, may equally be affected by the same power as acting cause, still the channel through which they are conveyed remains to be discovered by direct experiment.

I have, indeed, conjectured that, by examining the blood in the abdominal vessels, or contents of the lacteals, it might be possible to detect them *in transitu;* but I have not been inclined to make such experiments on living animals, as would perhaps throw light upon the subject.

W. H. WOLLASTON.

January 1, 1811.

Reply of Dr. MARCET *on the same Subject.*

Russel Square, January 8, 1811.

I WAS anxious that the specious hypothesis of the presence of sugar in diabetic blood, which had been sanctioned by the authority of Dr. Rollo and Mr. Cruickshank, and which I had myself urged in support of their theory, fourteen years

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* Philosophical Magazine for June, 1809.

ago,

ago, in an inaugural publication, should no longer obtain an undue weight amongst physiological inquirers.

With regard to the experiments which I tried at your request some years ago, with a view to ascertain whether prussiat of potash taken into the stomach, and found to exist in the urine, could also be detected in other secretions, I find, on referring to my memorandums, the following particulars, which I shall transcribe verbatim.

"August 19, 1807. Having heard from Dr. Wollaston, that prussiat of potash could be taken into the stomach with perfect safety, and that its presence could afterwards be discovered in the urine, but not in the serum; and being invited by him to follow up this inquiry, with a view to connect it with the theory of diabetes, I tried the following experiments.

Experiment 1.

"After having satisfied myself, by trials made by some medical gentlemen upon themselves, that considerable doses of prussiat of potash might be taken without the least inconvenience, I gave to a young woman labouring under diabetes mellitus, five grains of prussiat of potash dissolved in water, and this was repeated every hour till she had taken thirteen or fourteen such doses. After the fifth dose, her urine, by the addition of a drop or two of a solution of sulphat of iron, turned blue instantly. At this period of the experiment, a blister was applied to her stomach, and after a few hours, whilst still taking the prussiat of potash, and whilst the urine strongly indicated its presence, the blister was cut and the serum collected. This serous fluid being, in the same manner as the urine, subjected to the action of a solution of sulphat of iron, did not suffer any change of colour in the least indicative of the presence of prussic acid. Yet the urine still remained capable of imparting a blue colour to solution of iron, fifteen hours after taking the last dose of the prussiat of of potash.

Experiment 2.

"The same person being soon afterwards put upon a course of ferruginous medicines, and having taken considerable quantities of sulphat of iron, an idea naturally occurred to me that the phenomenon might perhaps be reversed; but upon adding prussiat of potash to the urine, no vestige of iron could be discovered, and the same attempt was repeated several times with the same negative result.

Experiment 3.

"Dec. 2, 1807. The fluid obtained by means of a blister (as in Experiment 1), being not immediately derived from the

the circulation, since it may be considered as the product of a secretion, I was desirous of repeating Dr. Wollaston's experiment on the serum itself, under circumstances of impregnation similar to those in which the serum of the blister was examined.

"For this purpose, a young woman after taking, in divided doses, about a dram of prussiat of potash in the course of twelve hours, lost some blood by cupping, an operation which had been ordered for a local complaint under which she laboured. The serum having been allowed to separate, and a little nitric acid having been added to it, not the least vestige of prussic acid appeared in applying the test of sulphat of iron, although the urine made during the six hours which preceded and followed the cupping, was strongly impregnated with that acid, and struck a vivid blue upon adding the smallest quantity of iron."

I have only to observe, in addition to these particulars, that the susceptibility with which prussiat of potash is transmitted to the bladder, seems to vary in different individuals; for in five trials, made at Guy's Hospital, in Nov. 1805, I failed of discovering any vestige of that salt in the urine of persons who had taken it in quantities sufficient to produce its appearance in others. Three of these individuals, I should observe, were at the time under mercurial treatment; and an idea occurred to me that mercury having a great affinity for prussic acid, the presence of that metal in the system might prevent the effect in question. But as in the two other failures, no mercury was present, I cannot lay any stress upon that conjecture. It may be proper to mention, that in the frequent trials which I have made with the prussiat of potash, no symptom or inconvenience whatever has ever occurred which could be ascribed to that salt.

ALEX. MARCET.

P. S. Whilst revising the proof of this sheet, it has been observed to me by some friends and in particular by Dr. Henry of Manchester, and Dr. R. Pearson of London, that in order to show distinctly that certain substances find their way to the bladder, without passing through the general circulation, it would be necessary to examine the arterial, as well as the venous blood, since it is not impossible that the whole of the sugar in diabetes, or the prussiat of potash in the experiments above related, may be conveyed to the urinary organs by the arteries, without entering the venous system. According to this hypothesis, it may be conceived that the same substances when conveyed by the arteries to distant parts of the body, may return by the absorbent system, and might in

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that case be discovered in the thoracic duct. This view of the subject may deserve further investigation; and I hope that this curious question will soon be decided by appropriate experiments.

Notes relating to Botany, collected from the Manuscripts of the late PETER COLLINSON, Esq. F. R. S. *and communicated by* AYLMER BOURKE LAMBERT, Esq. F. R. S. and A. S.; V. P. L. S.

(Trans. Linn. Soc. Vol. x.)

BEING lately on a visit to John Cator, Esq. of Beckenham-place, and looking one day over his library, amongst a collection of books left him by his uncle, who married the daughter of the celebrated Peter Collinson, I discovered several which had formerly belonged to that eminent naturalist. One of them was his own copy of Miller's Gardener's and Botanist's Dictionary, the last edition, published by the author, with the following note at the bottom of the title-page: "The gift of my old friend the author to P. Collinson, F. R. S." This book contains a great deal of his manuscript notes relating to the plants cultivated in those days, both in his own gardens and in those of the most celebrated of his contemporaries; with a complete catalogue of the plants he had cultivated in his garden at Mill-hill, and a list of all those which he had himself introduced into this country from Russia, Siberia, America, and other parts of the world; also some original letters from Dillenius, Miller, Bartram, and others; and a short account of his own life, which appears not to have been known to his biographers. Mr. Cator having obligingly permitted me to take a copy of the whole, I now submit to the Linnean Society those parts which I think most worthy of their notice. A. B. L.

I was born in the house against Church-alley, Clement's Lane, Lombard-street, from whence my parents removed into Grace-church-street, where I have now lived many years. [July 18th, 1764.] Gardening and gardeners have wonderfully increased in my memory. Being sent at two years old to be brought up with my relations at Peckham in Surry, from them I received the first liking to gardens and plants. Their garden was remarkable for fine cut greens, the fashion of those times, and for curious flowers. I often went with them to visit the few nursery gardens round London, to buy fruits, flowers, and clipt yews in the shapes of birds, dogs, men,

men, ships, &c. For these Mr. Parkinson in Lambeth was very much noted; and he had besides a few myrtles, oleanders, and other evergreens. This was about the year 1712. At that time Mr. Wrench, behind the earl of Peterborough's at Parson's Green, near Chelsea, famous for tulip-trees, began the collecting of evergreens, arbutuses, phillyreas, &c.; and from him came the gold and silver hedgehog-holly, being accidental varieties from the hedgehog variety of the common holly. He gave rewards to encourage people to look out for accidental varieties from the common holly: and the saw-leaved holly was observed by these means, and a variegated holly goes by his name to this day. He and Parkinson died about the year 1724. Contemporary with them were Mr. Derby and Mr. Fairchild; they had their gardens on each side the narrow alley leading to Mr. George Whitmore's, at the further end of Hoxton. As their gardens were small, they were the only people for exotics, and had many stoves and green-houses for all sorts of aloes and succulent plants; with oranges, lemons, and other rare plants. At the other end of the town were two famous nurserymen, Furber and Gray, having large tracts of ground in that way, and vast stocks: for the taste of gardening increased annually. Doctor Compton, bishop of London, was a great lover of rare plants; as well such as came from the West Indies as from North America, and had the greatest collection then in England. After his death the see was filled by bishop Robinson, a man destitute of any such taste; who allowed his gardener to sell what he pleased, and often spoiled what he could not otherwise dispose of. Many fine trees, come to great maturity, were cut down to make room for produce for the table.

The above mentioned gardeners, Furber and Gray, availed themselves of making purchases from this noble collection, and augmented their nurseries with many fine plants not otherwise to be procured.

Brompton Park was another surprising nursery of all the varieties of evergreens, fruits, &c. with a number of others all round the town; for, as the taste increased, nursery gardens flourished.

Mr. Hunt, at Putney, and Mr. Gray, are now living, aged about 70. But more modern cultivators are the celebrated James Gordon at Mile-end, whom for many years, from my extensive correspondence, I have assisted with plants and seeds, and who, with a sagacity peculiar to himself, has raised a vast variety of plants from all parts of the world; and the ingenious Mr. Lee of Hammersmith, who, had he the like assistance, would be little behind him. Mr. Miller of the Physic Garden, Chelsea, has made his great abilities

well known by his works, as well as his skill in every part of gardening, and his success in raising seeds procured by a large correspondence. He has raised the reputation of the Chelsea garden so much, that it excels all the gardens in Europe for its amazing variety of plants of all orders and classes, and from all climates, as I beheld with much delight this 19th of July, 1764.

October 3d, 1759, after nine years absence from Goodwood after the death of my intimate friend the late duke of Richmond, I accompanied the present duchess there, and to my agreeable surprise found the hardy exotic trees much grown. There were two fine great magnolias about twenty feet high in the American grove that flowered annually. (My tree flowered this year, 1760, that I raised from seed about twenty years before.) Some of the larches measured near the ground seventeen inches round, the rest fourteen inches and a half. I saw a larch of the old duke's planting cut down, that in twenty-five years was above fifty feet high, and cut into planks above a foot in diameter, and above twenty feet long: but there were some larches of the same date seventy feet high. They grow wonderfully in chalky soil.

October 30th, 1762, the young lord Petre came of age. The late lord Petre, his father, died July 2d, 1742: he was my intimate friend, the ornament and delight of the age he lived in. He went from his house at Ingatestone in Essex, to his seat at Thorndon-hall in the same county, to extend a large row of elms at the end of the park behind the house. He removed in the spring of the year 1734, being the 22d of his age, twenty-four full-grown elms about sixty feet high and two feet diameter. All grew finely, and now are not known from the old trees they were planted to match. In the year 1738 he planted the great avenue of elms up the park from the house to the esplanade. The trees were large, perhaps fifteen or twenty years old. On each side the esplanade, at the head or top of the park, he raised two mounts, and planted all with evergreens in April and May 1740. In the center of each mount was a large cedar of Lebanon of twenty years growth, supported by four larches of eleven years growth. On the same area on the mount were planted four smaller cedars of Lebanon aged twenty years each, supported by four larches aged six years. On the sides Virginian red cedars of three years growth, mixed with other evergreens, which now (anno 1760) make an amazingly fine appearance.

In the years 1741 and 1742, from this very nursery, he planted out forty thousand trees of all kinds, to embellish the woods at the head of the park on each side of the avenue to the lodge, and round the esplanade. It would occupy a large

large work to give a particular account of his building and planting. His stoves exceed in dimensions all others in Europe. He dying, his vast collection of rare exotic plants, and his extensive nursery, were soon dispersed.

I paid to John Clarke for a thousand cedars of Lebanon, June the 8th, 1761, seventy-nine pounds six shillings, in behalf of the duke of Richmond. These thousand cedars were planted at five years old, in my sixty-seventh year, in March and April, anno 1761.

In September, 1761, I was at Goodwood, and saw these cedars in a thriving state.

This day, October 20th, 1762, I paid Mr. Clarke for another large parcel of cedars for the Duke of Richmond. It is very remarkable that Mr. Clarke, a butcher at Barnes, conceived an opinion that he could raise cedars of Lebanon from cones from the great tree at Hendon-place. He succeeded perfectly; and annually raised them in such quantities, that he supplied the nurserymen, as well as abundance of noblemen and gentlemen, with cedars of Lebanon: and he succeeded not only in cedars, but he had a great knack in raising the small magnolia, Warner's Cape jessamine, and other exotic seeds. He built a large stove for pine apples, &c.

Any person who has curiosity enough may go to Goodwood in Sussex, and see the date and progress of those cedars, which were at planting five years old. The duke's father was a great planter; but the young duke much exceeds him, for he intends to clothe all the lofty naked hills above him with evergreen woods. Great portions are already planted, and he annually raises infinite numbers in his nurseries from seeds of pines, firs, cedars, and larches.

In the duke of Argyle's wood stands the largest New-England or Weymouth pine. This, and his largest cedars of Lebanon now standing, were all raised by him from seed in the year 1725 at his seat at Whitton near Hounslow.

This spring, 1762, all the duke of Argyle's rare trees and shrubs were removed to the princess of Wales's garden at Kew, which now excels all others, under the direction of lord Bute.

Mr. Vernon, Turkey merchant at Aleppo, transplanted the weeping-willow from the river Euphrates, brought it with him to England, and planted it at his seat at Twickenham-park, where I saw it growing anno 1748. This is the original of all the weeping-willows in our gardens.*

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* This is the first authentic account we have had of its introduction; the story of its being raised from a live twig of a fruit-basket, received from Spain by Pope, being only on newspaper authority

October the 18th, 1765, I went to see Mr. Rogers's vineyard, all of Burgundy grapes, and seemingly all perfectly ripe. I did not see a green half-ripe grape in all this great quantity. He does not expect to make less than fourteen hogsheads of wine. The bunches and fruit are remarkably large, and the vines very strong. He was formerly famous for ranunculuses.

October 18th, 1765, I visited Mrs. Gaskry, at Parson's Green, near Fulham. This long, hot, dry summer has had a remarkably good effect on all wall fruits. Apricots, peaches, and nectarines, ripened much earlier than usual, and have been excellent: but the most remarkable was the plenty of pomegranates, near two dozen on each tree, of a remarkable size and fine ruddy complexion, of the size of middling oranges. One that was split shewed the redness and ripeness within.

John Buxton, esq. of Shadwell, near Thetford, in Norfolk, from the acorns of 1762, sowed or planted on forty-two acres of land 120 bushes, containing as near as can be computed 1,432,320 acorns; which is nearly 34,103 acorns on each acre. For this Mr. Buxton had a present of a gold medal from the Society of Arts, &c. Years or ages hence it may be worth a journey to go and observe the progress of vegetation in the dimensions and heights of this famous plantation, whose beginning is so certainly known.

By a letter (November 28th, 1762), from Thomas Knowlton, gardener to the duke of Devonshire, at his seat of Londesburgh near York, and director to his grace's new kitchen-garden, stoves, &c. at Chatsworth, I am informed that the duke of Devonshire is now sowing seventy quarters of acorns, that is, 560 bushels; an immense quantity: but this year there was the greatest crop of acorns ever remembered. Besides this vast sowing, some hundred thousands of young seedling oaks are planting out this winter: between forty and fifty men are employed about this work. In the year 1761, as many oaks were transplanted from the nursery, of two, three, and four years old.

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rity so late as August, 1801.—See Miller's Dictionary by Martyn. —A. B. L.

Sir Thomas Vernon of London, Knight, and some time member for that city, died in 1705, leaving two sons. Henry, the eldest, died unmarried at Aleppo in Syria, aged 31; his monument is in St. Stephen's church, Coleman-street. Thomas Vernon, the second son, resided at Twickenham-park, Middlesex.

The above communicated to me by Sir William A'Court, bart. nephew to Mr. Vernon.—A. B. L.

1761. Our last winter, if it may be called so, exceeded for mildness 1759. The autumnal flowers were not gone before spring began in December with aconites, snowdrops, polyanthuses, &c. and continued without any alloy of intervening sharp frosts, all January, except two or three frosty nights and mornings: a more delightful season could not be enjoyed in southern latitudes. In January and February my garden was covered with flowers.

This summer, 1762, I was visiting Mr. Wood, of Littleton, Middlesex. He showed me a curiosity which surprized me. On a little slender twig of a peach-tree about four inches long, that projected from the wall, grew a peach, and close to it, on the other side of the twig, a nectarine. This Mr. Miller also assured me he had himself known, although not mentioned here (in his Dictionary); and another friend* assured me that he had a tree which produced the like in his garden at Salisbury: but this I saw myself, and it induces me to think that the peach is the mother of the nectarines; the latter being a modern fruit, as there is no Greek or Latin name for it.

Copied from my nephew Thomas Collinson's Journal of his Travels, 1754.—"In the reign of Queen Elizabeth, anno the first orange and lemon-trees were introduced into England by two curious gentlemen, one of them Sir Nicholas Carew, at Bedington, near Croydon, in Surrey." (The title is lately extinct, anno 1763.) These orange-trees were planted in the natural ground; but against every winter an artificial covering was raised for their protection. I have seen them some years ago in great perfection. But this apparatus going to decay, without due consideration a green-house of brick-work was built all round them, and left on the top uncovered in the summer. I visited them a year or two after, in their new habitation, and to my great concern found some dying, and all declining; for, although there were windows on the south-side, they did not thrive in their confinement; but being kept damp with the rains, and wanting a free, airy, full sun all the growing months of summer, they languished, and at last all died.

A better fate has hitherto attended the other fine parcel of orange-trees, &c. brought over at the same time by Sir Robert

* I well knew the gentleman here alluded to, Dr. Hancock of Salisbury, who assured me of this fact; and a drawing showing both the fruits on the same branch is now in the possession of H. P. Wyndham, esq. of Salisbury.

Dr. Hancock told me that he had the tree taken up to send to the earl of Harburgh, but it was killed by removing.—A. B. L.

bert Mansell, at Margam; late Lord Mansell's, now Mr. Talbot's, called Kingsay-castle, in the road from Cowbridge to Swansey, in South Wales. My nephew counted eighty trees of citrons, limes, burgamots, Seville and China orange-trees, planted in great cases all ranged in a row before the green-house. This is the finest sight of its kind in England. He had the curiosity to measure some of them. A China orange measured in the extent of its branches fourteen feet. A Seville orange was fourteen feet high, the case included, and the stem twenty-one inches round. A China orange twenty-two inches and a half in girth.

July 11th, 1777. I visited the orangery at Margam in the year 1766, in company with Mr. Lewis Thomas, of Eglews Nynngt in that neighbourhood, a very sensible and attentive man, who told me that the orange trees, &c. in that garden were intended as a present from the king of Spain to the king of Denmark; and that the vessel in which they were shipped being taken in the Channel, the trees were made a present of to Sir R. Mansell.

December 10th, 1765. A few days ago died my friend Mr. Bennet, who was very curious and industrious in procuring seeds and plants from abroad. He had a garden behind the Shadwell water-works near the spot where he lived, and built several very handsome stoves at a great expence, filling them with fine exotics of all kinds; but the erecting a fire-engine to raise the water so hurt his plants by the smoke, that he removed to a large garden of two or three acres, in the fields at the back of Whitechapel laystalls. Here he built a large house for pines and other rare exotics, which he left well stocked. In this garden he raised water melons to a great size and perfection; I have told above forty lying ripe on the ground. They were raised in frames, and transplanted out under bell-glasses. A basket of these melons was sent to the king. Mr. Bennet had besides a great collection of hardy-ground plants. His garden and all his plants were sold by auction, April 14, 1766.

The seeds of the rhubarb with broad curled leaves were first raised by me. They were sent by Dr. Amman, professor of botany at Petersburg, whose father-in-law was Russian governor of the province near which the rhubarb grows. The seed of that with long narrow curled leaves was sent by the Jesuits in China to my friend Dr. Tanches, at Petersburg, by the Russian caravan, and he sent it to me.

Lord Rochefort, our ambassador in Spain, in a letter dated Madrid, November 1765, says, that in the parts where he had been, there are very few forest-trees worth notice; but the ilexes about the Escurial are fine. One sort produces acorns

of

of a monstrous size, which they eat in Spain at their best tables, and they are as sweet as chesnuts.

May 17th, 1761. I was invited by Mr. Sharp, at South Lodge, on Enfield Chase, to dine, and see the Virginia dogwood (*Cornus florida*). The calyx of the flowers is as large as those figured by Catesby, and (what is remarkable) this is the only tree that bears these flowers amongst many hundreds that I have seen: it began to bear them in May, 1759.

Anno 1747. Raised a new species of what appears to be a three-thorned acacia, from seeds from Persia, that came with Azad or Persian hornbeam, given me by Mr. Baker: it thrives well in my garden. I gave seed to Mr. Gordon, and he also raised it.

The eastern hornbeam (Miller's Dictionary, edition 8th), was raised from seed given to me, which came from Persia by the name of *Azad*. I gave it to Mr. Gordon, gardener at Mile-End, who was so fortunate at to have it come up anno 1747, and from him my garden and other gardens have been supplied. There is a large tree in my field at Hendon, Middlesex.

Mr. Miller is greatly mistaken in saying the Arundo No. 2, or *Donax*, dies down every year. In my garden the stalks have continued for some years making annually young green shoots from every joint, and bear a handsome tassel of flowers. The first time I ever saw it in flower was September 15th, 1762. This very long hot dry season has made many exotics flower.

Donax seu Arundo flowered this year also (1762) at Mr. Gordon's at Mile-End.

October the 22d, 1746, I received the first double Spanish broom that was in England, sent me by my friend Mr. Brewer at Nuremberg: it cost there a golden ducat; and, being planted in a pot nicely wickered all over, came from thence down the river Elbe to Hamburg, from whence it was brought by the first ship to London. I inarched it on the single-flowered broom, and gave it to Gray and Gordon, gardeners, and from them all have been supplied.

Anno 1756. Some roots of Siberian martagon sent me by Mr. Demidoff, proprietor of the Siberian iron mines, flowered for the first time, May 24, 1756. The flower is but little reflexed, and is, I think, the nearest to black of any flower that I know.

In the year 1727, my intimate friend Sir Charles Wager, first lord of the admiralty, brought plants from Gibraltar-Hill, of the *Linaria procumbens Hispanica flore flavescente pulchrè striato, labiis nigro-purpureis*, which I have yet in my garden, anno 1761; and at the same time he brought the

the broad-leaved *Teucrium*, and a species of periwinkle, neither of which were in our gardens before; and some roots of what is called *Hyacinths of Peru.*

In the year 1756, the famous tulip-tree in Lord Peterborough's garden at Parson's Green, near Fulham, died. It was about seventy feet high, the tallest tree in the ground, and perhaps a hundred years old, being the first tree of the kind that was raised in England. It had for many years the visitation of the curious to see its flowers, and admire its beauty, for it was as straight as an arrow, and died of age by a gentle decay. But it was remarkable, that the same year that this died, a tulip-tree which I had given to Sir Charles Wager flowered for the first time in his garden, which was opposite Lord Peterborough's. This tulip-tree I raised from seed, and it was thirty years old when it flowered.

April 8th, 1749. I removed from my house at Peckham, Surrey, and was for two years in transplanting my garden to my house at Mill-Hill, called Ridgeway-House, in the parish of Hendon, Middlesex.

Anno 1751. I raised the China or paper mulberry from seed given me by Dr. Mortimer.

CRITICAL ANALYSIS

OF

RECENT PUBLICATIONS

IN THE

DIFFERENT BRANCHES OF PHYSIC, SURGERY, AND MEDICAL PHILOSOPHY.

A Treatise on Gout; containing the Opinions of the most celebrated Ancient and Modern Physicians on that Disease, and Observations on the Eau Medicinale. By JOHN RING, Member of the Royal College of Surgeons in London, and of the Medical Societies of London and Paris. 8vo. pp. 208. Callow. 1811.

IN the composition of this book, Mr. Ring has displayed considerable ingenuity and industry. He does not pretend to throw any new light upon this disease, to present any new theory, nor enforce any new mode of practice. His researches, however, convince us, that much may be effected towards the cure of the complaint; and demonstrate the advantage of inquiring into the opinions and practice of our predecessors

decessors in the healing art. From neglecting the study of medical writers, we are apt to consider as novelties, facts which are coeval with the father of physic himself; and authors have claimed originality, when they have only had the merit of repeating what they had read.

Mr. Ring, therefore, in our estimation, has performed an useful task in briefly stating the opinions of the most famed writers, ancient and modern, on the subject of Gout. From which statement it appears manifest, that, though many of the crude notions respecting the nature and cause of the complaint have been abandoned, the mode of treating it has undergone little improvement. Indeed, were we fairly to balance the question, we think, the stimulating plan of some, and the repellent system of others among the moderns, would so much overweigh the worst practice of the ancients which could be adduced, that we should be compelled to yield them the palm. It is also pleasing to remark, how nearly the most respectable and eminent physicians, of whatever age or school, coincide in their view of treatment and cure.

Hippocrates advised purging, drinking whey and asses milk, and copious affusion of cold water to the parts affected.

" Celsus recommends bleeding immediately on the attack of the gout, and says it sometimes removes the fit for a year, and sometimes for life He also recommends temperance, frictions, warm and cold affusions, and occasional evacuations. When the swelling and inflammation are considerable, he recommends cold bathing, but gives a caution against keeping the limb in water long."

Galen prescribed bleeding, purging, and repellents. Cœlius Aurelianus clysters, cupping, or leeches; and after the fit, bathing, exercise, abstinence. Oribasius directed bleeding, purging, and friction with salt and oil at the decline of the disorder.

Ætius also prescribed bleeding and purging, cold applications, if the parts were too warm, and warm applications if they were too cold. Alexander Trallian relied on purging medicines, and in some cases venæsection. " He recommends a slender and cooling diet of every kind; and tepid water as a beverage; and tells us, he has known many people continue free from the gout, merely in consequence of their abstaining from wine."

Paulus Æginetа " recommends cooling and anodyne applications externally; a cooling and diluting diet; bleeding and purging at the attack of the disorder, and exercise and friction at its decline. He then advises the patient to live abstemiously, and, if possible, to refrain altogether from wine;

adding that he has known a number of persons, all of whom have thus recovered their health."

Of the moderns, Mr. Ring commences with Mayerne, who recommends occasional bleeding, vomiting, and purging, in the attacks and intervals of the gout; and observes that water-drinkers are seldom troubled with this complaint; and advises those who cannot totally refrain from wine, to drink it only in moderation, and much diluted.

Willis says, "bleeding is often of service in a recent case of gout, or one that is not of long standing, especially in a warm constitution, and at the commencement of the disorder, otherwise it does more harm than good."—"He thinks emetics proper in those constitutions where they agree, where they operate with ease, and are safe on other occasions."—"He also recommends abstinence, and alteratives, particularly a milk diet; but remarks, it does not agree with every constitution." He also advises anodynes as well as evacuations. Sydenham, who suffered much in his own person from gout, did not appear very decided in his practice, or sanguine in expectation of the disease being radically cured, though he thought a remedy might hereafter be discovered. He allows that bleeding, purging, and sweating, seem to be indicated in the gout, yet thinks we should not so far encroach on the prerogative of nature, but suffer her to eliminate the peccant matter in her own way, by insensible perspiration. He recommends temperance and exercise.—Cornaro, Cheyne, Cadogan, and Darwin, cured themselves of gout by abstinence; and, with many other authorities, may be cited in support of the disease being curable. Baglivi, Hoffman, Boerhaave, Van Swieten, Mead, Cadogan, Heberden, and others amongst the moderns, also may be quoted in favour of bleeding, purging, and abstinence in gout.

Mr. Ring has successfully combated some opinions of Dr. Latham, published in a Treatise on Rheumatism and Gout, in which he contends that these disorders are not of an inflammatory nature.

Dr. Kinglake's Dissertation on Gout also is sharply attacked, and poor Dr. Brown is "awaked from the dead," to be brought before the tribunal of our author, who has not even spared his domestic misfortunes.

The latter pages of the book contain some observations on the Eau Medicinale; and a copious history of its introduction and success in this country, forming altogether a good, though rather severe commentary on Dr. Jones's Treatise on that nostrum, the value of which seems to be duly appreciated by Mr. Ring.

We shall conclude with an extract from his Remarks on the

the Cure of Gout, which seem to result from considerable experience, and merit attention.

"The gout is an inflammatory disease, and, like other inflammatory diseases, can only be cured by the cooling or antiphlogistic plan; yet as it seldom or never occurs but in habits previously debilitated, either by indolence, intemperance, vehement mental affections, or unusual exposure to cold, it requires great judgment and extensive knowledge of the healing art, to carry this plan into execution.

"In plethoric habits, and in others when the symptomatic fever is violent, bleeding in the arm is necessary. Local bleeding is necessary in some cases, and advisable in all. This is best done by leeches; but in some instances, where leeches could not be procured, great relief has been derived from opening a vein in the vicinity of the part affected, or from simple scarification.

"Emetics should either not be prescribed in a paroxysm of the gout, or prescribed with great caution. They are particularly dangerous when there is any sign of fulness of blood, or an inflammation of the stomach, which is indicated by sickness, with pain in that organ.

"Cathartics are in general useful in the gout, and have furnished the principal materials of the regular and empirical remedies, for that and other inflammatory disorders in all ages. They should never be omitted when constipation prevails; nor when the heat of the skin, and hardness of the pulse, indicate that the phlogistic diathesis runs high. Sudorifics also are sometimes of service in arthritic, as well as in rheumatic affections. They should not be selected from the stimulant, aromatic kind, nor given in a large dose, to bring on a profuse sweat, but administered in such a manner as only to promote a gentle perspiration.

"The best emetics are the preparations of antimony and ipecacuanha; the best cathartics are, manna, salts, rhubarb, magnesia, calomel, scammony, and senna. The best sudorifics are, antimonials, or ipecacuanha, in small doses, volatile salines, tepid diluting liquors, and temperate warmth.

"Opiates, though endowed with an anodyne and sudorific property, should never be given till after the remission of the inflammatory symptoms, unless in conjunction with a cathartic.

"Strict attention must be paid to regimen in the gout; especially during the paroxysm of the disorder. The patient should then abstain from all sorts of animal food, aromatics, and fermented liquors, and live on arrow-root, water-gruel, panada, sago, or other farinaceous food. He should drink some mild diluting beverage, such as barley-water, toast and water, or tea.

"During the increase and height of the fit, he should keep his bed, or at least remain at rest, and in a recumbent posture; but when a crisis has taken place, and pain, and other symptoms of inflammation abate, advantage may be derived from a slight motion of the joint, or from gentle friction, which may be gradually increased.

"Even when the patient is in a state of convalescence, and his appetite keen, abstinence, or at least temperance, should be enjoined, and he ought to be very cautious how he indulges himself in the luxuries of the table, otherwise a relapse may take place. Bitters, and other provoca-

tives of the appetite, should either be totally interdicted, or cautiously prescribed. The best tonic, in general, in such cases, is moderate exercise; which, if regularly performed, steadily persevered in, and accompanied with temperance, will seldom fail to restore health, and invigorate the system."

Journal Generale de Medecine, de Chirurgie, de Pharmacie, &c. No. 174, FEVRIER, 1811.

(Continued from Page 405.)

Sur les differens modes de traiter le tetanos en Amerique, &c. Par le Dr. LOUIS VALENTIN.—IN North America, the usual mode of treating tetanos consists in topical applications, stimulants, opium, mercury, and the cold bath.

Dr. Rush, during the American war, was convinced from great experience, that opium was inefficacious in tetanos, on account of its sedative and debilitating properties. He therefore substituted for opium, musk, and other antispasmodics, wine, bark, in large doses, and blisters along the spine. When he perceived that the wine and bark began to lose their action, he added oil of amber*.

In a subsequent memoir, he appears to place greater confidence in opium, if given in considerable doses. When a person has the first indications of tetanos, the Professor recommends an emetic, a strong dose of laudanum, the warm bath and cinchona. If there is a wound, it is to be laid open, and inflammation and suppuration to be excited. By these means he has succeeded more than an hundred times in preventing the disease. He has also seen good effects produced by cold baths and cold affusion, and in some cases advises the patient to be wrapped in wet sheets.

Many cases are recorded in various journals in which mercury proved beneficial; but it is extremely difficult to obtain the mercurial action in sufficient time.

In some instances benefit was derived from the use of polygala senega, in others of tincture of cantharides, and in some of tobacco glysters.

Trismus nascentium is very common and very fatal among the negroes in the West Indies. Dr. Valentin has never seen a case cured.

This Dissertation upon the whole displays considerable research and knowledge of the disease, but the result affords us

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* Transactions of the American Philosophical Society, vol. 2, and Medical Inquiries and Observations, by B. Rush, M. D. vol. 1.

little

little satisfaction; seldom as tetanos occurs in this country, our means of cure are at least as successful as those employed in America, where, in the cities of Philadelphia and New York from six to nine individuals annually die from the complaint. In the West Indies it is yet more frequent.

Extrait de l'Histoire d'un Somnambulisme, &c. Par M. Desessartz.—The subject of this case when a child was extremely delicate; the period of his infancy was passed in sickness, and he was reared with difficulty. Between three and four years of age he had a low nervous fever; at eight and a half, hooping cough, which was severe and obstinate. At nine and a half he was attacked with putrid fever, which continued fifteen days. Six months afterwards, in the beginning of autumn, he complained of violent pains in the head, not continual or regularly periodic, but very frequent. Various remedies, chiefly anti-scorbutics, were prescribed, and the symptoms yielded. Three weeks afterwards they recurred, and at the commencement of the autumn became insupportable. Vapour baths were ordered, and continued once or twice a day for three months. The cure appeared radical till the autumn, when the child again experienced pain of the head less violent, but attended with a sense of weight; these again yielded to the vapour-bath.

In the summer of 1805, being in his fourteenth year, he entered as a cadet in the navy at Petersburgh. He embarked and continued on board ship two months without experiencing any inconvenience.

In the month of October he was attacked with colic, and continued vomiting, not only of alimentary but of glareous matter; he was not intemperate, and did not suffer from sickness whilst at sea.

In the night of the 18th—19th of September, 1806, three weeks after returning from a cruize at sea, during which he had suffered no inconvenience, commenced the somnambulism and other affections about to be described.

The patient was found in an insensible state at a distance from his chamber. Blisters were applied. On recovering his senses, he had no recollection of having left his bed or his chamber. He swooned twice in twenty-four hours, his mouth being wide-open, and his limbs stiff as if dead; the pulse continued beating. At intervals he was seized with trembling and signs of fear. Sometimes during the paroxysm he got out of bed, and if he had not been supported would have fallen down. The disease increased daily. Occasionally the paroxysms were characterized by an appearance of choaking

or

or strangling, from which the patient relieved himself by thrusting his fingers as far as the base of the tongue, and provoking vomiting of glareous matter; at other times, he was affected with terrible convulsions, alternating with fright and fury without any evident cause, striking and biting himself.

At this period a physician was called in and medicines were employed. On the 17th of October, the 30th day of the disease, he was suddenly deprived of the use of his legs, after a slight paroxysm which had only continued a quarter of an hour, though the former ones had been longer. For eighteen days he was obliged to use crutches, except during the paroxysms, when the legs resumed their power and participated in the violent action of the whole body.

The fourth of November, the seventeenth day of being in this state, the patient could not support himself and was obliged to remain in bed; this weakness continued three days, when he resumed his crutches, and seven days afterwards the legs regained their power and motion. As this alteration took place the paroxysms put on the tertian type; and their duration was habitually from an hour to an hour and a half.

Beginning of the Somnambulism.—Elixir of vitriol had been substituted for the most powerful anti-spasmodics, bark, and vermifuges; and in eight days the trembling, signs of fright, choakings, stranglings, paroxysms of rage, in which the patient struck and bit, were subdued, and a calm somnambulism was established.

During a short interval when the young man possessed his reason, he was suddenly surprized with a trembling in his hands, and a sleep which scarcely endured a minute and a half. Immediately afterwards he employed himself in mathematics, and reading some books of amusement. These symptoms recurred at the decline of every paroxysm till the termination of the disease.

The patient continued in this state, with some slight variations, from the 26th of November, 1806, till the 12th of March, 1808.

The author of the memoir has arranged the different appearances of the somnambulism under sixteen periods, of these we shall select those which are interesting and explanatory of the disease.

Type and variation in the Course of the Disease.

From its commencement the disease manifested itself by paroxysms which continued every day an hour or an hour and a half. The 26th of November of the same year, 1806, the paroxysm,

roxysm recurred every second day, between eight and nine o'clock in the evening, and continued in this type till the 16th of March, 1807. At this epoch it varied: sometimes two paroxysms occurring in one day, one in the morning, another in the evening. This continued till the 7th of April, during which time, there were only two days with one paroxysm; but whether double or single, they preserved the tertian intermittent character.

These symptoms continued with greater or less urgency, with longer or shorter intervals of relief, till March, 1808, when they entirely ceased. Between the paroxysms, when they took the type of tertian intermittent, the young man was in full possession of his faculties, studied mathematics, history, and belles lettres, with close attention, and diverted himself with conversation and amusements agreeable to his age.

He was fond of tea and coffee, preferred beef to any other meat, disliked wine and liquors, and was gentle in his manners.

During the paroxysm, if, which was frequently the case, he was occupied in mathematical labours, his operations were rapid and accurate. The logarithmal calculations in which he was engaged demanded strict attention, and a long series of combinations; hence he had daily to resolve new problems for the first time, which could not be attributed to a mechanical reproduction of memory. Before he inserted the solution in his book, he tried it on a slate, and if he found it incorrect, began it over again. When he had copied this solution, he collected his papers, instruments, &c. and placed them in order. It seemed as if the symptoms, which usually terminated the paroxysm, waited for this moment, for they immediately evinced themselves and the fit ended.

If the paroxysm occurred whilst he was reading, he resumed his book after the fit, and continued the subject where he had left off, though he had not marked the place. He expressed his wishes by signs or in writing, and sometimes he spoke, and even kept up a continued and rational conversation; thus after having read a portion of the Iliad, he conversed upon it by question and answer.

In all circumstances his eyes were open, and his look was natural; he saw objects but did not always recognize them. Thus, having received a letter from his father who promised to come to him in the spring, he stood musing for half an hour at a window which looked into the court-yard, without making any reply to the questions which were addressed to him. He then ran hastily into his chamber, took his bed-furniture, coverlets,

verlets, sheets, matrass, and pillows, arranged them in the saloon; placed the table beside the bed, and covered it with every thing necessary for a repast, which he got from the buffet. Hitherto the organ of sight appeared to be faithful; but though his nurse was close by him, and a relation who had never quitted him, he complained that from the moment his father was expected, every body had gone out, and that he was left alone. He returned to the window, reperused his father's letter, looked for some time stedfastly on the court-yard, and withdrew to his chamber, whither he was followed by his relation and the nurse. He remained a little while without seeming to observe them, at length he recognized his relation, and thanked him for returning so *a propos*. Some time afterwards he saw his nurse, who was at a little distance, and embraced her to express how glad he was to see her come back again to the house. He returned to the casement, and feeling that the paroxysm was near its termination, threw himself on the bed. Convulsive shaking of the hands and feet, and a short sleep came on, and he presently arose, asked the hour, and ordered tea to be brought.

The organ of hearing did not appear to be affected; only when reading low, being requested to read louder that he might be heard; he remained stupified, and had a violent convulsion: when this was over he asked for paper; some was presented him on which was written the request to read louder. He no sooner perceived the word *louder* than he was attacked with fresh convulsions. Upon offering him another piece of paper, he wrote quietly.

The sense of touch did not suffer. The digestive organs underwent no alteration. His appetite indeed was small, but digestion was well performed, and the bowels were open, but the stools were slimy. The pulse was usually at 80 or 82.

In some paroxysms he appeared terror-struck, in some he was very furious; and occasionally he was in a state of stupor, motionless, his limbs stiff. Almost always he complained of acute general pains, more severe in the legs and head than in other parts; these he had experienced for several years.

The complaint was considered by the physicians as decidedly nervous, complicated according to some of them with worms, because the patient had voided some during the fever when he was nine years and a half old. One practitioner, in high repute, not only considered the affection as nervous, but alleged that it depended upon a scrofulous habit.

In consequence of these opinions, the most powerful antispasmodics, bitters, tonics, vermifuges, and vapour-baths were

were prescribed; and they several times afforded so much relief that the cure was thought complete.

Since the autumn of 1807, the fits having become more violent, and the above-mentioned remedies proving ineffectual, in February, 1808, an English physician (Dr. Leyghton) was called in.

Upon examining the patient very minutely, he felt a considerable beating in the epigastric region, and pronounced that the chief seat of the disorder was in the organs of digestion, to which the remedies must be directed, and affirmed that when these were restored to a healthy condition, the nervous affection would cease. The former stimulating remedies were in consequence discontinued; he adopted the purgative plan which had been proscribed, and with this view directed a table-spoonful of castor-oil to be taken every evening. Just as the patient commenced this treatment, he was seized with great debility, which obliged him to use crutches or a stick for three days; he was not, however, disconcerted, but said he felt as if he should not have a fit. This was the case, the fit, which had regularly occurred every day for three months and a half, missed that day, but returned on the following day, and became tertian. The paroxysms continued about four hours, violent on the onset and termination, but milder in the middle, though severe pains in the head were experienced throughout. The castor-oil, which was regularly given every evening for twenty days, occasioned in about half an hour, a copious evacuation of fœces of very bad appearance, some of them being hard, and long retained; others more recent, but ill digested, the urine was thick. These circumstances induced the physician to visit his patient during a paroxysm. On the 25th of February, three days after having commenced the remedy, Dr. L. accordingly saw the young gentleman towards the end of a fit. He spoke little, knew what he said, and recognized the persons around him, and his signs indicated severe pains in the head. Dr. L. continued the castor-oil, and directed some pills with aloes, calomel, soap, and ginger; three of them, and afterwards four were taken an hour before supper, and the oil was given when going to bed.

A strict regimen was enjoined, in which were excluded, coffee, beans, peas, spinach, &c. and purslain which was always found badly digested. The treatment being continued, the digestive power improved, the beating, which had been felt in the epigastrium, gradually diminished, and the pulse became less nervous. At length, in March, 1808, the fit which was expected at nine in the morning did not occur, and has not returned since. The medicines, however, were continued as usual for six days longer, when the quantity was diminished;

minished, the pills were discontinued altogether on the 19th of April; but an aperient mixture was still taken to keep the bowels open. After forty days of convalescence, he was allowed to go on board ship, with proper precautions respecting his diet.

A Paper, containing the Results of eleven years Practice at the Original Vaccine Institution, No. 44, Broad-street, Golden-square, &c. &c. &c. Written by the Medical Board of the Institution. 8vo. Lond. 1811. pp. 46.

In a former number of this Journal we gave an extract from this Pamphlet, sufficiently indicative of its character, and containing, as we conceived, results of considerable interest, deduced from extensive experience, and calculated to illustrate the natural history, and prophylactic properties of Vaccina. As the result of observations, apparently given without partiality or prejudice, we cannot but recommend it to the notice of the Profession. The following "*Directions for the Vaccine Inoculation,*" we think may be generally useful.

"1. The limpid matter should be taken from a decidedly characterized cow-pock, which is proceeding, apparently, through its respective stages. It is most efficacious in producing the vaccina from a pock before the eighth or ninth day; but is most abundant, and is usually taken, about the ninth day.

It may be used at any earlier period, even as early as the fifth day, if it can be collected. However, matter from a pock later than the eleventh or twelfth days is not more liable to produce inflamed arms than that from younger pocks; and if the cow-pock be excited at all, it is as distinct as from any earlier matter. No differences in the effects of the vaccine matter inoculated appear to depend on the presence, extent, or absence of the red areola.

"2. The matter is usually taken on glass, thread, or a quill, on which it should be suffered to become dry without applying heat; and when so dried it is scarce visible. The matter may be kept fluid between two glass plates, in one of which a small cavity has been drilled, or in a bottle filled with hydrogen gas.

"3. To produce more effectually the unsusceptibility intended; and as dried matter fails much more frequently to excite the vaccina than recent fluid matter, it will be adviseable, that, instead of a single puncture or scratch, there be matter inserted in two or even three punctured or scratched parts in each arm. If the constitution be affected, one pock is as effectual in producing the unsusceptibility required, as any greater number; but the chance of the constitution being affected, seems to be greater from several, than from a single pock.

pock. The dried matter at the time of inoculation should be softened by warm, but not very hot water.

"4. The inoculation must be performed in the same manner as for the small pox.

"5. If the infectious matter produce the required effect in three, four, or five days, there will be seen a red spot like a small gnat bite—in six or seven days, a small vesicle will appear—in nine days, a circular vesicle (improperly called a pustule) will be found as large as a pea, or from about two-tenths to four-tenths of an inch diameter, usually surrounded by a red areola.—By the eleventh day, the vesicle begins to scab or grow dry, and turn black in the middle, and the areola becomes more extensive.—By the fifteenth day, but often later, the pock becomes a mere scab, circular, prominent, well defined, of a blackish or mahogany colour, adhering firmly; but the areola disappears. Unless it be separated by violence, the scab does not fall off, in general, sooner than the twentieth day. It then leaves a cicatrix permanent for life.

"6. If the eruption or pimple, excited by inoculation, has not the characters and does not pass through the stages in the course above stated (5), although sometimes anomalous, this cow-pock may render the constitution unsusceptible of the small-pox, yet it cannot be depended upon. In such cases the inoculation should be re-instituted; for if the vaccina cannot be again excited, the unsusceptibility desired will have been produced; but if a further proof be wanted, recourse must be had to inoculation with the variolous matter.

"7. In many cases, no constitutional affection or fever can be perceived: when it occurs, it is almost always on the ninth and tenth days; but provided the pock exhibit the distinctive characters of the cow-pock, even without areola, with the usual course of its stages, the susceptibility of the small-pox will be generally as effectually destroyed, as if there had been considerable febrile affection, and an extensive areola.

"8. Experience having at length shewn that persons who have gone through the vaccina with all the known appearances of the most effectual sort, are susceptible of the small-pox, although in the proportion of at the most, one out of 500, it is advisable to re-inoculate either cow-pock or variolous matter in a few months after the first inoculation.

"9. If erythema, like erysipelas, extend over the arm with swelling, pain, &c. it has always subsided in a few days of itself, only avoiding irritating applications, or at most on using sedatives.

"10. Eruptions sometimes occur, but they require no particular treatment.

"11. The small-pox may break out at any period within twelve days of inoculation for the cow-pock. If they appear earlier than the sixth or seventh, the vaccina is cut off in its progress; if they appear later, the vaccine-pock goes forward in its usual course.

"12. The medical treatment which may be required from un-

usual or supervening complaints, is similar to that in the small-pox.

"13. Measles, chicken-pox, hooping-cough, and other disorders may intervene during the vaccina, without, in general, varying its progress.

The Edinburgh Medical and Surgical Journal, No. XXVII.

Case of Asthma, cured by Stramonium.—Continued from Page 244.—Mr. English, a medical practitioner, here relates his own case. In very early life, when a boy, he was subject to wheazing and shortness of breath upon any slight cold. When in China, in 1799, he was seized with a severe paroxysm of spasmodic asthma, accompanied with hepatitis. The paroxysms of asthma have since had frequent returns.

"The paroxysm commences with the usual symptoms of cold, together with purging and much evacuation of urine, succeeded by intolerable flatus in the stomach and bowels, frequent convulsive cough, constant wheezing, with painful dyspnæa, being unable to fill the chest with air: any sudden exertion, speaking above a word or two together, or attempting to walk up a hill or up stairs bring on suffocation; much frothy tenacious *saliva* is discharged from the throat, with some congealed phlegm from the bronchia; and in the mornings, what is expectorated is often streaked with blood, and sometimes a little pure blood is coughed up. The paroxysm runs its course in from three to five days, when the flatus subsides, and expectoration becomes free and easy; being, instead of frothy or tenacious *saliva*, and the jelly or white of egg-like substance, common phlegm, with a little good looking pus."

Here is jumbled together a collection of very formidable symptoms, and had we not been assured, by persons who seem to have the means of knowing, we should doubt their being related by a person educated in the medical profession. Who would expect to hear a surgeon say that "instead of frothy tenacious *saliva*, and the jelly or white of egg-like substance, common phlegm, with a little good looking pus," were expectorated. Notwithstanding we find *catharsis*, *dyspnæa*, *submurias hydrarg.* &c, &c. in this production, we still doubt its being written by a surgeon, because we have never met with a person actually of that profession, who could say that "frothy tenacious *saliva*" was at any time expectorated from the bronchia. The unadulterated herb was smoked; the cure is stated to have been rapid, and permanent. As we have no doubt of the power of Datura *stramonium* over certain cases or states of difficult respiration, we are concerned to see any equivocal histories of its effects laid before the public.

Notes

Notes on Diabetes Mellitus, as it occurs in Ceylon. By THOMAS CHRISTIE, M. D.—THESE notes were written at Columbo in Ceylon, in September, 1809: they contain a detail of several cases of diabetes, all of which were either relieved or cured by pursuing the method suggested by Dr. Rollo. The disease subsided in proportion to the strictness with which the patient adhered to the use of animal food.*

It appears, from these notes, that *diabetes mellitus* is of more frequent occurrence in Ceylon, than on the continent of India, or in Europe. The fact of the frequent occurrence of diabetes among the Cingalese is endeavoured to be accounted for from the diet of these people.

The bulk of the people, in the vicinity of Columbo, consume, I believe, less animal food than in most parts of India, and certainly far less grain, which, from the nature of the soil, and the state of cultivation round Columbo, is not produced in nearly sufficient quantity for the subsistence of the people. A considerable quantity of rice is imported from Bengal, and other parts of India, but the poorer orders have seldom the means of procuring much rice, and live a great deal upon yams and sweet potatoes, jack-fruit, plantains, or bananas, and particularly cocoa-nuts, which form a great part of the subsistence of the people in the corles, or districts, dependant on Columbo. These all furnish sugar ready formed, and in greater abundance than rice, besides which they use a great deal of country sugar or jaggery, prepared from the toddy of the rittiel palm (caryota urens), which is very cheap, and forms an article of export from this place.

"As a strong corroboration of my opinion, that it is owing to the immoderate use of these articles, that the Cingalese are so subject to diabetes, it ought to be mentioned, that during nine years, in which I have received the hospital returns of all the European and native troops on Ceylon, not a single case of diabetes has occurred amongst them, although the number of men has in general been about 7000, and that of sick has been on an average upwards of 500. The Europeans have beef served out to them daily, and the natives receive a liberal allowance of rice, on which they chiefly live.

"If it should be allowed, that the natives of Ceylon are more exposed to attacks of diabetes in consequence of their using little animal food, and subsisting chiefly on articles furnishing a great deal of sugar, it will readily be understood, on the general principle, that the system is acted on most powerfully by those causes to which it is

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* There is a remarkable fact in the history of medicine connected with one of these patients, Don Juan Appoo, a Cingalese physician. The practice of this person used to be principally among small-pox patients, but of which he had not seen a case for the last three years, and is now obliged to keep a school as a means of subsistence. This strongly corroborates the accounts of the extirpation of the small-pox in the island of Ceylon, by the introduction of vaccination.

least

least accustomed; that the abstraction of all articles of diet which contain sugar, or from which it is likely to be formed, with the substitution of an animal regimen, will be more likely to produce an immediate change on the state of the urine and digestive powers, than with Europeans who have been accustomed to a more considerable proportion of animal food in their ordinary diet.

" Few of the people of Ceylon, who are plain and simple in their general mode of life, are ever disposed to indulge much in the luxury of the table; so that unless it interferes with their religious principles, or with the state of their circumstances, a change of diet is with them a subject of little consideration; and on that account I have found less difficulty in prevailing on them to comply strictly with my injunctions, which in general went to the entire prohibition of every thing but animal food of different kinds, dressed with ghee, or clarified butter, and water, with or without the addition of a little brandy.

" It ought to be remarked, that in all my patients there was an increased appetite. Had they been in that advanced stage of diabetes in which the appetite fails, it might have been dangerous to abstract so suddenly all their accustomed articles of food, and advisable only to adopt the animal regimen gradually or partially."

The following extract, translated from the *Yoga Ratnakêre*, the name of a collection of prescriptions in the Cingalese language, will, at least, gratify curiosity. The *Pra mehé*, or diseased flow of urine, is divided into twenty species, of which ten proceed from phlegm, and are easily cured; six from bile, which may also be cured with care: and four from wind, which last are incurable. In this language diabetes mellitus is called *madu mehé*, honey urine.

" The ten species proceeding from phlegm are,

" 1*st*, Udaka mehé.—*Udaka* in Sanscrit and Pali signifies water, and the symptoms are a flow of very clear urine, cold, without smell, like water, and discharged without pain, with a little slime.

" 2*d*, Ikshu mehé.—*Ikshu* Sanscrit and *utchu* Pali, means the juice of the sugar cane, and the symptoms are slimy cold urine, like that juice.

" 3*d*, Sura mehé.—*Sura* in Sanscrit and Pali signifies toddy, and in this the urine resembles toddy, and on being kept deposits a similar sediment.

" 4*th*, Sandra mehé.—*Sandra* in Sanscrit signifies thickness, and in it the urine, after being allowed to stand a night, is thick.

" 5*th*, Pishta mehé.—*Pishta* Sanscrit, *pitha* Pali, signifies flour, and in this species the urine, after standing a night, deposits a sediment white as flour, and of very little weight. Another symptom is that, when the urine is passed, the hair of the body stands on end from pain.

" 6*th*. Sukra mehé.—*Sukra* Sanscrit, *suka* Pali, signifies semen, and in this the urine is discharged with a mixture of semen, which it resembles in colour.

" 7*th*, Saikta mehé.—*Saikta* Sanscrit, *sikata* Pali, signifies sand, and in this

this species small round particles of phlegm are discharged with the urine, resembling sand.

" 8*th*.—Sita mehé.—*Sita* in Sanscrit, Pali, and Cingalese, signifies cold, and the symptoms of this species are extremely cold and very sweet urine.

" 9*th*, Samairimā mehé.—*Samairima* in Sanscrit signifies drop by drop, and the symptom is the urine being passed drop by drop.

" 10*th*, Alala mehé.—*Alala* Sanscrit, *lala* Pali, signifies saliva, and the symptoms are urine mixed with particles of phlegm, in the shape of small threads, and slimy like saliva.

" The six species proceeding from bile are,

" 1*st*, Manjesta mehé.—*Manjesta* Sanscrit, *manjutta* Pali, is the name of a red seed, and the urine in this species is of a reddish colour, and has a fishy smell.

" 2*d*, Rakta mehé.—*Rackta* Sanscrit, *ratha* Pali, signifies blood, and the urine in this species is of the colour of blood, feels hot, tastes salt, and has a fishy smell.

" 3*d*, Nila mehé.—*Nila* in Sanscrit and Pali, signifies blue, and in this species the urine is of a bluish colour.

" 4*th*, Hariddra mehé.—*Hariddry* Sanscrit, *halliddy* Pali, signifies yellow, and in this species the urine is of a yellow colour, of a sharp taste, and discharged with heat.

" 5*th*, Rala mehé.—*Rala* in Sanscrit and Pali signifies black, and the urine in this species is of a sooty colour.

" 6*th*, Kshara mehé.—*Kshara* Sanscrit, *kara* Pali, signifies saltish, and in this species the urine is to the smell, taste, and touch, like sea-water.

" The four species proceeding from wind are,

" 1*st*, Wasa mehé.—*Wasa* in Sanscrit and Pali signifies fat, and in this species the urine is discharged frequently, either mixed with fat, or entirely composed of an unctuous substance.

" 2*d*, Mudja mehé.—*Mudja* Sanscrit, *minja* Pali, signifies marrow, and in this species the urine is discharged frequently, and resembles marrow, or is mixed with that substance.

" 3*d*, Hasta mehé.—*Hasta* Sanscrit, *hutty* Pali, signifies elephant. The urine in this species is discharged frequently, and with difficulty, resembling the semen of a ruttish elephant, or the liquor of the joints.

" 4*th*, Madu mehé.—*Madu* in Sanscrit and Pali, signifies honey, and in this last species the urine is of the colour and taste of honey.

" In the *Bayajja Manjussy*, or Medicine Chest, another work more lately translated from the Pali, the same account is given of the different species of *mehé*, and it is said they are occasioned, amongst other causes, by whatever produces much fat, urine or phlegm, as indolence, eating cold and sweet things, and food of a watery nature. The more immediate causes of the *madu mehé*, are either decrease of the substance of the body, and excess of wind, or the wind's being obstructed and mixed with the blood, on which account it is incurable. The distinguishing symptoms of the four species of *mehé* proceeding from wind, are flatulence and eructation, tightness of the chest, tremor, pains, restlessness, emaciation, and difficulty of breathing.

" The

"The only remedy recommended for *madu mehé*, is pills composed of seventeen ingredients, amongst which are the following: Sulphur, nitre, borax, sal ammoniac, yellow arsenic, cinnabar, capsicum, black pepper, and several other vegetables with which I am unacquainted.

"Although the above division and distinctions of the *pra. mehé*, which seems to include all the diseases of the urine, is arbitrary, and often fanciful; yet it is a curious circumstance, that the Indian physicians should have described so distinctly the sweetness of the urine in *madu mehé*, which had escaped the observation of both the ancient and modern physicians of Europe till the time of Willis."

Case of Tic Douloureux, cured by Arsenic; by Mr. M'Kechnie, Surgeon.—This case of Tic Douloureux was in a man 57 years of age, of a healthy constitution. Various methods were resorted to for the removal of this painful affection. Blistering, mercury to salivation, cicuta, topical bleeding by leeches, were all found ineffectual. In the attack which occasioned the relator to be consulted, the pains were most troublesome by day, seldom disturbing the patient in the night.

"Excruciating paroxysms were excited by the slightest irritation; as by a breath of cold air blowing upon the face; by attempting to chew, or by speaking abruptly, and sometimes even without provocation. At these times the pain suddenly darted into the lower jaw, and from that into the cheek, and beneath the ear. Each exacerbation consisted of a great number of short paroxysms, which lasted about a minute, then remitted, returning immediately, again remitted, and so alternately, generally for about the space of an hour. The exacerbations were not constant in degree or duration. They sometimes caused violent contortions of the face, most ease being found by twisting the mouth to the left side, so as to stretch the muscles of the affected places, and by rubbing the skin towards his mouth with his fingers; relief was sometimes procured by pressing firmly over the infra-maxillary foramen. When the anguish was greatest, the face flushed, and tears gushed from the eyes, but no change in the appearance of the parts affected could be discovered. The patient described the pain to be at one time, as if something was piercing or screwing into the flesh; at another, as if it was tearing or twisting from the bone. When the paroxysms ceased, he had perfect immunity from pain, till the morbid action was again excited. The general health was not impaired; the pulse was of the usual standard; the appetite was good; the bowels were regular."

Under the above circumstances the patient took the *Solut. Arsen.*——As the maximum dose of the remedy was approached to, the symptoms gradually subsided, and at length entirely subsided, and a permanent cure was effected.

Case of Tumours of the Tongue cured by Mercury.—A woman 47 years of age, the mother of a numerous family, and still menstruating regularly, but whose health had suffered

fered from abortions and floodings, about two years and a half before the time here spoken of, was attacked with great pain in the tongue, which swelled to such a magnitude that she could not speak, or swallow any thing but fluids. This swelling subsided in six weeks, but left several small knots in the substance of the tongue, round the edge of its anterior portion. These tumours were irregular in their surface, having various depressions and elevations, and were as hard and unyielding as scirrhus. They were all painful; and the sensation they gave was as if a spear was thrust from them into the inferior jaw. By the use of the blue pill, and frictions, so as to produce considerable ptyalism, these tumours were completely removed.

Case of Recovery from an excessive dose of Laudanum.—A woman 28 years of age swallowed an ounce of T. opii. The symptoms were alarming, but by the use of emetics and cathartics they were removed; and the patient recovered.

Observations upon Herpes of the Prepuce.—The disease, of which some cases are here given with remarks, was first noticed in this Journal, (vid. Med. and Phys. Journal, Vol. 23, p. 441, No. 136, for June, 1810), where a history of its appearances and progress was given, with a plate shewing the changes from day to day. Before the account there given, we believe no writer had mentioned this complaint; neither does it appear, prior to that publication, to have been understood by practitioners, but was often treated for syphilitic chancre, with consequences hazardous, injurious, and sometimes fatal. In the paper in the Med. and Phys. Journ. above cited, it was denominated an "*Acute Eruptive Disease of the Integuments of the Penis;*" a term which seems clearly to characterize its appearance, symptoms, and progress. About a year after the publication of this paper in the Med. and Phys. Journ. a writer who is a reporter from the Carey-Street Dispensary for the Edinburgh Journal, noticed this disease under the term *Herpes Preputialis.* When speaking of it, he observes, "I know of no writer who has mentioned the herpes of the prepuce, except one, in a Number of the Med. and Phys. Journal for June, 1810, *who has given a plate very ill representing its form.*" As we admit the reporter to be a person of considerable research in medical literature and the history of diseases, we consider the first part of the sentence above quoted very strongly to establish the claims of the writer of the paper on an "*Acute eruptive Disease on the Integuments of the Penis,*" in the Med. and Phys. Journal for June, 1810, to priority of description. That part of the sentence which roundly asserts, that the

plate annexed to the paper in the Med. and Phys, Journal, but ill represents the form of this disease, we must be allowed to say, probably was suggested by the reporter's never having seen the disease in the form which it appeared to the writer of the paper. Perhaps he had then only seen the disease as it occurs within the fold of the prepuce, and where both the vesicles and subsequent ulcers are placed in contact with the glans, as the prepuce is brought forward. Under that circumstance of locality, the plate does but ill represent the form of the disease; neither was it ever intended to represent the disease so placed. We are the more confirmed that the reporter has taken his idea of the disease from cases where the vesicles have been placed within the fold of the prepuce, by his speaking of its going through its stages in fourteen days; whereas, when the vesicles are placed on the tegument of the body of the penis, a very frequent occurrence, it goes through its stages, and is completely well, in ten days at farthest. It was this last form of it from which the drawing was taken; and a great number of instances, since that period, have satisfied the writer of the paper in the Med. and Phys. Journal, that his representation is a faithful transcript from nature. When the disease is placed on that part of the tegument of the penis, which certainly is not prepuce, and never comes in contact with the glans, the most severe cases we have yet seen, if not irritated by the "busy hand of art," have been completely healed in ten days. When the disease has been placed within the fold of the prepuce, we have never yet seen it get well in less than fourteen days; and we have seen the ulcerations continue for five or six weeks. Beside being protracted in its duration, the disease when placed upon the inner fold of the prepuce is much altered in its appearance: the vesicles are less distinct and pellucid: the ulcerative process is more irregular, and never has the hardened crust which is represented in the drawing, and described in the history, as indicating its last stage. We are disposed to believe that the true and distinctive character of the disease is to be taken when it is neither disturbed by art, nor interrupted in its progress by the accidents of situation. It would have been wrong to have taken the character of the variolous pustule from those found about the fauces: it is wrong to take the character of this species of *Zoster* from vesicles placed within the fold of the prepuce, because from that accident they are altered in appearance, progress, and duration. We are little inclined to verbal disputes, or we might object to the term *Herpes preputialis*, because the disease is considerably turned from its natural course when placed within the prepuce; and because, as far as our observation

servation has gone, and a great number of cases have fallen within our practice, we have seen it five times in seven situated on a part of the integument of the penis which is not prepuce.

The cases before us add something to the history of this disease, though our experience has not taught us that it is to be repelled or shortened in its duration by art, as the writer of these observations asserts. We believe that the interference of the surgeon may prolong but not shorten its duration: we know of no instance in which it has been repelled, nor are we in the least aware of any prophylactic process which should prevent its recurrence; for when it has once happened it returns again and again, at intervals of a few weeks. The profession is indebted to Mr. M'Kechnie for again bringing the subject forward, and inducing the surgeon to attend to the history of a disease which has confused and misled the most experienced, and which by being misunderstood, has occasioned serious mischief to many individuals.

Case of Diabetes treated by Blood-letting. By Mr. S. M'Keuh, Surgeon.—We transcribe the minutes of this case chiefly with a view to shew the curious fact as before asserted by Mr. Watt, of the blood getting a firmer texture, and assuming the inflammatory appearance, as bleeding was persisted in.

"*November* 16*th.*—Pulse 100, so feeble as to be with difficulty numbered; much oppression in the chest. ℥viii. of blood were taken from his arm, being all that could be procured; veins so relaxed and empty that it is with difficulty any of them can be opened; pulse not altered by the bleeding, but feels a good deal relieved in the chest; laxative pills *pro re nata.*

"17*th.*—Pulse scarcely to be felt; veins cannot be made tense by ligature; ℥viii. of blood again procured with much difficulty: the energy of the heart seems almost gone; no alteration from the bleeding; the blood taken yesterday covered with a thin blue film; the substance of it very loose, and black in the bottom; serum exceedingly white; a large blister to be applied over both kidneys.

"18*th.*—Blister rose well, but discharges little; other symptoms as before. Urine about xxlb. in the 24 hours; ℥x. of blood again taken; no sensible effect from it; blood taken yesterday of the same appearance as before.

"19*th.*—Pulse 104, more regular, and somewhat fuller; blister *now* runs well; ℥xii. of blood taken; *now* for the first time it runs in a full stream; felt relief while flowing; pulse rather improved by bleeding.

"20*th.*—Blood taken yesterday firmer in texture than any formerly, and contracts more on the surface, with a thicker buffy covering; pulse

as yesterday; ʒxii. of blood again taken; veins now fill better, and the blood flows more forcibly.

" 21*st.*—Pulse about 100, considerably firmer; ʒxvi. of blood taken; much relief while flowing; pulse not altered; lime-water ordered.

" 22*d.*—Pulse 120, but quite distinct, feels very languid; palpitation very distressing; considerable oppression about the præcordia; on the whole very unwell; drink and urine considerably diminished; blood taken yesterday can be suspended on a probe; feels most comfortable in bed, and cannot walk without difficulty; stools for the last two days rather brown, and without any blood; tongue a little cleaner; mouth still very bad tasted. Ordered powders of ipecacuanha and oxyd antimon. c. phosphat. calcis.

" 23*d.*—Sweated some through the night; feels to-day easier; pulse as before; ʒx. of blood again taken in a very full stream, and with great force; pulse sensibly weakened by it; otherwise it was intended to have taken a much larger quantity; much relieved while flowing; never any tendency to syncope.

" 24*th.*—Thirst lessened, in other respects as before; ʒxv. of blood taken; flowed with great force as in pneumonia; pulse before bleeding 108, after it 110, and much weakened; blister to be repeated.

" 25*th.*—Blister discharges freely; serum of the blood taken yesterday of the appearance of the matter of a scrofulous abscess, crassamentum has the tenacity of healthy blood; considerable buffy coat; has much less thirst, and voids about one-third less urine than before; thinks his mouth not quite so bad tasted as before; has sweated a good deal; skin softer and more natural; urine not quite so sweet.

" 26*th.*—In the morning while in bed, pulse 104, after being up 120, tolerably firm; rather more thirst to day; urine not increased; ʒx. blood taken, flowed more feebly; bowels regular; stools brown; sleeps tolerably.

" On the 28th, ʒxii. of blood taken; on the 29th a similar quantity. No material circumstance occurred till December 1st, when a violent diarrhœa came on, with severe griping; drunk little since it came on; urine diminished to one half; pulse 100, and firm; little appetite; feels very languid; stools still brown.

" *December* 2*d.*—Diarrhœa continues; stools very dark brown, very languid; griping very severe; pulse 100, tolerably firm; urine for these last two days not above ii lb.; thirst also greatly diminished.

" 3*d.*—Diarrhœa diminished; urine increased to the same quantity as before the diarrhœa, but drinks less; pulse as yesterday. Pills of calomel and ipecacuanha ordered.

" 4*th.*—ʒxii. of blood taken; pulse weakened by it; in other respects as before.

" 5*th.*—Blood taken yesterday tolerably firm; ʒxii. more taken; pulse weakened again by it.

By this process the diabetic symptoms were relieved, but the patient did not recover his health.

Facts

Facts and Observations on Burns. By Mr. Lyall.—Mr. Lyall, while House-Surgeon to the Manchester Infirmary, gave a particular attention to the treatment of burns. His observations have led him to approve the stimulating applications as advised by Dr. Kentish, to which he adds the exhibition of stimuli internally. When the thorax or abdomen are the seat of the burn, peritoneal, &c. inflammation follow the u of cold applications it is asserted: therefore, says Mr. L ll, "When burns, by whatever cause produced, or to whatever extent, happen on the thorax or abdomen, I wot d never use cold dressings, but have recourse to the warm terebinthinate applications, or, if I wished a milder dressing, to the Carnon oil. *Linim. Aq. Calcis.*"

Observations on the Use of the Eau Medicinale, and of Rhubarb, in the cure of Gout. By G. Burroughs, Esq. —As the delirium of expectation raised in the public mind by the histories of cases of Gout cured by the miraculous Eau Medicinale has not quite subsided, it remains a duty to state every authentic fact respecting its operation and effects: with this impression on our minds, we give the two cases published by Mr. Burroughs of Clifton.

"Sir E. H. an Irish baronet at this place, aged about 70 years, was the first person that I had seen taking it. He had been troubled with gout at various periods during thirty years, of which disease distorted joints bore the most ample testimony; independently, however, of these appearances, his body exhibited no mark of disorder, and for his time of life might be considered healthy and strong. The attack of gout in which he began with the *eau medicinale* was exceedingly severe, and pretty general, attacking ancles, knees and elbows. In this state, with much avidity he took half a bottle of this medicine; but not finding any amendment from this dose, after an interval of six hours, he had recourse to the remaining portion. This, however, soon began to have effect, and operated most powerfully by all the secretions, occasioning at the same time violent vomiting, purging, sweating, and acting no less violently by the kidnies. These powerful effects continued without intermission for at least forty-eight hours, when the patient became exhausted to the very last extremity, and at the time my interference was requested, appeared almost lifeless; body motionless, and covered with a cold moisture; voice nearly inaudible, and the powers of perception scarcely remaining. Nothing for some time could appear more unpromising. By diligent and unremitting attention, however, with the aid of warm Madeira and cordials, the exhausted powers were supported, and at length raised; but the patient long remained in a state of considerable weakness, and his convalescence was for some time doubtful. It is unnecessary for me to say, that this fit of gout was completely removed by this violent process,—a cure which almost cost the patient his life. In one particular, perhaps, the patient erred, and that was by taking the second dose too soon after the first. The period between each

each may be thought should have been longer than six hours; but it should be remembered, that the pamphlet published on its merits states, that some persons take a whole bottle at a time;—how then are the public to discriminate when they should take a larger or a smaller quantity? The baronet certainly had some prudence in the matter; for he did not take the remaining half bottle, until a lapse of six hours had given him every reason to suppose that it would produce no effect. Had he unfortunately taken the contents of a whole phial in the first instance, there is every reason to suppose that he never would have recovered the shock. I have stated so much to shew, that the medicine is very powerful, and that great care and attention is necessary in the use of it, and that patients disposed to try it should, in the beginning, measure their way very carefully."

Mr. Barry, a respectable watchmaker at Clifton, here relates his own case.

"About the middle of January, 1811, I was threatened with symptoms which generally portend *a regular* fit of gout; its violence, however, did not, as on most preceding occasions, increase in any particular part, so as to deprive me of rest, or cause actual confinement, till about the 23d, when the attacks in the stomach becoming much more frequent and formidable, I determined on taking the celebrated eau medicinale, two bottles of which I had long kept by me for that purpose. I began with half a bottle, which for two hours seemed to produce little or no effect. I then felt considerable pain in the head, whether of real gout, or the effect of the medicine, I cannot say: this was soon succeeded by delirium, afterwards a great nausea in the stomach, purging, and sickness, but not the smallest disposition to perspire. This continued eight or ten hours, when I began to expect the wished-for relief, of which I had so long and so confidently flattered myself the medicine would afford me; but, alas! I found the disorder increasing, both as to extent and virulence, and, after a lapse of four or five days, I took the last half bottle, with, however, no other effect than a nausea of much less duration than the former, still, however, without the wished-for success. Being then apprehensive that I had not taken a sufficient dose, I resolved, after a similar interval, to take the remaining whole bottle at once, which had much the same effect in every particular as the first half bottle, with this difference only, that the sickness was of much longer continuance, but not sufficiently violent to enable me to vomit without great difficulty. The nausea on the stomach remained for several days, and the gout there, as well as in the extremities, evidently gaining upon me, presented no other appearance or feeling, than that I must shortly sink under it. Much about this time there appeared all over my body an eruption resembling very much the measles; but as I had had that disorder many years before, I concluded it must have been occasioned by the medicine. A few days after this I was seized in bed very suddenly with a copious spitting of blood, attended with a wheezing from the throat, and coughing, which for a while threatened suffocation; this, it is supposed, must have arisen from the rupture of some vessel about the lungs, by efforts made during the sickness to vomit.

"The hæmorrhage continued to return in an alarming degree, at intervals,

intervals, for a week or ten days, till, weakened by its frequent recurrence, and apprehensive, if longer neglected, it would inevitably lead to the most dangerous consequences, I called in two medical gentlemen to my assistance, by whose skill and attention I was soon restored to a state of rapid recovery.'—Here is a very clear and able description of a violent fit of gout, in which the *eau medicinale* had a very fair trial, and wherein it not only completely failed, but was soon followed by a considerable aggravation of the complaint, and with symptoms threatening the most imminent danger,—delirium, violent vomiting, intense pain, the body covered with eruptions, and accompanied with feelings and appearances as if he had been poisoned; to these succeeded an alarming bleeding from the lungs, placing his life for many days in a state of imminent danger. The patient had often had attacks of gout that were fully as violent as this in the commencement, but were never followed by such distressing and alarming symptoms as appeared on this occasion; it is therefore but reasonable to suppose, that the very unusual disturbance in his system was occasioned by the remedy. How far to refer the hæmorrhage from the lungs to it, may perhaps appear difficult, unless we suppose there may have been some translation of gout to that part, as well as to the stomach and head; or perhaps some vessel may have been ruptured in the lungs from the violent straining in vomiting. Whatever was the cause, the effect was productive of great danger and alarm."

Practical Observations on Cancer: by the late JOHN HOWARD, Surgeon Extraordinary to the Cancer Ward in the Middlesex Hospital. 8vo. Lond. 1811. pp. 144.

THE munificence of the late Samuel Whitbread was directed to encourage an investigation of the causes and cure of *Carcinoma;* and by his friendship with Mr. John Howard, the fund which he appropriated to this humane and laudable purpose was employed to found an Establishment in the Middlesex Hospital, the express object of which was the treatment of this deplorable malady; exclusively, however, as it appears in the female. Accordingly women only are admitted into the Cancer Ward. Mr. Howard, by being appointed Surgeon Extraordinary to this establishment, was led to a particular attention on Cancer; and the "Practical Observations" now before us are the result of that attention. On the death of Mr. Howard the papers which compose this volume were bequeathed by their author to Dr. Charles Gower, of Old Burlington-street, and to that gentleman the public is indebted for their revision and publication.

The time that has elapsed since Mr. Howard collected these observations has not superseded their publication by any successful treatment of cancer being discovered; for among the improvements,

improvements of modern practice we have not the good fortune to enumerate a remedy for carcinoma.

These observations, as their title expresses, are of a practical nature, interspersed, however, with numerous desultory remarks, not unfrequently assuming the character of hypothesis. It is advantageous to the publication to remark that the first class is most numerous, and in the 63 cases which are given, there must necessarily be found many instructive facts. As a specimen of this part, we shall cite two instances, one of *Noli-me-tangere*, with its treatment, and the other, a new species of Cancer, so called by the Author.

"The *Noli-me-tangere* of the face takes its rise from a small beginning, like a pimple or little wart, which is probably a diseased miliary gland of the skin. The discharge after ulceration produces a scab or crust. Should that crust be rubbed off from time to time, it is exposed to the air, being sometimes in an incrusted state and sometimes as a sore, from picking or handling. Under these circumstances, with a strong predisposition in the habit, a creeping and spreading ulceration comes on, slowly if the part be little irritable; but it is sometimes so irritable that the mischief extends with great rapidity. An incipient case of the former kind, having the appearance of a small tumour on the side of the nose, I once cured, by keeping the part covered constantly with a powder composed of two parts of Lapis Calaminaris, finely levigated, and one part of Pulvis Cerussæ. The employment of this dry, astringent, sedative, and, I may add, incarnative powder, to painful, irritable, and phagedenic sores, was so far new as to be my first time of using it. I had, many years ago, seen the *Pulvis Fuscus* used in St. Bartholomew's Hospital, to hasten the cicatrization of sore legs. This was a composition of Lapis Calaminaris, levigated with a small quantity of myrrh, with which the sores were powdered with a puff, and covered, without lint, with Ceratum Epiloticum. It was very useful in promoting both incarnation and healing; and, if I mistake not, the same, or a similar application was employed by the antients to promote the healing of wounds and sores. Now, as Cancer resembles, very much in one respect, a phagedenic sore, for, like it, it is highly irritable, often spreads, and destroys the skin, cellular membrane, and glands, even at a great rate, I adopted this composition by analogy in the above case, as it was not only likely to remove the extreme difficulty to give ease, but to prevent the extension of corroding mischief."

Corroding ulceration is necessarily of difficult management, and under treatment apparently founded on the most rational principles, often so rapidly increases in its destructive progress, that a name expressive of this property has been given to it. It was in this peculiar case that Mr. Howard found this drying powder effect a cure. He mentions a second case, in a much older person, where the ravages

vages of the disease were checked, for years, by this application. It appears that the hints in part was received for this, from a similar composition employed by Mr. Adair Hawkins, who, however, did not employ it in cancer, but had frequently applied it to phagedenic bubo. His method of using it was in the form of a dry powder, but combined with Cort. Peruv. This remedy was powdered on with a puff, so as to make a wall or covering of the composition. As fast as the covering cracked the crack was filled up, to the exclusion of the external air; and, under this, the spreading phagedenic sore was healed.

The following case is singular in its form, its progress, and its result,

"A gentleman, aged about 45, was attacked by, probably, a new species of Cancer. Having, as he conceived, slept in a dirty bed abroad, a hardness and scaly eruption came on one shoulder, nearly upon the head of the humerus, resembling lepra, but which terminated in slough. This appearance, after some time, subsided, and caused the mark of a cicatrix of a previous ulceration. After the complaint had left this shoulder, in a few months it attacked the other below the joint of the shoulder, upon the upper part of the deltoid muscle, where a kind of indolent tumour, or hardness, arose, about the size of an egg; not in the muscle itself, but in the integuments. This hardness went on slowly through the course of some months, and without much pain, until the skin became of a purplish hue, like a boil, but not so painful; and this was followed by a slough, which separated in a sluggish way, and left the muscle bare, deprived of the cellular and adipose membrane, and a part of the skin. Then the sore healed. The gentleman's health was in a declining and precarious state, before the appearance of this disease, and as it went on he recovered. Finding only a local and external complaint, under increasing health, it was suffered to go on. I had never seen any thing similar, and it seemed to be a nondescript. I was happy to find that the ravages this complaint made were external, and that health was restored. It is now sixteen years since its first appearance; he has had, at least, fifty such tumours, during that time, following precisely the same natural course. As one goes on to cicatrization, others arise, and proceed in the like course, vegetating, increasing, and sloughing. The time of growth of these tumours seems to be during the winter and spring; and the time of sloughing, which gets to its height in August and September, is during the summer; after which, the sores heal. From the shoulder to the elbow, the skin is all scar; and the disease has sometimes extended to the fore-arm, having passed over the joint without producing diseases within: it has, however, occasioned some degree of contraction; and the tumours which have formed below it, pass upon the flexor muscles of the fingers. This very singular affection is probably constitutional and leprous; its seat is

in the skin, and in the cellular and adipose membrane under it. It produces ultimately a sloughing of the common integuments. It affects the subjacent parts, viz. the muscles, only in as far as the sloughing leaves them naked, and without natural covering; it neither ulcerates the skin, as a herpes, nor does it corrode the subjacent parts. It is impossible to conjecture what could have determined this sort of humour or affection to the arms only; but I am inclined to think that if the like humour had fallen upon the integuments of the scrotum, being immediately in the vicinity of an important glandular part, a cancer might have been occasioned, resembling those before described."

Books have been written upon diseases which should not be cured. Though we are equally at a loss with the author to say what could have determined this affection to the arms, yet we do not hesitate to class it with those complaints which should not be cured. It was doubtless, a mode which nature, the vis medicatrix, the archeus, or by whatever name we call that mysterious and powerful principle which exists with vitality, followed to expend the morbid actions of the frame. We have had the misfortune often to see an unexpected loss of life follow speedily on the subsidence of accustomed morbid irritations, whether arising spontaneously or effected by art; by the latter mode, however, we expect most hazard is incurred.

(*To be continued.*)

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

We have great pleasure in submitting to our readers, the Exordium to the Statutes of the Blenheim-Street Medical Society, which, instituted in the present year, already vies in numbers and respectability with other associations of longer standing; and from the zeal and enterprize of its members, promises to advance medical science.

EXORDIUM.—An enlightened genius, the father of experimental philosophy, has declared that *knowledge is power;* and he has impressed succeeding generations with a conviction, that in natural science this knowledge results from observation, experiment, and the record of facts. If by pursuing the suggestions of the *Novum Organum*, an individual mind can, in any degree, penetrate into the secret laws of Nature, a union of minds employed on one subject, and impelled by the same views, may be expected still further to explore the operations of this mysterious principle. Upon this expectation have societies for the improvement of science been formed. And out of this, without arrogating extraordinary resources, or the ability to employ common means with unusual dexterity, has the Blenheim-Street Medical Society, also, arisen.

In

In the early part of 1811, some individuals who were ardent in the pursuit, if they were not deeply versant in the principles of science: and being convinced that by a communion of intellect, as by a combination of mechanic powers, effects may be produced beyond the reach of individual exertion, projected, and reduced to form, this society. Its progress, hitherto, might serve to evince, if it were required, that the light of knowledge may be elicited by collision of sentiment; and that the hope is neither remote nor doubtful, that from sources actually within its reach, or to arise out of probable contingencies, facts may be collected, which will assist to extend possibly, the *circle of Medical Science.*

The publication of its statutes may demand an exposition of the Society's principles, its means, and its discipline.

To meliorate the theory and the practice of the medical art generally; to afford the opportunity of improvement by the exercise of the mental faculty, individually, is the ground and basis of its views.

To unite Professors, Practitioners, and Students, under the definite classes of Fellows, and Honorary Associates, is the means the Society employs.

Its Fellows are those in whom the property of this Society is vested, from whom its funds emanate: who pass its decisions into laws, and who are subjected to censure, fine, and expulsion.

Its Honorary Associates are selected from amongst gentlemen whose standing, conduct, and acquirements in the profession, or in general science, entitle them to distinction. They are exempt from offices and fines: they have no interference with the business of the Society, except by request of the Fellows; but the Society may withdraw the distinction it has conferred by the vote of four-fifths of its Fellows.

On the principles, and by the statutes of the Society, its Fellows when removing to, or residing at, any place beyond a given distance from the station of the Society's meetings, in London, will have their privileges and duties modified. To its Fellows thus circumstanced, it is that the Society will look for valuable materials. The local knowledge of distant parts, the diseases of remote regions, natural history in all its branches, *materia medica*, both professional and popular, cannot fail to furnish subjects of high interest to the Society. Through this class the Society may expect, without incurring the charge of being visionary, to hold an intercourse with all parts of the world.

This opportunity to press on its Fellows, who may remove beyond the power or the convenience of personal attendance, what the Society expects from their exertions, cannot be passed silently over. It is ardently wished that they will bear in mind that still they will continue to make a constituent portion of the Society; that they will participate in the credit it may attain; that at the station where the Society's meetings are held they will be regarded with respect proportioned to their endeavours to serve its cause; and will

have the honours awarded to them that their communications may demand, and the resources of the Society can admit.

The discipline of the Society will be founded, necessarily, on its code of statutes. These having been formed by the deliberation of its Fellows, revised and adjusted by its Council, will be found, it is hoped, at once perspicuous and compressed, without verbosity clear, and, though not neglectful of elegance, uniting plainness with precision.

While the Society looks to the great object, *improvement in Medical Science*, it has not been unmindful of the advantage of application, and of the benefit that will arise to its junior branches by cherishing a habit of arrangement and composition; and, by acquiring readiness and perspicuity from the practice of *viva voce* discussion. With this view a thesis or dissertation is required, *seriatim*, from each of its Fellows; and debate has been instituted under the direction and controul of a President, who, for the time being, is absolute.

Under this system, pursued with that steady perseverance, which the objects of the Society deserve, as far as human projects can, this promises to accomplish its views. But should performance never reach what expectation has held forth, disappointment will be moderated by reflecting that all the institutions of man are imperfect; yet as long as this society continues to be governed by candour, liberality, and a love for science, it will have the consciousness of endeavouring well; and its respectability will remain whilst its principles impel it to believe that the first and last determination, the alpha and omega of human intellect, should be directed to the discovery of truth.

Case of Hydatids discharged by stool and vomiting. (Hufeland's Journal).—A woman aged forty-one years, of rather an irritable constitution, but in general healthy, suffered for six years great distress, which occasioned her to fall into a feverish state. She drank during the heat of the fever a glass of cold water, from which, at first, she experienced a pain and pressure in the region of the stomach; she observed, at the same time, that it appeared to be swelled. The swelling daily increased; the appetite failed; and the patient complained of a sense of fulness after her meals, and a continual pain and oppression about the stomach. She especially felt uneasy after exercise. Several physicians had pronounced different opinions upon her complaint, and had employed various means without success. For upwards of a year the catamenia had become irregular, being often suspended for a long time, and then appearing in excess. This derangement in the menstrual flux did not, however, seem to be connected with the symptoms that have been detailed. In the month of June, last year, she was attacked, after a violent fright, with fever. This yielded to the remedies employed, but the patient's tongue continued covered with a white fur: she was affected with a disagreeable taste, and had frequent attacks of pain in the stomach. At the same time she was troubled with watchfulness, restlessness,

lessness, and copious sweats. She took bitters and ether. The bowels were kept open by pills of assafœtida, aloes, soap, and castor, but without any evident benefit. She complained much at this period of a dull pain situated in the left side of the pit of the stomach: pressure upon it produced exquisite pain. She was affected with nausea, succeeded by vomiting, which, as well as the stools, gave vent to an abundance of viscous mucus. The disease had made her so irritable, that she was often enraged about the most trivial domestic occurrences. An emetic of ipecacuanha and tartarized antimony was prescribed; it occasioned vomiting, and the pain almost left her. The pills before mentioned seemed now to act with much advantage, but the amendment was not constant. Some days after, the patient complained again of severe pain in the region of the stomach, particularly towards the left side. She felt a sense of weight which she had not experienced before. It seemed to her as if, on certain motions of the body, a heavy mass pressed on the left and lower part of the epigastric region. She had no appetite, frequent nausea, and had become very feeble. Various remedies, both external and internal, were tried, till the occurrence of a phenomenon, very surprising to the physician, but very salutary to the patient. She felt an extraordinary desire to go to stool, and voided in one day, after several evacuations, sixteen bladders of various descriptions; some were burst, other entire; some were of the size of pigeons' eggs, others were nearly as large as hen's eggs. Most of them were of the oval form. The membrane which composed these bladders was thin, but so firm that those which were yet whole might be taken up with forceps without danger of being broken. After being placed some time in water, the membrane might easily be separated into two lamina or leaves. Some of the bladders had a sort of pedicle, by means of which they probably attached themselves to the inner coat of the intestinal canal. In those which had not these pedicles, small round holes were observed, and these bladders appeared to have been detached from their pedicles. Some of them were filled with a limpid, transparent, gelatinous substance. On the following days, the patient again voided by stool about fifty more of these bladders. Several days after these evacuations, she experienced a disagreeable taste, with a stinking smell. Repeated vomitings occurred, in which, at first, she rejected bladders exactly resembling those voided by the anus, and a great quantity of viscous masses, which according to the patient's account were of the size and form of a boiled egg, and of a yellow colour: they diffused a fœtid stench. After these evacuations, she experienced a sense of emptiness in the region of the stomach, and in the left side of the abdomen, as if, according to her expression, the stomach and part of the entrails had been removed from her. Since this epoch she has been free from every inconvenience.

Died lately, at Gloucester, after a few days severe illness, Charles Brandon Trye, Esq. F. R. S. and senior surgeon to the Gloucester Infirmary. A man that will be long regretted by the thinking part of

of that community; not only as a surgeon, but as a man extremely useful in various undertakings of national concern, such as rail-roads, canals, &c. in the planning of which he evinced great genius. As a surgeon, his practice was extensive, and his success great. Many arduous and difficult operations he performed, which ended in perfect cures, after others of eminence had shrunk from the task. His operations were conceived and executed from a perfect knowledge of the structure of the human body, attained by a well grounded education, and constant intense study through life. He was educated under the eminent surgeon, Mr. Russell, of Worcester, then with John Hunter, was house-surgeon to the Westminster Infirmary, and afterwards assistant to the very ingenious and scientific Sheldon. He was for some time house-surgeon and apothecary to the Infirmary in Gloucester. Shortly after he quitted that situation, he was elected surgeon to that charity, an office which he filled for near thirty years, discharging its duties with great credit to himself; while those placed under his care were sensible of the advantages they possessed from his assiduous attention to their sufferings. He trained up several surgeons, many of whom are exercising the medical profession in various parts of the kingdom, with credit to their preceptor, honour to themselves, and utility to mankind. As an author he was well known in the literary part of the medical world. He published a reply to Jesse Foot's attack upon the Practice and Writings of John Hunter.—Observations on Retention of Urine.—An Essay on the Swelling of the Lower Extremities, incident to Lying-in Women —Illustrations of some of the Injuries to which the Lower Limbs are exposed.—Essay on some of the Stages of the Operation of Cutting for the Stone.—And several papers of a miscellaneous nature connected with the profession, in various periodical publications. He was a steady friend and promoter of the vaccine inoculation.

Dr. Metternich has lately used the *rhododendrum chrysanthum* in gout. Koplin had already given a decoction of the stem and leaves. In this form it produced vomiting, hypercatharsis, and vertigo. Dr. Metternich gave the powder in doses of ten to forty grains in the day, at three or four times, according to the strength and sensibility of the patients. The remedy should be continued several weeks. In some cases the gout was radically cured by it. It also proved useful in rheumatic pains, which began with fever and swelling of the hands and feet.

The operation for the varicous *Vena Saphena major* has very lately received considerable improvement. The mode of operating formerly employed was too frequently followed by fatal results. The present method, the improvement of which consists in removing the ligature from the vein in a few minutes after its application, we are assured is always effectual to obliterate the canal of the vessel, and has not yet been succeeded by any untoward circumstance. We are informed that Mr. Freer of Birmingham has employed the operation, thus modified, several times with complete success.

Continued from page 420.—Tables of the deaths by Small-pox in London, in the twelve years preceding the practice of Vaccination, and in the twelve years immediately succeeding the introduction of that disease.

1. Deaths by Small Pox preceding Vaccination in the first four years.

1	In	1787	2418
2		1788	1101
3		1789	2077
4		1790	1617
			7213

In the second Four Years.

1	In	1791	1747
2		1792	1568
3		1793	2382
4		1794	1913
			7610

In the third Four Years.

1	In	1795	1040
2		1796	3548
3		1797	522
4		1798	2237
			7347

2. Deaths by Small Pox during the Vaccine practice, in the first four years.

1	In	1799	1111
2		1800	2409
3		1801	1461
4		1802	1579
			6560

In the second Four Years.

1	In	1803	1202
2		1804	622
3		1805	1685
4		1806	1158
			4667

In the third Four Years.

1	In	1807	1297
2		1808	2257
3		1809	1163
4		1810	1198
			5915

The total number of deaths by Small Pox in twelve years previously to Vaccination, amounts to - -	22,170
Ditto, subsequently to Vaccination - -	17,122
	5,048

the number of deaths in the first twelve exceeding the number in the twelve succeeding during vaccination, *i. e.* about 420 persons per annum fewer for twelve years died since, than before Vaccination.

Dr. Wigan of Hamburgh has employed the following remedy, with great success, in croup. According to the age of the patient, he gives two, three, four, or five grains of calomel, with half a grain, or a whole grain of musk, every hour till vomiting of mucous matter takes place. This generally occurs after the third dose. The matter vomited has the appearance of greenish-yellow cream, of puriform consistence. As soon as the vomiting is excited, there is reason to expect a successful issue, and the powder should then be given only every two or three hours. At the same time, with the intention of favouring the vomiting, Dr. Wigan gave every hour, or every two or three hours, two or three table spoonfuls of a mixture

ture of oxymel of squills, syrup of senega, sal ammoniac, and antimonial wine of Huxham. Mercurial ointment was also applied to the neck and upper part of the chest and shoulders; and a warm bath every six or eight hours.

On Wednesday, October 2d, 1811, the Society for Relief of Widows and Orphans of Medical Men in London and its Vicinity, held their half-yearly general court at the usual place of meeting, the Gray's-inn coffee-house, Holborn; when the annual election of Officers, and Directors took place, and the following gentlemen were elected into office for the year ensuing.

PATRON, His Royal Highness the Duke of Kent.

PRESIDENT, James Ware, Esq. F. R. S. &c.

VICE-PRESIDENTS, Sir F. Milman, Dr. Garthshore, Dr. Lettsom, Dr. Blane, Dr. Squire, Dr. Dennison, Sir W. Blizard, Mr. Heaviside, Mr. Howard, Mr. Nevinson, Mr. Moore, and Mr. Rendall.

TREASURERS,—Dr. Denman, Dr. John Sims, Dr. Dennison.

DIRECTORS.—*Physicians*, Dr. Frampton, Dr. Walshman, Dr. S. H. Jackson, Dr. Marcet, Dr. R. Pearson, Dr. Croft, Dr. Haworth, Dr. Adams.—*Surgeons*, Mr. Milward, Mr. Steele, Mr. H. L. Thomas, Mr. C. M. Clarke, Mr. Ramsden, Mr. Lewis, Mr. Tho. Blizard, Mr. Chevalier.—*Apothecaries*, Mr. Coates, Mr. Seaton, Mr. Starr, Mr. Malim, Mr. Pillinger, Mr. Moore, jun. Mr. Wheeler, and Mr. Hunter.

SECRETARY,—Mr. Wm. Chamberlaine.—COLLECTOR,—Mr. Geo. Hunt.

This Society was instituted in the year 1788. Its capital is now eighteen thousand four hundred pounds, three per cent. consolidated Bank annuities, and two hundred pounds Navy five per cents. out of the interest of which, down to the 18th of September in the present year, 1811, the sum of three thousand three hundred and forty-eight pounds, three shillings, has been distributed among the Widows and Orphans of deceased Medical Men, Members of this Society, many of whose families have been left without any provision whatever.

A very ingenious and important improvement has lately been made on the Midwifery forceps, by Mr. James Davidson, Surgeon, in Perth, which consists in locking the two ends thereof round the neck of the child in the uterus, hitherto deemed impracticable; by means of which, the instrument is prevented from the possibility of slipping, the head entirely surrounded and secured, and the child extracted with ease, certainty, and expedition, in all head cases of difficult labour. It has been already tried in several instances with complete success, and may be the means of saving many lives.

Hufeland has lately recommended belladonna in hooping-cough. It has often produced favourable effects in a few days, in cases even where opium and musk had been inefficacious. The dose for children from three

three to six years, is a quarter of a grain night and morning; in some cases the dose may be increased and repeated oftener.

Russel Institution. Mr. George Singer will commence a course of Lectures on Electricity at this Establishment, towards the close of December. These Lectures will include the History, and Practice of the Science; its application to the Solution of natural Phenomena and the promotion of Chemical knowledge. They may be considered as a popular abstract of an extensive series delivered last year at the Scientific Institution, of which some account is given in a former volume of this Journal.

Dr. Squire's Lectures.—Dr. Squire will on Saturday, December 14, begin a Course of Lectures on the Principles and Practice of Midwifery, and the Diseases of Women and Children.

Account of Diseases in an Eastern District in London, from the 20th of October to the 20th of November, 1811.

ACUTE DISEASES.		Hæmorrhagia Intestinalis	3
Typhus Mitior	3	Amenorrhœa	2
Peripneumonia	2	Dysmenorrhœa	4
Dysenteria	6	Dysuria	6
Cholera	4	Rheumatismus Chronicus	10
Rheumatismus Acutus	2	PUERPERAL DISEASES.	
CHRONIC DISEASES.		Ephemera	5
Tussis	10	Dolor post partum	6
Dyspnœa	5	Dysuria	5
Tussis cum Dyspnœa	9	Diarrhœa	7
Hæmoptysis	4	Menorrhagia lochialis	3
Pleurodyne	3	INFANTILE DISEASES.	
Hydrothorax	4	Scrofula	3
Apoplexia	1	Tabes Mesenterica	4
Paralysis	2	Pertussis	3
Diarrhœa	9	Convulsio	1

It is at this season of the year that our principal attention is called to those diseases which have their seat in the intestinal-canal. Diarrhœa, dysentery, and cholera, make a principal figure in a list of diseases. These have by some been attributed to an unusually large quantity of fruit, and which, in the present season, has not been in its most perfect state. To whatever cause, however, they may be attributed, they have not appeared in their most malignant form. The first of these has been so mild as not, in many instances, to require medical attention, and might be considered rather as a salutary effort of nature, to throw off something offensive to the constitution, than as producing a distinct disease. Where the intestinal discharge has been long continued, and has been accompanied by mucous and

bloody stools, rather than by a large evacuation of fœces, the disease has assumed a more serious aspect. It is then generally accompanied by some febrile symptoms, and sometimes proves contagious. The seat of it is in the larger intestines, and it has been referred to a spasmodic stricture of the colon and a detention of hardened fœces. The cure has too often been attempted by the use of astringent remedies, which, instead of removing the cause, have rather aggravated the symptoms; whilst the free exhibition of cathartics has proved highly useful in the removal of large quantities of accumulated fœces.

The removal of this source of irritation has been followed by a considerable diminution of the number of stools; and those severe gripings, and that troublesome tenesmus, by which they have been attended, have been relieved.

BOTANICAL REPORT.

We are glad to accept, at irregular periods, now and then, a Number of the Botanist's Repository. Since we last mentioned this work in June, we have received only one number, and that one less interesting than some others. We shall proceed to enumerate its contents.

Trichilia *odorata*. Native of the West Indies, and consequently with us an inhabitant of the bark-stove. It corresponds so well with Swartz's character of *moschata*, that we suspect it to be the same; for though described here, as having four petals, it appears by the figure to be monopetalous. Sloane's figure referred to by Swartz as a synonym of his *moschata* will not decide the question. Perhaps though said by our author to be a West-Indian plant, it may after all be a native of New Holland.

Daviesia *latifolia*. An elegant shrub of the papilionaceous order, nearly related to D. *corymbosa* of Dr. Smith. The fine golden flowers are produced in long upright racemes from the axils of the leaves. Native of New Holland; and communicated by Mr. Milne from Fonthill; but is likewise to be met with in some of the nurseries about town.

Carex *Fraseri*. We have mentioned this singular plant before in our Report of the Botanical Magazine. In the representation given here both edges of the leaf are equally crenulate, and not quite entire on the inner margin, as described and figured in the Botanical Magazine.

Heliconia *Bihai*, or Wild Plantain-tree. There is a very good figure of this plant in Thomson's Botany displayed. The younger Linnæus mistook one of the species of Strelitzia for this plant, and his alterations of the specific character consequently belong to that. But although Swartz in his *Observationes* had long ago pointed out this error, yet in the latest publication we have of a general system of vegetables, viz. *Persoon's Synopsis*, the corolla is said to be *crocea*,

the

the nectarium *cæruleum;* characters belonging to Strelitzia *Regeniæ* and not at all to this plant, so much easier it is to mislead than to set right again.

We have yet two numbers of the Botanical Magazine unnoticed in our Report; the contents of which are

Lilium *monadelphum.* A new species of Lily, of the same colour and form nearly as the yellow variety of Lilium *Pomponium.* Native of Mount Caucasus.

Watsonia *strictiflora.* A new species introduced from the Cape by the Hon. Wm. Herbert.

Moræa *Sisyrinchium.* This bulbous-rooted flower is a native of the southern parts of Europe and the northern of Africa: and was well known in our gardens in the time of Parkinson and Gerard, yet of late years it seems to have been quite lost. The present drawing was made from a plant received from Gibraltar by Mr. Vere of Kensington Gore. The older botanists saw the difference in this plant and Iris, and called it Sisyrinchium. Linnæus and most botanists since his time have considered it as a species of the Iris. And Mr. Ker, in the Annals of Botany, first added it to Moræa; in which he has been followed by the author of the new edition of Hortus Kewensis. Before the labours of Mr. Ker indeed the distinction between Moræa and Iris were not at all understood; and the only solid and certain character which distinguishes them this author himself now places in the bulbo-tuberous root of Moræa; for want of which Moræa *Iridoides* is now directed to be added to Iris with the specific name of *Moræoides.* It must be acknowledged that this is departing from the Linnæan principle of taking the generic character from the parts of fructification only.

Allium *obliquum*; a very rare species of Garlic, which Mr. Ker has not observed in any collection but that of Mr. Haworth. In a note subjoined to this article, Mr. Ker has referred the plant figured in the Rare Plants of Hungary under the name of Allium *amplopratum,* and which he had before considered as variety β of that species, to Allium *arenarium,* of which latter species he is now convinced that it is a mere variety without bulbs, and a fresh proof of the fallacy of distinguishing the species of this genus by their having bulbiferous or capsuliferous umbels. We are however of opinion, from long observation, that, as cultivated in our gardens, the capsuliferous and bulbiferous species continue very constant to their character. Mr. Ker may nevertheless be very right in his opinion, because however constant the character may remain in the same climate, it does not follow that the whole may not depend upon climate: and the capsuliferous species in the south may become bulbiferous in the north, and vice versa, the same species that are bulbiferous in a northern may be capsuliferous in a southern climate.

Bryophyllum *calycinum.* A genus first constituted by Mr. Salisbury in the Paradisus Londinensis. It received its name from the very curious circumstance, that it puts forth a germinating bulb from each crenature of the leaf. Thus, in attempting to dry this

plant by placing it between folds of paper. Dr. Sims found tha the bulbs were produced from each crenature, though there wa appearance of them before. Differs from cotyledon in being o drous, and having the limb of the corolla divided into four ins of six segments, from Calanchoe in having the filaments placed one equal row. This figure is beautifully drawn, engraved, coloured, and appears to us to equal the expensive figures of Hortus Schoenbruensis.

Gentiana *septemfida*. A mere variety of the one figured before the same work, and apparently repeated here by an oversight.

Liatris *spicata*. Native of North America, whence it was introduced by Mr. John Fraser. Serratula *spicata*, given as a synonym of this, has however been in our gardens long, and appears to us to be a taller plant, with darker-coloured flowers.

Carolinea *minor*. Probably the first plant of this genus that has ever flowered in this country. Introduced by Dr. Anderson from Guiana, and brought to flower by Messrs. Loddiges of Hackney.

Schisandra *coccinea*. *Sanguinea* or *miniata* would have been better; but the name was given by Michaux, who first described and figured this plant in his Flora Boreali-Americana. This very rare and singular plant was communicated by John Walker, esq. of Arno's Grove, Southgate. It is a monoicous plant, but unfortunately produced only male flowers.

Gentiana *macrophylla*; nearly akin to G. *crueiata*. Dr. Sims has called this plant by the English name of *long-leaved*. We observe, with some surprise, that in the new edition of the Hortus Kewensis it is called *broad-leaved*; though the leaves are long and narrow, and by no means deserving the epithet of broad, nor was *macros* commonly used in composition by the Greeks in any other sense than to denote length.

Aloë *serrulata* of Haworth. For our own part, though we have no objection to having a good number of figures for our money, we should have been quite as well pleased, had this been made into a double plate, when it might have had the advantage of a miniature outline of the whole plant, of which we have repeatedly expressed our decided approbation.

Pitcairnia *bracleata* β. *sulphurea*. Professor Swartz, in his *Prodromus*, characterises this genus under the name of Hepetis. And L'Heretier, in his *Sertum Anglicum*, dedicated it to the honour of Dr. William Pitcairn. Both these publications were printed in 1788. The latter name has been pretty generally adopted; but Schreber, in his edition of the *Genera plantarum*, has retained that of Hepetis. We may make the same observation upon this as the latter; a miniature outline of the whole plant, though it doubled the cost, would have exceeded in value in a still greater proportion.

Aloë *arachnoides* δ. *translucens*. Haworth considers this a distinct species, in which he has been followed in the Hortus Kewensis. Mr. Ker makes it only a variety. Our opinion is, that while plants so distinct in external habit as the different species of aloe, are included under

under one genus, it seems most natural to consider such as so nearly resemble one another, as varieties; but where the divisions of this genus, which we hinted at in a former Report, separated into so many distinct genera, all the four varieties, as they are called, of *arachnoides*, would be by general consent considered as so many species, as there can be little reason to suppose that they are really seminal varieties from the same stock.

Aletris *farinosa*. This plant, a native of Virginia, is the one on which Linnæus first founded his genus Aletris, he afterwards added several species from the Cape, which have been since separated under the names of Veltheimia and Tritoma. The whole genus is now limited to the species here figured, another from the same country, and a third from Japan.

This number finishes the 34th volume of this extensive work, containing 1418 figures of plants, all drawn and coloured from nature, equalling in accuracy, and often in elegance, the most expensive botanical figures.

NATURALIST'S MONTHLY REPORT.

OCTOBER.

The fading, many-coloured woods,
Shade deepening under shade, the country round
Embrown.

THE wind has been more or less westerly during nearly the whole of the month. On the 3d and 4th it was south-east; on the 14th, 15th, and 17th, southerly; on the 27th, south-east; and on the 28th, first north, but afterwards south.

I have scarcely any recollection of more boisterous weather in a given number of days, than we have had in the course of this month. There were strong gales on the 1st, 4th, 5th, 7th, 12th, 25th, and 30th; fresh gales on the 3d, 6th, 8th, 11th, 13th, 18th, 20th, 23d, 24th, 27th, and 29th; and squally weather on the 2d, 25th, and 26th.

The only days on which we had no rain were the 6th, 8th, 13th, 15th, 16th, 17th, 18th, 19th, and 23d; and the 17th was the only fine day in the course of the month.

October 1st. There was a thunder-storm this morning, but it was of short continuance.

Honey is this year in considerable abundance, owing, no doubt, in a great measure, to the fine hot weather which was prevalent during the principal part of the month of September. Its price is now considerably less than one-third of what it was this time last year. In the fine afternoons I have seen the bees returning laden from the heaths in such numbers

bers, as to appear almost as though they were young swarms leaving their hive.

October 2. The leaves of the elm, and of several species of willow, fall.

October 4. The leaves of the sumach turn red and fall.

The pewits begin to collect in large flocks in the fields.

October 7. Owing to the late rains the rivers and brooks begin to overflow their banks. It is about this season that the eels are supposed to commence their migration towards the sea, and during the first autumnal floods they are generally caught in immense quantities at the mills and wiers, but as yet very few have been seen.

The winter crops of potatoes are dug up.

October 9th. House-flies begin to appear torpid.

October 11th. During the high wind the rooks dash about and play in a more sportive manner than such heavy birds would seem capable of. They have very evidently great delight in this kind of stormy weather.

October 14th. A woodcock which was shot this day is the first that I have heard of this season.

October 16th. The swallows and martins have taken their leave of us for the present year.

October 17th. The ivy is now in full flower; and flies of various species swarm about the blossoms.--Michaelmas peaches are ripe.

The upper leaves of the poplars, and the leaves of the weeping willow, the mulberry, some of the pollard ashes, and sallows, are yet left. Those of the elm and lime trees are quite gone.

October 18th. Mushrooms, which, a little while ago, were found in great abundance, are again become scarce.

It is a singular fact that several chafers *(scarabæus melolontha)* have, at different times lately, been seen in flight. When caught they appear to be very languid and weak.

October 20th. The Royston crows are returned.

October 23d. The fruit of the elder, barberry, black thorn, woodbine, holly, hedge-rose, spindle-tree *(Evonymus Europæus)*, black briony *(tamus communis)*, woody nightshade *(solanum dulcamara)*, and dogberry *(cornus sanguinia)*, is now ripe..

Starlings begin to collect together in large flocks; and the linnets and other small birds also congregate.

October 28th. Fieldfares are seen. The leaves of the hawthorn are quite gone.

October 31st. I scarcely recollect to have seen the gossamer floating in the course of the whole autumn. The wet weather has prevented it.

In consequence of the continued rain very few of the farmers have been yet able to sow their wheat. The summer fallows are completely drenched with wet.

The crops of acorns and beech mast, like those of the hazel nuts and walnuts, have in this neighbourhood almost wholly failed.

Hampshire.

METEOROLOGICAL TABLE.

From October 26, to November 26.

D	Therm.			Barom		Hygrom. dry——damp			Winds.	Atmos. Variation.
27	48	53	50	29⁹	—	20	—	23	SE . .	F .. — .... R .. F..
28	49	53	48	28⁹	—⁸	21	—	24	E . .	F ... — .. R ....
29	46	52	50	28⁹	29²	22	20	22	NW . . .	R.. F. R. F.... R...
30	50	55	53	29¹	—	23	30	—	S . .	R ... F . R ....
○ 31	48	—	51	29⁵	—⁹	26	—	30	SW . .	F.. — ... R.. — ...
1	58	60	61	29⁷	—	32	38	35	S . . .	C .... R ... — ....
2	62	65	61	29⁷	—⁵	42	—	44	SW . . .	C .... R .. — ...
3	56	57	54	29⁶	—⁷	36	30	30	SW . .	F... C .. R ...in N.
4	53	56	49	29⁷	30	30	28	25	SW . . .	F ... R. F....
5	53	—	50	29⁸	—⁹	33	—	32	W . . .	R .. — ... F ...
6	49	53	51	29⁹	—⁶	30	—	36	W . .	R . C ... R .... —...
◑ 7	50	—	47	29⁵	—⁶	35	23	30	W . .	F ... —.. R... inN.
8	45	49	51	29⁵	—⁴	26	30	36	E . .	C... R.. —... C....
9	49	53	52	29⁶	—⁷	36	31	35	SE . .	C .... F .. C ....
10	53	52	49	29⁴	—³	38	26	33	SW . .	R .... F ... R ...
11	45	51	47	29³	—⁵	30	—	32	W . . .	F ... C ... F ...
12	41	51	45	29⁹	—⁸	30	—	33	NW .	F ... C ... F.. R....
13	51	50	43	29⁵	—⁷	38	28	30	W . .	F ... R .. F ....
14	43	53	45	29⁷	—	30	33	26	W . .	F .. R .. F ....
● 15	43	44	39	29⁶	—⁵	28	17	25	W . . .	F....—.... R.. inN
16	42	47	44	29⁵	—⁸	26	—	24	NW . . .	F ... — .. — ....
17	43	46	—	30	—²	24	—	25	N . .	F ... C.. R .. C ....
18	48	50	48	30²	—³	36	30	25	W .	Fog ... R .. F ...
19	48	50	44	30²	—³	30	24	19	W . .	C... F ... —... C...
20	41	54	41	30³	—	26	20	21	N . .	F ... — .... C ...
21	37	42	40	30³	—	21	20	21	NW .	Fog ... F .. C ..
22	40	43	40	30²	—	22	19	22	NE . .	Fog ... F .. — ....
◐ 23	33	40	38	30²	—	21	—	—	N .	Fog ... — .. F ..
24	38	44	40	30²	—	21	25	27	NW . .	F ... — .... C ..
25	40	48	46	30³	—	23	26	26	NW .	F... C... R. F...
26	44	46	45	30³	—⁴	24	20	19	NW .	C ... F . C ...

Quantity of rain from October the 26th to November the 26th, 3 inches $\frac{33}{100}$. On twenty days of this interval there was rain, and on four days very considerable fog. On the 23d and morning of the 24th, stagnant waters in the neighbourhood of London were covered with ice.

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MONTHLY CATALOGUE OF MEDICAL BOOKS.

A Treatise on the Diseases of Children, with Directions for the Management of Infants from the Birth. By Michael Underwood, M. D. Licentiate in Midwifery of the Royal College of Physicians in London, Physician to her Royal Highness the Princess of Wales, and late Senior Physician to the British Lying-in Hospital. In 3 Vols. The Sixth Edition, Revised and Corrected

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NOTICES TO CORRESPONDENTS.

Mr. Knowles, in reply to a Norfolk Practitioner; Mr. Spencer on Cynanche Trachealis; Studiosus Medicinæ, &c. &c. in our next.

We are grateful to Mr. Machell for his excellent cases in support of bleeding in Scarlatina Anginosa; to which we earnestly request our readers attention; and that, as the practice is hardly yet sufficiently established, they will favour us with the result of their experience on this most important subject.

We also solicit Communications from Gentlemen residing in our Colonies, or whose military or naval duties may lead them to distant quarters of the globe, on the progress of Vaccination; for the question is yet augmenting in interest and importance.

The letter of Mr. Pearson, in our present Number, is highly satisfactory.

From Mr. Mann's Account of New South Wales, published this year, we learn that Vaccination was successfully introduced with the colony there, in 1804; but that it has since been wholly lost. On this subject we entreat information. It appears that Small-pox at intervals produces the most dreadful ravages amongst the natives of New South Wales, and is held in so much horror by them, that they immediately desert, and suffer to perish without assistance whoever is unfortunate enough to be seized with the malady. Perhaps this may be the most effectual means of preventing the infection from spreading, but humanity revolts from the practice; and it at least demands the attention of Government to cause the effectual re-introduction of Vaccination amongst those unhappy people.

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