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MEDICAL COMMENTARIES

FOR THE YEAR M.DCC.XCIII.

EXHIBITING A CONCISE VIEW OF THE
LATEST AND MOST IMPORTANT DISCOVERIES
IN MEDICINE AND MEDICAL PHILOSOPHY,
COLLECTED AND PUBLISHED BY
ANDREW DUNCAN, M.D.F.R.&A.S.S.Ed.

PHYSICIAN TO HIS ROYAL HIGHNESS THE PRINCE OF WALES
FOR SCOTLAND,
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH,
MEMBER OF THE ROYAL SOCIETIES OF MEDICINE
OF PARIS, COPENHAGEN, EDINBURGH, ETC.
AND PROFESSOR OF THE INSTITUTIONS OF MEDICINE
IN THE UNIVERSITY OF EDINBURGH.

Neglecta reducit, sparsa colligit, utilia seligit, necessaria ostendit, sic utile.
Baglivius.

DECADE SECONDO,
VOL. VIII.

EDINBURGH:
PRINTED FOR G. G. J. & J. ROBINSON, LONDON;
AND
PETER HILL, EDINBURGH.
M.DCC.XCIV.
TO

Dr. Augustus Gottlieb Richter,
Professor of Medicine

In the University of Göttingen, &c.

As a Testimony

Of sincere Esteem,

This Volume of

Medical Commentaries

Is respectfully inscribed

By his most obedient Servant,

Andrew Duncan.

Et si vero expatiari libeat, per multisces, additasse rerum causas, sine ad interiores tuæ pætoris recessus penetrare animus fit; et videre quo spiritu perennis vixt focus, cæu somite ac flabello accenditur aliturque; in variis hujusce opusculi exercitationibus, ni fallar, invenies, quæ subievoas saltem aliquot horas contemplatione nec inutili, nec injucunda excipiant.

Mayow.
HOW far our readers in general will be disposed to think favourably of different new doctrines, an account of which is given in the present volume, we cannot pretend to say. But we may safely venture to assert, that the experiments of Drs Valli and Fowler, respecting Animal Electricity, a subject which, although it has of late engaged the attention of almost every eminent medical philosopher, may yet be considered as hitherto little more than broached, must open to every candid inquirer a very extensive field of future investigation. The conjectures and opinions of Drs Trotter.
ter and Beddoes, respecting the pathology of many common and obstinate affections, are supported by such ingenuity, and lead to such alterations in practice, that they justly merit the most attentive consideration. The same remark may with equal propriety be applied to Mr Seguin's observations on Respiration and Animal Heat, and to Dr Webster's facts respecting the connection of the stomach with Life, Disease, and Recovery. But, besides hypotheses still requiring farther confirmation, the reader will find, in the present volume, many important practices recommended on the solid basis of extensive experience, which have not, perhaps, been hitherto adopted so generally as they deserve. These it is unnecessary, and would perhaps be improper to particularize. We must, however, be permitted to say, that, in our opinion, the mode of operating in Hydrocele,
Hydrocele, which has proved so successful in the hands of Mr Earle, cannot be too soon adopted by every practitioner who is anxious to consult the ease and safety of his patient.

Our best thanks are due to those ingenious and industrious Correspondents who have furnished us with original observations. And while these have already afforded useful lessons to themselves, we can have no doubt that the communication of them to the public will now prove instructive to others.

Future communications intended for this work, which cannot with ease be directly transmitted to Dr Duncan at Edinburgh, may, as formerly, be addressed to the care of Messrs Robinsons, booksellers, London.

Edinburgh, }
Dec. 2. 1793. }

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COMMENTS, FOR THE YEAR 1793.
VOL. VIII. DECADE II.

SECT. I.

Account of New Books.

I.

Experiments on Animal Electricity, with their Application to Physiology; and some Pathological and Medical Observations. By Eusebius Valli, M. D. Corresponding Member of the Royal Academy of Sciences at Turin. 8vo, London. 1793.

In the last volume of these Commentaries, we promised an account of the different letters of Dr. Valli, relative to animal electricity, inserted in the Journal de Physique. In that work, his experiments were publish-
ed in the order in which they were imagined and performed: in the one before us, they are arranged and commented on. By the first method of publication, curiosity is more fully satisfied with respect to the progressive order of his discoveries, but the latter is more useful.

In the first part of this work, Dr Vallis gives a concise account of the discovery of electricity, and of the principal steps rendering our knowledge of the phænomena of the electrical fluid more perfect. Some physiologists supposed it to be a principal agent in the animal economy; others rejected this opinion as a mere hypothesis. Our author considers this question as at present decided.

"Professor Galvani of Bologna," says he, "has discovered in animals an electricity peculiar to them, and which performs the office of the nervous fluid. For this beautiful discovery, he was indebted to a fortunate accident. While dissecting a frog in a room where some friends were amusing themselves with an electrical machine, one of them drew a spark from the conductor, at the same time that the Professor touched one of the nerves of
of the animal. In an instant the whole body of the frog was shook by a violent convolution. The Professor was astonished at the phenomenon, and believed it owing to his having wounded the nerve. To assure himself whether this was really the case, he pricked it with the point of his knife, without any motion of the body being produced. He now touched the nerve with the instrument, as at first, and ordered a spark to be taken from the machine, on which the contractions were renewed. The experiment was repeated a third time, but the animal remained motionless. However, on perceiving that he held his scalpel by the handle, which was of ivory (a bad conductor), he changed it for a metallic one, and re-excited the movements, which he constantly failed of doing while using an electric substance."

Several other accidental phenomena attracted the attention of the Professor. As he held, with one hand, a frog by a hook fixed into its spine, he happened with the other to touch a silver cup, on which its feet rested: the body of the animal at that instant
instant fell into violent convulsions. He placed a prepared frog upon a non-conducting surface, and brought one end of a conductor in contact with the hook which secured the animal, and with the other touched its feet; on which the contractions took place. When the conducting arch was interrupted by a non-conducting substance, the frog remained motionless.

These experiments of Professor Galvani excited the curiosity of our author, and induced him to prosecute the subject.

Having laid bare the spine of a frog, he cut away all the vertebrae from that which gives rise to the crural nerves. This he enveloped with a piece of sheet lead. With one end of a metallic conductor he touched this coating, and with the other the surface of the thighs, previously stripped of their skin. The movements were violent, and continued for a long time.

No motions were excited in the heart of a dog, although the eighth pair of nerves were coated, while that viscus was reeking and hot. This experiment was repeated on four dogs and a horse, with the same result.

The
The nerves of a fowl’s wing were laid bare, without killing it: the scissors passed under them served as a coating, and a crown-piece as a conductor. The movements were very smart. During these discharges, the animal appeared perfectly tranquil. After repeated excitations, the wing became motionless, notwithstanding recourse was had to a leaden coating, and a copper conductor. To ascertain whether this was owing to a state of insensibility, or want of energy, or to the muscular fibres being fatigued, the nerves were pricked; on which the animal screamed violently, and shook its wing with considerable force. A silver conductor was again tried, but still without effect. In the mean time, from other branches distributed upon the wing, movements were obtained by the common means. This experiment also answers on a wing detached from the body, provided the nerve be not divided near the muscle; for in that case, the movements do not take place. Pricking the nerve is also inimical to the experiment.

In frogs, the case is different. Whether the nerves be left attached to the spine, or
separated from it, the motions constantly occur. And it appears, from our author's experiments, that the limb of a frog, the nerve of which has not any communication with the rest of the system, preserves its vitality longer than a limb under opposite circumstances. On touching the coating of an uncut nerve, and the muscles of the corresponding thigh, with a conductor, in some cases, no contractions have taken place, although the frog moved its leg from time to time. In other examples, where it seemed completely deprived of spontaneous motion, the application of the conductor has caused violent convulsions.

Of all animals on which Dr Valli has made experiments, frogs, he observes, retain their vitality the longest. He informs us, that he has not met with any that retained this power longer than twenty-four hours, nor with any in which it has disappeared in less than four. If prepared frogs be left in water, they lose their irritability in less than four hours.

Animals with warm blood present us with different phænomena. The wings of fowls left
left prepared for a quarter of an hour, he observes, have only given a few slight tremblings. If, however, their electricity be excited immediately after they are prepared, the movements last an hour, or even longer. "Does this excitement support life, instead of destroying it?" In a dog, whilst one of the fore legs gave strong shocks, the other, hitherto untouched, was prepared, but did not exhibit the least motion.

Our author also found, that by establishing a communication between muscle and muscle of a frog, the electric appearances took place, and even, in some cases, although not deprived of their teguments.

As the movements excited in frogs by these means, are not in proportion to their vigour, our author suspects, that the will of the animal may have the power of preventing the passage of the electric fluid from one part to another, or of destroying its effects. In some instances, the animal seems not to be affected by these discharges; in others, it immediately becomes, as it were, stupefied.

Dr Valli next relates those experiments in which he established a communication be-
tween nerve and nerve. Contractions took place, on touching with a conductor the coating of the spine, and part of the spine above the coating. After repeated excitations, the animal ceased to move on the application of the exciter; but contractions were renewed, by touching the nerves immediately below the coating. When this failed to produce motion, touching them at a lower point again renewed it. From these facts our author concludes, that the nerves possess at every part a vital principle, which perishes in proportion to the repetition and intensity of the shocks, which may be considered as so many electrical discharges. This principle, he observes, also gradually perishes of itself, and always begins to disappear from the highest part.

As these movements take place by means of two metals of a different nature, it might be imagined, that it is the metal itself that affords the electricity. In answer to this, Dr Valli observes, that he has at different times produced shocks by being himself the conductor, and that sometimes one metal is sufficient for the experiment. Contractions are
are excited, by holding the feet of a frog between the rings of a pair of scissors, and inclining them in such a way as to permit the medulla spinalis gently to fall upon them.

Our author concludes, from a set of experiments made to determine the comparative power of metals in producing contractions, that, in general, lead makes the best coating, and silver the best conductor. Covering metals with sealing-wax, diminishes their power of conducting.

Water, and other fluids which give passage to the electrical fluid, our author found likewise capable of conducting animal electricity. This conducting power of water was increased by a gentle heat; but by a great increase of temperature, it was entirely destroyed. Water cooled to the freezing point, our author observes, never afforded passage to the electricity of his frogs. By means of heat, both glass and sealing-wax were rendered capable of conducting it. Amongst men, our author observes, that some individuals are good conductors; others are less so, and some appear to be almost non-conductors.
From a number of experiments, by putting ligatures upon nerves at various distances from the muscle, Dr Valli found, that when in contact with the muscle, a ligature prevented the passage of the electricity; but on removing it farther from the muscle, contractions were produced. He also found, that ligatures made the same opposition to the passage of artificial electricity. From these and similar facts, he concludes,

1st, That when the nerves are tied, the electrical fluid runs off from its direct course when it meets with a better conductor.

2d, That when it has no other course to take, it follows that of the nerves.

3d, That when weak, it either does not pass at all, or, if it does, is not in possession of sufficient power to excite the irritability of the muscular fibre,

Our author thinks, that a common measure for the strength of animal and artificial electricity may be derived from the following observation: If any determined number of degrees of artificial electricity be not sufficient to awaken the muscular movements, and if we can produce them by the native electricity,
electricity, we shall be warranted in concluding, that it is stronger than that determinate quantity of artificial electricity.

The impediment which electricity experiences from ligatures, arises, according to our author, from the approximation of the coats of the nerves, which are therefore bad conductors. As the medullary pulp is of a nature extremely delicate, our author was led to imagine, that, by making it undergo some alteration, changes might be produced in its conducting power.

Opium, applied to the larger nerves, scarcely ever extinguished the vitality immediately, but almost constantly accelerated the death of the parts exposed to its influence. Applied to the extremities of the nerves, it seems to have possessed greater powers; and its action appears to have extended to the origin of the nerves from the spine. After the muscles of live frogs have become insensible to the action of volition on mechanical stimuli, they have obeyed the power of the conductor.

Animals killed by mechanical lesion of the brain, presented the usual phænomena on the
the application of the exciter, except in a few instances, in which the muscles seemed to have undergone some alteration.

Fowls killed by an electric shock through the brain, retained their native electricity, unless the shock had been very strong.

Fowls bled to death were scarcely affected by the application of the exciter: in one example, it put a stop to the convulsions preceding death, which returned when it was not applied.

The muscles of dogs killed by arsenic and cicuta, contracted by the usual means.

Two rabbits and a dog, killed by corrosive sublimate, shewed no signs of electricity.

Some fowls, apparently killed, by immersion in water, resuscitated on exciting the electricity in their wings. In others, it proved ineffectual, and in others produced almost no movement. Their native electricity cannot be excited in persons in a state of asphyxia, as it requires a barbarous operation; but artificial electricity, Dr Valli thinks, may be very applicable in those circumstances. Dr Abilgaard, by passing gentle shocks through the heart and lungs, reanimated
mated fowls apparently killed by violent electrical shocks through the head.

Frogs included in glass vessels filled with hydrogen gas did not at first appear much incommode; in some hours they became restless, and were alternately agitated and tranquil, until they died. On cutting them through the body, the motion of their heart was constantly kept up. In these cases, the irritability of the muscular fibre and vital principle seemed to be retained; but the movements were very feeble. Hydrogen gas did not seem to act with increased power on frogs, in which the heart and brain were exposed.

Nitrous gas is more active. Frogs scarcely inspire it once, when they are seized with the most violent convulsions, succeeded by a seeming total desortion of life. In some minutes, however, their torments begin again; and after a few such alternations, give way to a tranquil death. In these, the motion of the heart is commonly destroyed; that viscus is distended with very black blood. The muscles are occasionally tense and stiff; the movements are then languid, and transient;
at other times they are natural; and in four
instances, they were violent at first, but very
soon could not be excited. The exposure
of the heart did not hasten death; and, in
some cases, its action had ceased, while the
animal continued to exercise its voluntary
motions.

Azotic gas is equally noxious. After the
death of animals by means of it, the heart still
beats. Their flesh and blood were of a beau-
tiful purple colour. The movements were
the same as in those killed by nitrous gas.

Dr Valli next details the experiments in
which he induced gangrene in the intestines of animals. In none of these did he
procure any signs of electricity: he there-
fore concludes, that the action of gangrenous
miasmata upon the nervous system, is more
active than that of poisons or gases.

Animals deprived of sustenance died quiet-
ly, and exhibited no marks of any remains
of vital principle, although examined imme-
diately after death.

Our author thinks that these experiments
point out the greatest analogy between, if
not
not absolute identity of, the native electrical and nervous fluids of animals.

Substances which conduct electricity, are conductors likewise of the nervous fluid.

Substances which are not conductors of electricity, do not conduct the nervous fluid.

Non-conducting bodies, which acquire by heat the property of conducting electricity, preserve it likewise for the nervous fluid.

Cold, at a certain degree, renders water a non-conductor of electricity, as well as of the nervous fluid.

The velocity of the nervous fluid is, as far as we can calculate, the same with that of electricity. The obstacles which the nerves, under certain circumstances, oppose to electricity, they likewise present to the nervous fluid.

Attraction is a property of the electric fluid; and this attraction has been discovered in the nervous fluid. The committee of the Academy of Sciences at Paris placed a prepared frog in a vessel which contained the electrometer of M. Coulomb, charged negatively and positively by turns. In both cafes,
on exciting the animal in the common way, the ball of the electrometer was attracted.

It has been objected to the idea of the nervous fluid and electricity being the same, that we cannot suppose it accumulated in any part of the body, as it is conducted by them all. This objection Dr Valli endeavours to obviate, by adducing experiments, which prove that the muscles, tendons, membranes, vessels, and bones, are conductors of the nervous fluid. By what process it is condensed in any part, in circumstances so inimical to it, our author confesses he does not know; but that it does take place, he is convinced, and appeals to the power that animals possess, of retaining nearly an uniform temperature, although exposed to very various degrees of heat. The muscles appear to our author the organs the best adapted for this condensation; and he points out an analogy between their structure and that of the electrical apparatus of the gymnotus and torpedo.

An Italian author has ascribed to common electricity all the phenomena attributed to native animal electricity.
The circulation of the electricity of metals being supposed, this author founds his subsequent reasoning on the following positions:

1st, Muscular motion takes place in animals, without there being a communication between the two surfaces, supposed to be charged plus and minus.

2d, An extremely small portion of artificial electricity, applied to the nerves, is sufficient to excite muscular motion.

3d, This electricity has not any occasion to pass along the nerves, in order to produce its effect.

In opposition to the theory of this author, Dr Valli, in the first place, observes, that it depends upon an imaginary datum.

The first position is founded upon two facts, the contractions which take place by touching the coating and the nerve itself, with the exciter, and their being produced by establishing a communication between muscle and muscle.

These facts Dr Valli endeavours to obviate, by asking, If there be any point of a muscle destitute of nerves? If that author can conceive in what manner the nerves
communicate with the constituent fibres of the muscles, so as to excite their irritability, why will he not allow these nerves to serve as conductors of the native electricity? This fluid, our author observes, which has a constant tendency to maintain its balance, when once it finds a passage open, pursues it, although under somewhat unfavourable circumstances.

In order to judge of the influence of the electricity of metals, Dr Valli made the following experiments:

He placed ten prepared frogs in a circle, in contact with each other, and laid their nerves on a circular piece of tin, which served as a common coating. He then made a communication, by a narrow shred of tin, between a frog and the metal plate, and they were all strongly convulsed at the same moment. Here, our author cannot conceive how the circulation could take place between two metals which touched each other; and, if it did, how a small quantity of electricity could exert its power upon all the circles.

The legs of a prepared frog were laid upon the head of a live one. On applying the one
one end of the conductor to the coating, and the other to the body of the live frog, the prepared frog was shocked, the other remained motionless. This experiment was repeated, by substituting for the live frog the legs of another, and a detached triceps muscle of the thigh. In both cases, the prepared animal alone was convulsed.

In these experiments, the live animal, the extremities, and the isolated muscle, served as the chain. If the electricity which passed along them did not excite any motions, why did it excite movements in prepared frogs, furnished with coatings?

Dr Vallis grants the second position, with regard to frogs, but adduces some experiments to prove that it does not hold with regard to larger animals; although in them, a small piece of tinfoil, and a shilling, can produce surprising effects.

He also shews, that the action of artificial electricity is destroyed, by making it pass over a metal conductor of great length, or through water, by forming himself a part of the chain; while, on the other hand, the effect
effect of the animal electricity remains unimpaired.

With regard to the third position, Dr Valli observes, that although a stimulus exerted upon the nerves be capable of exciting convulsions, yet there are limitations to this action, even in the case of electricity, the strongest of all stimuli; and that animal electricity does not act, notwithstanding the stimulus exerted upon the nerves, when, by means of a ligature, it cannot follow the direction of these nerves.

Our author concludes his observations on the theory of this opponent to animal electricity, by asking, How it happens that prepared frogs sometimes give shocks on communicating between a coated nerve and the legs, when immersed in water, without having recourse to a metallic conductor, but performing one’s self the office of a conductor? And why in these animals do we constantly produce these phenomena at the first moment, by means only of a metallic conductor, without the nerves or muscles being furnished with a coating?

After
After observing, that the existence of electricity in animals, the power they have of condensing it, and the particular structure of the nerves, by means of which they are enabled to conduct this fluid, without its escaping into, and being dispersed among, the surrounding parts, are three facts which form a stable and assured basis for the doctrine of animal electricity; Dr Valli next endeavours to explain the influence of the electrical principle upon the functions of living animals.

The subjects of which he treats are, Muscular Motion, the Secretions, Sensations and Nutrition, both in the state of nature, and in that of disease.

Of Muscular Motion.

Physiologists acknowledge the existence of three distinct powers in muscles; contractility, irritability, and nervous force. To the last of these our author principally directs his attention.

"When,"

C 3
"When," says our author, "we make use of the term Attraction, we only express an effect. This effect has a cause; and this cause we assert to be Electricity. But in what manner, it may be asked, does electricity operate? Does it irritate the muscular fibre at the instant it passes from one to the other surface of the muscle; and is its equilibrium thus restored?" This opinion, our author observes, he had once adopted; but, on considering it with more attention, it seemed liable to insuperable difficulties.

Each discharge ought to be succeeded by a new rupture of the equilibrium, which could not be effected with the rapidity we observe in the movements, nor perhaps without a constant loss of this fluid, and likewise a more complicated architecture.

The attraction would be the effect of a stimulus, which does not accord with the idea philosophers have associated with the term.

He therefore conceives that the process is carried on in the following manner: "The attraction of the fibrils is owing to the different state or condition of the electricity in the
the muscles; that is to say, that in the state of contraction, the surfaces of the fibrils are differently electrified from what they are in a state of relaxation. Agreeably to this hypothesis, the equilibrium never takes place.”

If by any accident equilibrium should take place, our author imagines that paralysis is the consequence.

To prove that electricity increases the cohesion of bodies, our author quotes the experiments of Mr Symmer, Father Beccaria, Mr Lane, and Mr Henley. This retentive power of electricity, he observes, is constant in the muscles, and lasts longer even than the life of the animal.

The nerves are the only instruments which, in the opinion of our author, nature makes use of for the purpose of changing the state of the electricity in the muscles, and producing movements in them. These nerves must possess an electricity of their own, which he supposes may be the means by which they put the muscular electricity in motion. Our author thinks we are not warranted to conclude that irritability can exist independent of nerves, from their absence.
ence in some animals possessing exquisite irritability; as in these instances there are other organs which perform the same office. The objection, that muscles preserve their irritability, when separated from the animal, merely indicates to our author, that nerves retain their power after their communication with the brain is cut off.

Dr Valli next takes notice of the Voluntary Motions. The nerves are the instruments employed by the mind, in the exercise of its power over the muscles, which are under its command. The mind does not exercise any physical influence; it willeth, and motion takes place. It is equally certain, our author observes, that its commands are succeeded by a change in the origin of the nerves; that this change is extended along their course; and that the parts upon which they are distributed are sensible of its influence, in a degree proportioned to the first impulsion. The origin of a nerve is a small organ, of a very particular design. It is here that the mind holds its empire; and beyond this point its power ceases. To prove this assertion, our author makes the fol-
following observation. "Suppose a frog to be divided into two portions, by being cut across the body; its posterior extremities, the nerves of which are sent from the medulla spinalis, move about in the same way as if they were still attached to the body of the living animal. If the body is divided in its whole length, including the head, the fore-legs make the same motions with the hind ones." Here the air, or any external stimulus, produced a similar effect to what the sentient principle would have produced in an entire animal. Moral and physical causes are also capable of producing the motions subservient to the power of the mind, as in convulsions, laughing, and yawning, arising from sympathy. Dr Valli endeavours to explain the influence of the moon upon nervous affections, by remarking, that its influence on our globe is manifested by the tides; and observing, that "if electricity be not the cause of this phenomenon, at least it does not take place without this principle being put in action: And how is it possible that man can avoid participating in these revolutions, who is himself an electrical
cal machine, and who receives this matter from the air he breathes and moves in, and from the ground on which he treads?"

In catalepsy, our author observes, that the contractions do not cease until the will resume its rights over the body, and cause a new circuit of electricity, and a change of the state of this fluid, to take place. This observation, our author thinks, will also explain the permanent contraction in the flesh of fishes cut to pieces whilst alive, and the stiffness so remarkable in people who have died of the plague, or who have swallowed poison.

In the actions of somnambulists, Dr Valli supposes the mind to have no concern, but that its place is supplied by some physical cause.

**Of Spontaneous Motion.**

There are organs in the animal machine, the operations of which are determined by the action of different stimuli, without the concurrence of the will. Dr Valli supposes, that
that the muscles not under the dominion of the will, are not changed negatively and positively, but that it is the nerves alone which are distributed upon them. This is proved, he thinks, by the following reasons:

1st, The coating and exciter do not produce any change in these muscles.

2d, These muscles do not possess so great a quantity of nerves, as those subjected to the command of the will.

3d, The fabric of the former differs from that of the latter.

4th, Their movements are likewise different.

5th, The electricity discharged by the nerves, is a cause sufficient to produce the effect sought for.

6th, Some experiments, as, for instance, that of the learned Cigna, with silken ribbons, prove, that electricity may exist naturally in substances in the two opposite states.
Of the Sensations.

The brain, the medulla spinalis, and the nerves, are the instruments of Sensation. The quantity of blood which passes through the brain, is enormous. It has been estimated at about a fourth part of the whole mass. This blood, our author observes, after having circulated through it, and afterwards descended by the jugular veins to the heart, is sent back again several times to the brain.

"We are indebted," says our author, "to M. Cotunnio for this beautiful discovery; and he owes it to accident. Being engaged in some inquiries concerning the organs of the voice, he removed a large portion of the cranium of a whelp, and exposed the dura mater, where it covers the upper part of the brain. The longitudinal sinus was almost altogether laid bare; and he imagined that he saw a pulsation in it. On applying the point of his finger, he became confident that there really existed one, which was obscure and interrupted. In order to discover
discover whether this proceeded from the motion of the brain, or was peculiar and proper to the sinus, he made an incision into the dura mater, and bared the brain without injuring the sinus.

"He was now enabled to perceive the motion of the brain, and, at the same time, to judge, by the touch, of the motion of the sinus; and became convinced that these motions were distinct from, and independent of each other.

"To assure himself still farther of this circumstance, he divided the sinus transversely near the sinicrop, and saw, with surprise, that when the dog made an inspiration, the blood flowed slowly from it, as happens in open veins; and when he expired, it escaped in jets, as from a wounded artery.

"On counting the jets, from the moment of the beginning of an expiration to the commencement of a new inspiration, he found them to be constantly three; but when the animal was dying, they became so frequent that his eye could no longer follow them.

"The
"The sinus was divided into two portions; one towards the forehead, and the other towards the occiput; but the blood flowed with force only from the occipital part, which showed that it was thrown back to the sinus by the superior vena cava and jugular veins.

"The Doctor farther observed, that the jets of blood corresponded with the systole of the heart; and that the motion of the jugular veins was synchronous to that of the arteries.

"Being astonished at this unexpected phenomenon, he endeavoured to discover by what mechanism this reflux took place; and as he enjoys an eminent share of address, as well as of judgment, his efforts were crowned with success.

"Thus he observed, that the left sinus of the heart, when turgid with blood, as it always is in the time of expiration, by the emptying of the pulmonary vein into it, pulsits against the posterior paries of the right sinus, in consequence of which is raised up an isle or dam, which advances so as to occupy the passage which might remain between
between the two caveæ, and fills it up in such a manner, that it nearly touches the anterior face of the right ventricle almost in the middle, and divides it into two parts, one superior, and the other inferior. The upper current of blood entering into the superior part of the sinus, and meeting with this barrier or isle, instead of descending to the bottom of the sinus, is directed obliquely (for the isle here presents a convex surface) against the upper part of the auricle; but this cavity being likewise muscular and irritable, at the instant the blood strikes against it, contracts violently, forces it against the superior cava, and makes it mount to the head. This blood is obliged, by its gravity, to fall again into the auricle, but is again chafed upwards, so that it ascends and descends alternatively, combated by the same powers, till a new inspiration takes place.

"By the inspiration, the air enters the thorax, the diaphragm descends towards the abdomen from behind forwards, compresses the extremity of the inferior cava, and closes its extreme orifice, which opens into the bottom of the right sinus. The eustachian valve,
valve, which spreads itself before this orifice, closes all that the diaphragm had left open. At this moment, as the left sinus ceases to be turgid with blood, the isle disappears, and the blood of the superior cava, not meeting any further obstacle, descends, and passes freely into the ventricle.

"By this admirable mechanism, the two opposite currents of the superior and inferior cava are introduced into the ventricle at different times, and separately; so that the one current does not interrupt the entrance of the other.

"The author has farther remarked, that the interior surface of the whole auricle is divided into two parts, the limits of which are marked out by a different fabric.

"The superior has lacertuli, the arrangement of which is suited for forcing the blood from below upwards; and the inferior part is disposed in such a way as to impel the lower current from right to left in the right ventricle." M. Cotunnio's observations on this subject, are published in the Atti della Reale Accademia di Napoli, A. 1788.

Although
Although this reflux of the blood favours its accumulation in the brain, yet, as there have been instances of well formed animals born without a brain, Dr Valli does not think that the brain is the secretory organ of the nervous fluid, and that it furnishes it to all the nerves; but, from the structure of these, he is led to consider their parallel fibres as so many electrophori; that the electricity of each is excited apart; and that each apart impresses a stroke upon the brain, which is proportioned to the impulse they receive, and to the excitation of their electric matter. In this manner, our author supposes, that one of these may give rise to numberless distinct impressions.

Dr Valli also endeavours to shew, that the seat of all acute diseases is in the nervous system, and that they are to be ascribed either to a diminution or augmentation of its energy.

Of the Secretions.

The power, by means of which the different organs of the animal body separate different
ferent substances from the mass of fluids, is a mystery in physiology. This power, whatever it may be, is, in our author's opinion, regulated and governed by the nerves. Every nerve possessing a specific sensibility of its own, is only excited by the contact of substances, which are in relation to it. At this excitement, they impel into action the machine upon which they are expended, and which they govern.

The sudden changes which the secretions undergo, particularly in consequence of the passions, our author thinks, can only be owing to the nervous influence.

Of Nutrition.

Nutrition is the work of the blood-vessels. Their number, as well as their minuteness, is extreme; and the power by which they select the nutritive matter proper for every distinct part of the body, is entirely unknown. This power, Dr Valli thinks, is certainly the same with that which produces the
the secretions, and, like this too, is equally under the dominion of the nerves.

"If," says our author, "it were now to be asked, by what means the nerves act? we could only observe, that they act by means of a matter, the subtlety and velocity of which are exceeding great; and that this matter can only be electricity. If, instead of electricity, we were to substitute any other known agent, we should have to encounter insurmountable difficulties in the explanation of the several phænomena. If any one were to suppose a particular fluid, we would ask him to demonstrate it. It is demonstrated, he might answer, by its effects. Let him analyze these effects, and he will discover, in spite of every prejudice, the existence of a matter identical with electricity."

In an Appendix to this work, Dr Valli relates several phænomena which have induced him to suppose, that electricity has probably a great share in the production of animal heat; and he there informs us, that he means to investigate the subject farther.
Experiments and Observations relative to the
Influence lately discovered by M. Galvani,
and commonly called Animal electricity. By
Richard Fowler. 8vo, Edinburgh.

As soon as the discoveries of Galvani
were known, they excited almost uni-
versal attention. Philosophers every where
repeated and varied his experiments; and
several ingenious men have laid before the
public the result of their investigations. In
no publication on this subject have we seen
stronger marks of ingenuity, or facts less
tortured to support an hypothesis, than in that
now before us.

Mr Fowler, now * Dr Fowler, sets out by
attempting a solution of the following que-

* From the list of Inaugural Dissertations in
this volume, our readers will observe, that he ob-
tained the degree of Doctor of Medicine on the
12th of September 1793.
tion: "Are the phænomena exhibited by the application of certain different metals to animals, referrible to electricity?"

In the investigation of this question, Dr Fowler informs us, that his first object was to ascertain, as well the various circumstances which are essentially requisite to the production of these new phænomena, as those in which they can be rendered most obvious.

From a number of experiments he found, that the mutual contact of two metals was necessary; that no other substances but metals were capable of exciting these appearances; and that they were not produced by metals, when calcined or combined with acids. In estimating the comparative powers of different metals, he found zinc the most efficacious, especially when in contact with gold, silver, molybdena, steel, or copper, although these latter excite but feeble contractions when in contact only with each other: next to zinc, tinfoil and lead were the best exciters.

Although several instances have been related of contractions said to have been produced by the employment of one metal only, yet
yet our author suspects, that in these there may have been some deception; for neither of the metals are required to be in contact with the animal, their communication with it by means of moisture being sufficient to produce the effect. The mutual contact of the metals is also unnecessary, provided they communicate by means of a conducting substance.

This last fact supplied Dr Fowler with a method of determining the conducting power of different bodies; and he found, that metals, when pure, were excellent conductors; when forming metallic salts, less so; and when calcined, they no longer retained any marks of this property.

With regard to quicksilver, he has taken notice of a remarkable singularity. If the abdomen of a frog be filled with it, a piece of zinc passed through it, so as to touch the sciatic nerves, excites contractions: but a piece of silver passed to them, excites none. Neither are any excited, by touching the silver beneath the surface of the mercury with a piece of zinc. When water is used instead of mercury, contractions may be in this
this way excited; yet mercury is reckoned a much better conductor of electricity than water.

As Dr Fowler excited contractions by means of metallic rods covered with wax, he concludes, that this influence must have passed through the substance of these metals.

The non-conductors of electricity are also non-conductors of this influence; and our author could not succeed in making it pass through even the thinnest stratum of air.

Dr Fowler next examines the effects of temperature upon the conducting power of different substances. By a red heat, it was not diminished in zinc or iron; nor, by its influence, did a crucible or piece of coal become conductors. Contrary to the assertion of Dr Valli, our author found, that the conducting power of water was not affected by any increase or diminution of its temperature. Ice, however, he thinks a non-conductor, as it conducts ill in proportion to the dryness of its surface.

After some observations which prove, that a communication between the muscles as well as the nerves, and the metals, is re-

D 4 required
quired to produce contractions; Dr Fowler proceeds to make some objections to the hypothesis of Dr Valli, as inserted in the Journal de Physique; and observes, that notwithstanding the strong analogy which in many particulars this influence bears to electricity, considerable doubts still remain as to their identity. This opinion he supports by the following ingenious reasoning, and well devised experiments.

Were these phenomena dependent upon a breach of equilibrium in the distribution of the electric fluid, it should be restored as readily by the interposition of one, as of two conductors. When a limb is placed under water, from the perfect communication that exists between every part of it, no breach of equilibrium can remain; yet in this situation the phenomena are more readily produced.

To render the equilibrium of the electric fluid as equal as possible, a frog, of which the head had been previously taken off, was held by a person sitting in an insulated chair, which communicated with the conductor of an electrical machine, and both person and frog were electrified positively. No electric
cal phenomenon could be made to take place between them; but on the application of the metals, contractions were uniformly excited, differing not, in the least, either in strength or frequency, from those which are excited when no artificial electricity is present. The result was precisely the same when the frog and the person holding it were negatively electrified.

In the scale of conductors of electricity, charcoal holds a higher place than the fluids of animal bodies, and ice than the metallic salts. Of the influence in question, animal fluids and metallic salts are excellent conductors; while charcoal, dried wood and ice refuse it a passage.

This influence, according to Dr Fowler's experiments, did not affect the most sensible electrometer. So far it agreed with the influence of the torpedo: it passed readily through a metallic chain. This, however, opposes an insurmountable objection to the shock of the torpedo: and it differed both from it and electricity, in producing no sensation, in man at least, at all similar to that of an electrical shock.
But the most important and characteristic difference which, Dr. Fowler observes, he has been able to discover between this new influence and electricity, consists in their effects upon the contractile power of animals and of plants. He has found, that, so far from producing exhaustion, the more frequently contractions have been excited by this influence, the longer do they continue excitable, and the longer are the parts upon which such experiments are made, preserved from putridity. Although this influence was made to pass through the stem and branches of a sensitive plant, no collapse of its leaves took place.

The torpedo does not seem at all affected by the influence which itself produces. Animals, in which Galvani's phenomena are produced, are strongly affected. From this circumstance, from the presence of the metals being requisite to excite this influence, and from observing that its effects differed with the metals employed, and were stronger when their surfaces were extended, and applied horizontally to each other, Dr. Fowler was for some time led to suspect, that the influence
influence was external to the animals, and that it depended upon some hitherto undiscovered property of metals.

That this influence, however, is not derived from the metals alone, but that animals at least contribute to its production, our author thinks, is rendered highly probable, by observing the necessity of a communication between the metals and the muscles, as well as between the metals and the nerves. The animals also seem to have a more complete control over its effects, than one would expect them to have over an influence wholly external to them; for contractions are seldom produced in a healthy frog, until the influence of the will over the part be destroyed.

Dr Fowler next proceeds to consider another question, "Has magnetism any concern in the phænomena discovered by Galvani?"

In answer to this question, Dr Fowler observes, that contractions excited by the loadstone differed not from those excited by unmagnetized iron; that, by employing iron and loadstone, the one as a coating, and the other as a conductor; no contractions were excited;
excited; and that a very sensible magnetic needle was never in the least affected by bringing frogs near it in every state of preparation.

Our author next endeavours to determine, what are the relations which subsist between the influence discovered by Galvani, and the muscular, the nervous, and the vascular systems of animals.

With regard to the muscular fibre, Dr Fowler observes, that it cannot be entirely separated from nerves, without becoming an object too minute to be the subject of experiment. When an earthworm or leech (animals supposed by most anatomists to be devoid of nerves), is laid upon a piece of silver, in the middle of a large plate of zinc, the instant that it moves its mouth over the silver, so as to touch the zinc, it springs from it in writhing convulsions. If laid upon the zinc, the same effect is produced, when it touches the silver. These motions, Dr Fowler observes, seemed not so much the effect of involuntary contraction, as expressions of pain and disgust; such as are produced by applying zinc and silver to the tongue of a child: A strong presumptive proof, in our author's
author's opinion, that these animals are endowed with most exquisite organs of sense, and consequently that they are not, as has been supposed, destitute of a nervous system.

Our author next proceeds to inquire, whether all the nerves of the body are equally subjects of this new influence, or if its effects are confined to those appropriated to muscles of voluntary motion. After many fruitless attempts, he at last succeeded in renewing contractions in the heart of a frog, by the application of zinc and silver to its nerves. In order to the complete success of this experiment, it is necessary, Dr Fowler observes, that the spontaneous contractions of the heart should have nearly, if not altogether, ceased. This experiment also succeeded in a cat, drowned in water nearly of its own temperature. No contractions could be excited by arming any of the nerves of voluntary muscles, in this cat. Another cat, far gone with young, was drowned in very cold water. In four minutes after immersion, her heart had ceased to contract; nor could its contractions be renewed by the application of the metals, or by mechanical irritation.
irritation. The voluntary muscles, on the contrary, were readily affected by the usual means. On cutting into the uterus, and taking out one of the young, its heart was still contracting vigorously, although the mother had been dead upwards of twenty minutes. Our author now endeavoured, though in vain, to transmit this influence from the mother to the foetus, through the medium of the umbilical chord. In these kittens, the effects of the metals, when in contact with the par vagum and intercostal nerves, both of quickening the repetition of the heart's contractions while they continued spontaneous, and of exciting them anew when they had ceased to be so, were obvious. With young rabbits these experiments were still more decisive.

Dr Fowler next examines the effects of the metals applied to the organs of sense. He found that the sensation produced by applying metals to the tongue (a discovery of M. Volta), differed according to the metals employed, and in every case considerably from that produced by electricity. Zinc,
with gold, silver, or molybdena, seemed to excite the strongest sensations.

A flash of light is perceived when one of the metals is made to touch the ball of the eye. The same effect was also produced by passing a rod of silver, as far as possible, up the nostril, so as to touch the nasal branch of the fifth pair of nerves, which helps to form the ciliary ganglion; and by bringing it in contact with a piece of zinc placed upon the tongue. When this experiment was performed in a steady and weak light, the pupil evidently contracted. He never could excite any sensation in the organs of smell or of touch.

Our author concludes these observations on the nerves, by proving that the direction of this influence, when suffered to pursue its natural course, appears to be the same with that of most other stimuli, i.e. from the place at which it first affects a nerve, onwards, to the place where that nerve terminates.

Dr Fowler could obtain no contractions by coating the crural arteries of frogs while the blood still flowed through them; although the
An attempt to investigate the source from which the respective powers of nerves and muscles are derived, constitutes the fourth section of this work. After giving a short view of the different hypotheses on this subject, Dr Fowler observes, that the influence discovered by Galvani appeared to him an admirable test, by which something decisive might be ascertained relative to this part of physiology. And, from a number of accurate experiments, in which the effects produced by tying the crural artery, and dividing the sciatic nerve, were compared, it is proved that the sanguiferous system contributes more immediately than the brain to the support of that condition of muscles and of nerves, upon which the phenomena of contraction depend; since that condition is much more injured by intercepting the influence of the former than of the latter.

Dr Fowler has also made use of M. Galvani’s discovery to inquire into the truth of M. Fontana’s opinion concerning the mode
of action of opium, "That the circulation of the blood and humours in the animal machine is the vehicle for opium; and that, without this circulation, it would have no action on the living body."

From our author's experiments, the very reverse of this conclusion is to be drawn; for the parts most affected by the action of opium, were not those in which the circulation had remained most entire, but those in which it had been almost altogether interrupted; and, in two parts, where the circulation remained equal and entire, the action of opium upon one of them was diminished by interrupting its communication, by means of nerves, with the parts to which the opium was applied.

In an appendix, Dr Fowler relates some facts with which he was unwilling to interrupt the narration of his experiments. He found that the heart lost its contractility sooner than the voluntary muscles; and he discovered, that the influence does not stimulate or pass along the spinal marrow, as it would along the trunk of a nerve, to affect all other nerves branching off from it, but
that those muscles only are brought into contraction, which derive their nerves from the part immediately in contact with the metal.

This work is concluded with a letter from Mr Robison, Professor of Natural Philosophy in the University of Edinburgh, to Dr Fowler, giving an account of some experiments made by him. He has in particular succeeded in affecting the sense of touch, by means of this influence, by applying the zinc to a slight wound in his toe, and an extensive surface of silver to his tongue; and by inserting a pointed piece of zinc in the hole of a carious tooth, and applying the silver, in an extensive surface, to the inside of his cheek.
III.


The first part of this work contains an account of a simple method of treating certain calculous complaints. After taking notice of the many trifling remedies formerly recommended in this disease, Dr Beddoes corroborates the success which has attended the use of a solution of vegetable alkali, supersaturated with carbonic acid, and describes the method of preparing it. This remedy, however, is not adapted to the poor, on account of the high price and brittleness of the apparatus, and the great trouble and attention required in its preparation. It has also sometimes produced slight
intoxication; an effect which, in our author's opinion, this, as well as many other liquors, owe to their containing a large proportion of carbonic acid.

The remedy proposed by Dr Beddoes, as a substitute for it, is the fossil alkali, which he has used with success in various forms. In some cases it was given in solution; but its taste rendered it nauseous to most patients. The following formula is that which he generally made use of, and which he recommends.

Take natron in crystals, pound it coarsely, and expose it to a warm dry air, till it entirely crumbles into a white powder; make this powder into pills, with soap, or any other cement; a quantity of soap rather more than equal to the weight of the alkali is required; aromatics, extract of Peruvian bark, &c. may be added, if thought necessary.

As many pills may be taken in the course of a day, as contain from half a scruple to two scruples of the dry powder. Taken to this extent, our author observes that they generally afford relief in less than three weeks;
weeks; and that in no case but one, out of more than twenty which have fallen under his own observation, have they failed to perform every thing which could be desired from medicine, except eradicating the tendency to form calculus.

From the cases related, it appears that the remedy has also been employed with success in extreme irritability of the urinary organs, and in jaundice. Dr Beddoes concludes this subject, with expressing a wish, that those who may have an opportunity of attending to the effects of alkaline remedies, would ascertain,

1st, Whether the blood undergoes any determinate change?

2d, Whether the urine becomes habitually alkaline?

3d, Supposing this to be the case, and the patient to take vegetable alkali, whether the excess of alkali in the urine be vegetable, fossil, or volatile?

In the next part of this work, Dr Beddoes informs us, that for several years past he has been employed in attempting to discover the effects of oxygen gas upon the animal economy.
nomy. Sea scurvy appeared to him to afford an application of the principles of pneumatic chemistry, nearly as direct and as beautiful as respiration. The livid colour of the skin, the large livid spots on the surface of the body, the recovery of the sick by the administration of acids and vegetable diet, all seemed to indicate, that this disease was owing to a gradual abstraction of oxygen from the whole system.

While Dr Beddoes was employed in improving and carrying these speculations farther, Dr Trotter published nearly a similar opinion. Although alike in their leading features, in many particulars their theories differ.

Dr Trotter attributes the disease to a deficiency of oxygen in the blood alone. Dr Beddoes to a like deficiency in the whole system; and adduces as proofs, the discolouration of the solids, and the stiffness and rigidity of the muscles and tendons. He also supposes oxygen necessary to the contraction of the muscles, and that it then enters into some new combination; that the final cause of quickened respiration, after violent exertion,
is to supply the oxygen expended, and that these observations explain the appearance of scurvy after a storm, during which the sailors have been much fatigued. The death of scorbutic patients, our author observes, seems frequently to ensue from the blood being unable to stimulate the left side of the heart, both on account of a want of irritability in the muscular fibres of that organ, and a deficiency of oxygen in the blood.

Dr Trotter considers a deficiency of vegetable food alone as the occasional cause of scurvy. But our author is led to adopt a different opinion, from observing, that the blood, and by means of it, the solids, are oxygenated at the lungs; that we have no direct evidence of their acquiring it by the stomach; that such an opinion is only an inference from the composition of acids and vegetables; and that, between the reception of food into the stomach, and the oxygenation of the blood by means of it, unknown processes must intervene. He also thinks it probable, that as seamen, in general, breathe air containing less oxygen, scurvy may often arise from this cause, and may be prevented
or cured, by guarding against it; since, except the evolution of heat in respiration, we are acquainted with no circumstance causing any difference between the oxygenation of the blood by the lungs, or by the stomach.

In proof of our author's opinion, he takes notice of the two last voyages of Captain Cook, and quotes another fact from Dr Trotter himself, which shews, that in a slave ship, to which he was surgeon, the seamen fed with ordinary sea diet remained free from this disease, while the slaves, living principally on vegetables, but breathing an impure air, fell miserable victims to it. The Lap-landers, who seldom taste the products of vegetation, are also unacquainted with this disease. The Oftiack Tartars, in winter, devour their frozen fish raw, which the neighbouring Russians endeavour to imitate, esteeming them a preservative against scurvy.

Dr Beddoes also quotes the remarkable case of the blue boy, related by Dr Sandifort of Leyden *, and considers his disease analogous to scurvy; for dissection proved, that,

in consequence of the aorta communicating with both ventricles of the heart, the greater part of the blood was immediately propelled from the right ventricle into the aorta, very little passing into the pulmonary artery to be oxygenated. The right ventricle, auricle, and sinus, were much more enlarged and distended with blood than the left.

From this wonderful case, our author thinks the following conclusions may be drawn: 1st, That the uncommon proportion between the size of the right and left sides of the heart, proves, that the left ventricle is not irritable by venous blood; and, 2dly, That oxygen is necessary to the due action of the muscles. The phenomena of this case serve also to explain the peculiar latitude felt on very high mountains; the sudden and placid death of M. Plantade, at the age of seventy, beside his quadrant, upon the heights of the Pyrenees; and the appearance of scurvy symptoms in M. Condamine, upon the summit of Pinchina: for the experiments of M. Sauffure have proved, that, independently of its rarefaction, the atmosphere
phere of very high mountains contains a much less proportion of oxygen.

In our endeavours to prevent or cure this disease, the view now taken of it points out the necessity of keeping ships supplied with fresh air, and the great advantages to be expected, and in reality obtained, from the use of the native acids of vegetables.

Of the mineral acids, Dr Beddoes thinks a full trial should be made, as they are decomposed by almost all animal and vegetable substances; and he remarks, that persons taking vitriolic acid, smell sensibly of sulphur. The vitriolic acid is also the best remedy we possess in herpes, a disease which he thinks analogous to scurvy, and approaching it by a number of intermediate shades. Sooins, an acidiuous preparation of oatmeal, nitre cautiously used, and sweet wort, seem likely to be of service; but our author thinks, that of all the substances which can at once be cheaply procured and long preserved, the concrete acid of tartar seems by far the most promising: it is very grateful, and comes near to the citric acid.

Our ingenious author next proceeds to apply the principles of his theory to the secretion
cretion and deposition of fat in excess. The oily parts of animals appear to differ from other animal substances, only by containing a smaller proportion of oxygen. The conversion from the one state to the other, seems to depend upon a very slight cause.

Is it unlikely, says he, if at any time the blood contain little oxygen, that a substance, containing less oxygen than animal matters in general, should be formed?

Is there more muscle in proportion as there is more fat?

Leaving these questions undecided, Dr Beddoes endeavours to prove, that in the living system there is a tendency to form fat, whenever there is a deficiency of oxygen to a certain degree. Dr Trotter has observed, that when a negro was becoming rapidly fat, it was no difficult matter to determine how soon he would be seized with scurvy; that emaciation is not a symptom congenial to scurvy; and that the only one, among a crew of midshipmen living on ship's fare, that he saw affected with scurvy, was a young man remarkably corpulent. The emaciation produced by acids taken to excess, and the removal
moval of obesity by strict vegetable diet, shew, that its cure is analogous to that of scurvy. Exercise operates, according to our author, not only by increasing the action of the absorbents, but also by introducing more oxygen into the system, and diffusing it more widely, to check the formation of a substance containing little oxygen, while the fat, in common with the other fluids and solids, is absorbed.

Obesity takes place at two periods of human life. In infancy, when not merely inaction, but also, our author supposes, the state of the blood, favour the formation, in excess and the accumulation, of fat. The second period commences about forty years of age. Then indolence comes on, and the mind is no longer distracted with the more violent passions. At this period also, our author suspects a deficiency of oxygen in the system, from its lessened vigour, from the diminished irritability of the muscular fibre, from the fatigue that sooner follows exertion, and from the universal rigidity which prevails. Here our author, not satisfied with applying his theory to the common pheno-
mena of diseases, suffers his imagination to lead him into speculations which may perhaps be thought extravagant. "May not," says he, "all this be owing to a permanent, as in scurvy to a temporary, deficiency of the same principle? If this supposition were just, might not some means be discovered to protract the period of youth and vigour indefinitely? Whether true or false, there can be no doubt of the immediate practicability of prolonging life considerably, and of maintaining a firmer state of health, by a proper management of the excitability during the periods of infancy and youth."

Dr Beddoes concludes these remarks on obesity with the following ingenious, though fanciful observations on the economy of vegetation.

"Vegetables doubtless decompound water. It appears almost certain, that they must combine the hydrogen with azote from the atmosphere, to which a certain portion of oxygen is added. How then comes it to pass, that these elements are not at times so combined as to produce an excess of oil, and a sort of obesity, in vegetables? Some such modification
modification of their functions does really take place. In proportion as they are more exposed to heat and light, they seem to form a larger quantity of oils and resins, as well as of saccharine matter; which is nearly allied in its composition to the two former substances: Wherever they are able to decompose most water, there also they will probably absorb most azotic air. Must not these two functions go on most vigorously in those plants, which in the same soil and climate form most oil? We know, besides, that vegetables are capable of forming oils, either exactly the same as those of animals, or very nearly resembling them. Thus, we have the fruit of the croton febiferum, the butter of the phœnix daëtylifera, and of the butyrum cacao. When, from a more intimate acquaintance with them, we shall be better able to apply the laws of organic bodies to the accommodation as well as the preservation of life, may we not, by regulating the vegetable functions, teach our woods and hedges to supply us with butter and tallow? Thus our pastures and meadows, the most fertile spots in every coun-
try,
try, would many of them be gained to the
cultivation of corn, the immediate food of
man. And how many millions of inhabi-
tants more might Britain maintain, if we
could feed upon the immediate produce of
the soil? How many tons of vegetable food
are condensed into every fat ox?"

Consumption is the next disease which
calls forth our author's ingenuity; and af-
ter lamenting the obscurity which prevails
throughout the whole of this disease, he re-
marks, that the only circumstance from
which we can at present hope to reason, is
the occasional effect of pregnancy in suspend-
ing the progress of phthisis. A case of this
kind suggested to Dr Beddoes the following
supposition.

"The fœtus has its blood oxygenated by
the blood of the mother through the pla-
centa. During pregnancy, there seems to
be no provision for the reception of an un-
usual quantity of oxygen. On the contrary,
in consequence of the impeded action of the
diaphragm, less and less should be contin-
uously taken in by the lungs. If, therefore,
a somewhat diminished proportion of oxygen
be
be the effect of pregnancy, may not this be
the way in which it arrests the progress of
phthisis; and if so, is there not an excess of
oxygen in the system of consumptive per-
fsons? And may we not, by pursuing this
idea, discover a cure for this fatal disorder?"

Our author observes, that he cannot prove
this deficiency of oxygen in pregnant wo-
men; but appeals to the observation of ac-
coucheurs, to determine, whether it mani-
feet itself in the colour of the blood, bleed-
ing of the gums, dark coloured spots, vibri-
ces, or any other scorbutive symptoms.—
“Pregnant women,” says Dr Denman,
“have generally a dislike to animal food of
every kind, and under every form. On the
contrary, they prefer vegetables, fruits, and
every thing cooling; which they eat and
drink with avidity, and in which they in-
dulge without prejudice.”

Our author next proceeds to inquire,
whether phthisical persons show any signs of
a redundancy of oxygen. The clear bright
florid hue of the flushed hectic countenance,
the bright red of the tongue and fauces,
seem to indicate the reception of too much
oxygen.
oxygen. Although, in phthisis, the arterial blood be brighter, yet it is not necessary that the venous blood be so; for the effects of oxygen upon it vary according to determinate circumstances. When blood is exposed to oxygen air, it first becomes red, and afterwards black; the oxygen, which was at first united with the whole mass, after some time is, according to our author, attracted by the hydrogen alone, or united with carbon, and forms accordingly water or carbonic acid. If oxygen be added in a large quantity at once, or loosely combined, the blood is never brightened, but immediately turns black, as when oxygenated marine acid is added to blood. Besides, it is possible that an unusual quantity of oxygen being thrown in through the lungs, the solids might attract it, and be consumed themselves, or prepared for absorption in a way not understood, while the venous blood returns to the lungs of its ordinary colour. The blood drawn from phthisical patients is of a peculiar appearance, and differs from other blood, in being thinner, more florid, and having a purplish hue: it is also constantly covered
with a thick buffy size, and firm crassamentum; the very opposite to what takes place in the blood of scorbutic patients.

Our author now proceeds to give the results of some trials of the effect of oxygen air upon phthisical patients, by M. Fourcroy. —After a few flattering appearances, their symptoms became more severe. The change was indicated by a dry convulsive cough, spitting of blood, a sensation of burning heat and sharp pain in the thorax, a fever almost acute, and threatening to become inflammatory, by agitations of all the members, restlessness, and thirst. It became necessary to allay these symptoms, by antiphlogistic remedies. In its fourth stage, the disease made a quicker progress than usual, and the patients desired that this mode of treatment might be abandoned.

On the other hand, Dr Priestly mentions some cases which were relieved, by breathing common air mixed with a large proportion of carbonic acid air. Dr Percival made some patients inspire the fisms of an effervescing mixture: the hectic fever abated considerably, and the matter expectorated became
became less offensive, and better digested. One patient under Dr Withering entirely recovered, and others were relieved. "We cannot be surprized," says our author, "that these experiments should not have been attended with greater success, if we consider, that those who made them could not, at that early period, be enlightened by the grateful dawn of a probable theory; that having no well defined end in view, they could not vary their means with sufficient intelligence; and that, where the apparatus was so awkward, perseverance was not to be expected. If our object be to lower the atmosphere, carbonic acid air will not probably be chosen for this purpose."

Dr Beddoes also deduces arguments in support of his theory, from the small number of sailors who die of this disease, although so much exposed to its exciting causes, wet and cold.

"If I might even take it for granted," says our author, "that excess of oxygen is a well ascertained circumstance in phthisis, it would still remain to be determined, before the investigation could lead to any thing useful,
useful, what rank it holds among the other deviations from a state of health observable in this disease. Here two positions occur: 1st, The phthisical inflammation may so alter the structure of the lungs, as to cause them to transmit a more than ordinary portion of oxygen to the blood: Or, 2d, Some unknown cause having enabled them to transmit, or the blood itself to attract, more oxygen, an inflammation of the lungs may ensue."

M. Lavoisier has found, that animals confined in oxygen air, die long before it becomes unfit for respiration. Hence their death must have been occasioned by some noxious effect of that air. On dissection, it appeared to have been occasioned by an ardent fever, and an inflammatory disease. The flesh was of a red colour; the heart livid, and turgid with blood, especially the right auricle and ventricle; the lungs were very flaccid, and very red even externally, and they were also turgid with blood.

Dr Beddoes here asks, May not the flower, and differently modified inflammation of the lungs, in phthisis, originate from a smaller
ler excess of oxygen thrown into the system in a more gradual manner? These hypotheses, our author observes, lead to a project totally different from the nugatory modes of practice heretofore employed. The diet used in this disease must be such as shall tend to produce scurvy. Not only salted meat, but an oily diet may be tried. The supply of oxygen at the lungs must also be diminished, by making the patients breathe air with an additional quantity of azotic or hydrogen airs, and by making them sleep in confined rooms, provided a low temperature be maintained. Our author explains the production of hæmoptoe and phthisis by the use of quicksilver, by observing, that it is taken in oxygenated, and thrown out reduced.

Nothing, in the opinion of our author, would contribute so much to rescue medicine from its helpless condition, as the discovery of the means of regulating the constitution of the atmosphere, by increasing or diminishing its proportion of oxygen.

Dr Beddoes concludes these short treatises with some observations on Catarrh, the frequency of which in this climate he ascribes
to the variableness of the climate, and sudden alternations of heat and cold; the cold operating, in his opinion, by accumulating irritability, while the inflammation is not produced until the subsequent and too sudden application of heat, or some other equivalent stimulus. To guard against this sudden change of temperature, he advises flannel to be worn next the skin, or, at least, immediately over linen, avoiding warm spirituous liquors, warm close rooms, and many bed-clothes. He also observes, that he has seen Mudge’s inhaler aggravate the symptoms at the commencement of a common cold; and totally rejects the idea of a hardy education rendering the body less susceptible to the action of cold.

How far the ingenious conjectures, and perhaps we may add, singular opinions, delivered in the work before us, will be confirmed or refuted by experience, still remains to be determined by future observation. If, however, it shall hereafter appear that they are in reality well founded, it is unnecessary to add, that they must produce many important changes in the practice of medicine.
IV.


IN this interesting paper, Mr Home confines his observations to such sores as are of no specific nature, but, from weakness, indolence, or long habit, have no disposition to skin. After remarking the impropriety of the usual mode of treating these, by stimulating and sedative applications, in the forms of ointments, fomentations, and poultices, he observes, that various substances, in form of powder, have been proposed as substitutes for the common dressings. In the course of the last fourteen years, he has made trial not only of those recommended by others, but of several which had not before been thought of.

F 4 Tartar
Tartar emetic, in the form of powder, in some, produced no obvious effects; and in others, such as were evidently unfavourable.

Chalk, when first applied, did not seem to produce the smallest irritation; but if long continued, the sore in general became foul.

Plaster of Paris irritated the fores much.

Lapis calaminarum was also employed without benefit.

The use of these mineral substances having proved unsuccessful, our author was induced to try the effects of vegetable powders, from having seen the good effects of carrot and cassada poultices, which are nothing more than the powders of these roots in a moist state.

During the last war, our author informs us, that he was eight months in St Lucia, where ulcers of the worst kind were very numerous; and the application, from which they seemed to derive the greatest benefit, was the roots of the cassada (Jatropha Manihot, Lin.), grated into a powder; and moistened with water. It did not at that time occur to him, that it might be used in a dry state.

The
The effect of rhubarb, in stimulating the villous coat of the intestines, which is somewhat similar in appearance to the surface of a granulating sore, first suggested to our author its use as an external application. At first, it was very thinly spread over the surfaces of several ulcers, which were then covered with a pledget of common ointment, and these dressings renewed once in twenty-four hours. Under this treatment, the sores, for several days, mended, but then seemed to be at a stand, which our author ascribes to the greasy pledget having been in contact with several parts of the sore: a piece of lint was therefore interposed between them, and the sores were gradually healed.

Encouraged by these trials, he made use of this powder under a variety of circumstances, with a similar result. In some cases, it seemed, after being continued for some time, to lose its effect upon the ulcer; but on its being applied twice a day, its effect was restored. In other cases, the rhubarb seemed to be too violent an application, in some degree disposing the granulations to ulcerate: this, however, was prevented, by adding
adding to it the powder of opium, in the proportion of a drachm to the ounce. By these means, the application of this medicine may be adapted to the degree of indolence or irritability in the sore to which it is applied.

Rhubarb, in the form of tincture, our author found, did not by any means produce similar effects. The sores to which it was applied, when irritable, put on a foul appearance; when indolent, they were less affected, but did not acquire the same healing disposition the powder usually produced.

Mr Home has also given the result of some trials made with other vegetable powders. Ipecacuanha appeared to irritate the granulations to which it was applied, giving the sore a foul appearance. In a note, he tells us, that equal parts of ipecacuanha and rhubarb make an useful mild escharotic for destroying warts.

The flour of mustard irritated the granulations, and excoriated the surrounding skin: mixed with various proportions of the farina of lintseed, its employment was of little service.
The effects of gentian and chamomile were trifling, in comparison with those of rhubarb.

The powder of colomba root seemed to bear a greater resemblance to the rhubarb in its effects, than any of the other substances tried. In some sores which had become stationary under the application of rhubarb, colomba produced a disposition to heal, which continued till the sores got well. In using colomba, the granulations sometimes rise above the surface, which is never the case with rhubarb.

After taking notice of several circumstances which may mislead a surgeon in determining the effects of local applications, Mr. Home makes the following remarks upon the effects of this medicine.

"When the rhubarb is first applied, the sore is commonly more painful than it was before, and the whole surface becomes of an uniform red colour. In foul ulcers, where the matter is principally composed of coagulable lymph adhering to the surface, a change is produced in the discharge: it becomes more like true pus, which separates from the
the surface, and exposes the granulations to our view.

"In fores where the granulations are large, spongy, and semitransparent, under this treatment, they become small, firm, very pointed at the surface, and of a florid colour; they are also sensible to the touch, making the fores tender.

"The granulations, as soon as they have risen to the level of the skin, seem to have a stop put to their growth; and those that are next to the surrounding cutis lose their irregular pointed appearance, become smooth, shining, and of a more florid colour than the rest of the fores. In this way, a margin is formed, about one-eighth of an inch broad, which is afterwards covered by a cuticle contracting the size of the fores; and this process goes on, till the whole be skinned over.

"This circumstance of the granulations becoming stationary, when arrived at the level of the skin, is so general an effect, that in an hundred cases, many of these fores nearly equal to six inches square, no one instance to the contrary has occurred.

"When
"When the sore is beginning to heal, or has in part skinned over, the powder adheres firmly to the edges, and sometimes to the surface of the granulations, forming a crust over those parts. This should be carefully removed each dressing, as it confines the matter, which is often productive of mischief, and always retards the progress of the cure.

"From these facts, which have been ascertained by experiments, too frequently repeated to admit of much fallacy, I venture to recommend," says our author, "the rhubarb, as an application which will be found useful in the treatment of ulcers; leaving it to a farther and more complete experience, to determine the exact place it is to hold among the applications now in use."
V.

Facts, tending to shew the Connexion of the Stomach with Life, Disease, and Recovery: By Charles Webster, M. D. Fellow of the Royal College of Physicians, Edinburgh. 8vo, London.

The great object of this treatise, as the author informs us in a short introduction, is an attempt to connect with an important organ, many otherwise loose facts, which, he thinks, serve to shew that the stomach is the seat of life, disease, and recovery, and the main organ of a complicated system.

He sets out with observing, that such simply organised animals as have no visible brain, nerves, lungs, heart, or blood-vessels, are yet capable of being contracted when impressions are made on any part of them. They separate, he observes, the elements of dead matter, which reunite with them in various
rious and specific proportions, and extend their fibres. They propagate their kinds; they have a preserving and resiliing power; they become deranged in their functions by excess, defect, or peculiarity of impression; they recover from various morbid states; they regenerate lost substance; and, at length, ceasing to answer impressions, they spontaneously separate into their elements, which form new combinations in nature.

He remarks, that, in an animal, which, besides a stomach, according to him the seat of simple life, has nerves and brain, which he views as the medium of sensation and thought, the moving, sentient, and thinking powers become parts of one whole, in which the smallest puncture producing contraction, pain, and haemorrhage, seems to shew that life, mind, and heart, exist in every point.

Cold-blooded animals, he observes, whose circulation is languid, and respiration occasional, live and move for several hours, without brain, heart or lungs. After decollation, a viper has been said to traverse several walks in a garden, an ostrich to run to an accustomed
accustomed place of refuge, and a cock towards some grain that had been just presented to it.

The brain of a man, he observes, in proportion to the weight of his body, is about thirty times heavier than that of a large quadruped with proportionally less strength. In the lower animals, it is in general spent in nerves, on the senses, face, and jaws; and in all animals, the axillary and sciatic nerves and blood-vessels, which are necessary to strong voluntary motion, are the largest.

No animal, Dr Webster observes, can exist without a stomach; and life has remained, even in the perfect animals, independently of almost every other organ. Placed in the middle, it is felt, he says, to be the centre of every impression on any part of the body, and the seat of muscular exertion and fatigue. When healthy, it resists, arrests, and reverses the stages of fermentation, sweetens putrid meat, does not suffer from the syphilitic, variolous, viperine, or carbonic poisons. It seems, he thinks, to be the centre of power and motion, from which the vital principle, whatever it be, is determined
mined into the different parts, supporting the inherent power in the moving fibres, the thinking power in the brain, sensation in the sentient extremities, assimilation in the lymphatic, fanguiferous and glandular vessels, and fulness in every part of the system.

The powers, he observes, acting on the system, as heat, air, exercise of body and mind, diet, poison, medicine, and the fluids, tend to increase the power of the stomach, but, ultimately, or in excess, to destroy it; and are called Stimulants. When defective, they tend to diminish it, and are called Sediative; which effect, if of a certain degree, is followed by reaction or resistance, and they are then called Indirect Stimulants. Hence, says he, the same natural, morbid, and salutary impressions may, according to their degree, be sedative or stimulant. Some impressions, both internal and external, affect it peculiarly, and, through it, different parts of the system. In general, strong impressions, he thinks, excite the resisting power; weak ones seem occasionally to soothe, diminish, or tease it; specific ones produce specific states in it, and in different parts of

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the system; and on these fits of resistance, seem, he thinks, to depend the states of periodical disease.

The stomach, he observes, is the seat of the assimilating power, in which the elements of food and drink, of whatever kind and variety, first separate, and then unite into the only one combination fit for undergoing the other specific changes; for making the specific impressions; for giving the due distension, and repairing the continual waste. During ordinary hunger, its power over the muscules is, he tells us, diminished; which state is called Weakness. On the sight of food, the mouth fills with water: and, on taking some food, the eurious state, he observes, is removed; the stomach feels comfortable; the muscules and organs, particularly those most fatigued, recover their strength; the circulation is promoted, the secretions flow, the respiration becomes free, the countenance brightens up, serenity and vigour are imparted to body and mind, and the heart opens in benevolence. But the effects of food being relative to the state of the stomach, a heavy meal oppresses this organ,
gan, and diminishes its power over other parts of the system; which may be relieved by evacuation on the one hand, or by spirits and aromatics, on the other, increasing its power.

Alcohol, opium, and carbonic acid, tend, like a meal, to induce serenity and vigour of body and mind; but, in excess, they bring on the ebrious state of the stomach, which deranges the functions of both. There does not seem, Dr Webster thinks, to be one symptom; or combination of symptoms, in disease, but may be produced by something taken into the stomach. The effect of poison, like that of food, is, he observes, relative to the state of the stomach; and poisons, he thinks, destroy life, by diminishing the energy of the stomach beyond the power of reaction.

After these general observations, Dr Webster next proceeds to state some facts respecting the influence of particular classes of medicines on the animal system.

With regard to emetics, he observes, that these, even in the strongest habits, induce affections both of the vital, natural, and ani-
mal functions, as is demonstrated by the languor, laffitude, diminished action of the heart, and its most remote vessels, difficult respiration, salivation, vomiting; and from thence redness of the face and eyes, a strong pulse, general sweat, and various other affections. The effects of emetics in incipient fever, phthisis, gout, inflamed testicle, certain dropsies, mania, and other diseases, shew, he thinks, the influence of the stomach over every part of the system.

In speaking of cathartics, he observes, that the same structure being continued from the gullet to the rectum, the state of one part is very apt to affect another. Thus, while indigestion occasions flatulence, spasms, and pains of the intestines, these are often relieved by medicines, immediately upon their reaching the stomach. Looseness occasionally relieves vomiting, and vomiting relieves looseness. A cathartic, though returned by vomiting, often purges; and a drastic has been known not only to purge severely, but even to prove fatal; when, on dissection, the stomach only has been found to be inflamed.

Most
Moist cathartics, Dr. Webster observes, are, like other matters, decomposed before they pass the pylorus; and those which seemly pass unchanged, as sulphur, oxyd of mercury, cassia, and rhubarb, are in general gentle in their operation; while the effects of the elaterium and iris palustris, exerting great influence on the stomach, are felt even at the extremities of the arterial system.

Diuretics, and mere liquids, sometimes excite urine so suddenly, that the ancients imagined a direct communication between the stomach and bladder. This flow, Dr. Webster thinks, is analogous to the sudden one of milk from the breasts of nurses, and other sudden secretions. Strangury, he observes, is a constant symptom of gastritis; and affections of the urinary organs constantly affect the stomach. Digitalis, Scilla, and other diuretics, in small doses, are often expectorant or sudorific; and if, in larger ones, they produce vomiting or purging early, they fail to produce that state of the stomach, which, in his opinion, seems to be necessary to their diuretic operation.
With regard to Tonics, Dr Webster observes, that any nauseous matter, acid, or air, in the stomach, or any disagreeable impression, or the absence of an accustomed one, is apt to induce that state of the stomach in which its power over the muscles is diminished, and on which the sense of weakness depends. Such impressions or states being removed, the balance, he tells us, between the stomach and muscles is restored; and this removal has, he says, been called a tonic effect. This removal may be effected by acids, astringents, bitters, aromatics, fœtids, iron, zinc, copper, or arsenic; and in this manner they counteract weaknesses, palsy, tremors, spasm, fever, inflammation, ulcer, gangrene, haemorrhage, and serous discharge. Hence they have been called Tonics. The sudden effect of the Peruvian bark, as well as of various other medicines, in preventing and arresting ague fits, shews, he thinks, that such symptoms depend on states of the stomach, and that these medicines act upon the stomach, inducing changes in it, the effects of which are propagated over the system. How often, says he, after death,
are morbid states of the brain, lungs, and heart, often looked for; while the cause of the symptoms is either invisible, or found in the stomach, which had not seemed previously to suffer?

Narcotics, according to Dr Webster, seem to induce a state of stomach, which tends to supply the want of necessary impressions, or resist such as are apt to occasion pain, or prevent sleep, the natural relief and restorer of the sentient part. In his opinion, they act by keeping the assimulating and resisting powers in a proper state, till the morbid impression lose its power, and till the morbid state and disposition cease.

The stomach, Dr Webster thinks, may be put in a state more or less susceptible of a particular impression. Thus, he observes, that mercury, whether administered internally or externally, seems to render it more sensible to that of Peruvian bark in ague, of Squill in dropsy, of Opium in syphilis, and of Electricity in various diseases.

Impressions, according to Dr Webster, differ, not only in kind, but in degree, and are powerful as they are sudden. Strong
ones, as emetics, act chiefly on the stomach, while weak ones affect the remotest parts, and are much used in indigestion, nervous diseases, passive discharges, and ulcers. A strong impression on the surface affects the part chiefly acted upon; while tickling, a scratch, or other seemingly weak, but peculiar impressions, affect the stomach and system considerably.

The last head under which Dr Webster has arranged the facts here collected, respects External Impressions. Impressions on the senses, he observes, evidently affect the stomach. Thus, a disagreeable taste, smell, or touch, is apt to occasion sickness or shivering. Sickness is often induced also by certain motions, as that of a swing, ship, or carriage. Agreeable sensations relieve sickness, and promote digestion; but, in excess, they injure the stomach considerably. Emotions, he observes, are felt at the stomach. The modifications of aversion, as fear, anger, shame, and grief, instantly impair the keenness of appetite, and are apt to occasion sickness, tremors, paleness, weeping, flushings, looseness, and jaundice.
There is a great analogy, Dr Webster observes, between the internal surface, from the mouth to the anus, and the external one, both being continuous, pervious to fluids by vessels quickly regenerating lost substance, covered with mucous or sebaceous matter defending the tender surfaces, liable to abrasion, inflammation, and thickening, and probably, he thinks, to the same eruptive and other diseases, the state of the one affecting and alternating with that of the other.

The elements of food and drink in forming chyle, blood, secretions, and solid parts, and the base of vital air uniting with these by the lungs, and perhaps by the surface, may, Dr Webster thinks, give the blood its colour, its temperature, its mobility, its coagulability, its power of acting on the left ventricle, and those appearances of vitality ascribed to that fluid by Mr Hunter. These condensations going on less in a warm temperature, and more in a cold one, may, Dr Webster thinks, by the accommodating nature of the stomach with other parts, preserve the equilibrium of heat in the system.

That
That temperature on the surface affects the stomach, is, he observes, evident, from certain applications of cold exciting vomiting and purging, from hot applications, or a hot fit, relieving those vomitings which occur in fever and the plague, and from changes of temperature inducing and relieving various diseases, and fits of disease, of which the stomach is the seat. Such, he remarks, is the sensibility of the skin, as well as stomach, that a cold or hot body, or an astringent applied to either, is apt to produce a contraction over all, and to stop some haemorrhages.

Cool air on the surface, Dr Webster observes, recovers persons from the state induced by carbonic, azotic, or other noxious airs, the first symptom of which is vomiting. It recovers from syncope, and from the still-born state; the first exertion from which is, he remarks, to be seen about the region of the stomach: and the cold seems, he thinks, to operate, as in discharges of blood, by exciting the stomach from its passive state.

Affections of the stomach, he observes, mark fever in its attack, progress, remission, crisis, and cure. All its causes affect the stomach,
macht. It has no symptom, he asserts, but what an immediate application to the stomach may produce, and the evacuation of that application remove: And it is often, he adds, prevented and cured by remedies affecting only that organ.

We have thus endeavoured to give a short view of some of the most important facts which Dr. Webster has collected, tending to show the connection of the stomach with life, disease, and recovery. It must be confessed, that, besides facts, he has, in the treatise before us, thrown out also many conjectures: And how far many of our readers will agree with him in the opinions which he holds, respecting the accommodating nature of the stomach with other parts, the balance between the stomach and other parts, the state of the stomach in which its power over the muscles is diminished or increased, and various other conjectures of a similar nature, we cannot pretend to say. There can, however, be no doubt, that the alimentary canal, from the mouth to the anus, affords both a very extensive and highly sensible surface. It will hardly, perhaps, be questioned
ed by any one, that this internal surface, as it may be called, is both more extensive and more sensible than the external surface or skin. Hence the influence of impressions made upon it, as affecting the whole system, is by no means surprising. And in the treatise before us, Dr Webster has, with much industry, collected many interesting facts, tending to demonstrate this influence in cases where it is in general but little suspected.
VI.

Textus de Roborantium in Rheumatismo
Arthritico necessitate. Auctore Rudolpho
Hauniæ.

Dr. Buchhave sets out with observing, that of all the diseases prevailing at Copenhagen, no one better deserves the name of an Endemic than the Arthritic Rheumatism, which there prevails very generally, affecting equally both the rich and the poor. This was the rather surprising to him when he first fixed in Copenhagen, as during his practice in the country for the space of fourteen years, he had very rarely met with that disease.

From this, he thinks, it may readily be concluded, that the mode of living in large towns is much more favourable to the induction of the disease, than the manner of living in
in the country. This he ascribes to luxury
among the rich, and moist habitations among
the lower classes. It is not, he observes, his
intention, in the essay before us, to attempt
any investigation of the hidden causes of
rheumatism, respecting which authors are
still divided in opinion; but merely to point
out those symptoms which he considers as
peculiar to the disease; to explain the me-
method of cure which he has found most suc-
cessful; and to demonstrate the necessity and
advantage of having recourse to medicines
of the corroborant kind.

No part of the body, he observes, can be
considered as exempted from this affection,
which equally attacks the head, trunk, limbs,
and visceræ. It appears, he tells us, not on-
ly under the form of excruciating pains, ne-
cessarily occasioning changes both in the so-
lids and fluids, particularly after the pain has
ceased, laxity of the fibres, tremor, insensibi-
licity, stupor, and the like; but also under the
form of transitory tumours on different
parts, of cramps, convulsions, vertigo, tinni-
tus aurum, gastrodynia, vomiting, fainting,
and even convulsions. These internal af-
fections
sections are succeeded, as in the external parts, by laxity in particular of the fibres of the intestinal canal, by diminished sensibility, and by torpor, producing languid peristaltic motion, and finally giving rise not only to dyspepsia and obstipatio, but to tympanites and asthenia.

From these occurrences, Dr Buchhave thinks there is ground to conclude, that the Rheumatismus Arthriticus, from whatever cause it may arise, produces laxity of the fibres, and inability to proper action. For counteracting, therefore, the various evils originating from this source, he points out two indications as necessary to be fulfilled: 
1st, The resolution and evacuation from the body, of that acrid matter on which the disease depends; or, at least, its expulsion from an improper situation, when it attacks an internal part: And, 2dly, The restoring and supporting the due strength and action of the solids. The necessary combination, in this disease, of the resolventia and roborantia, has, he observes, been overlooked by many practitioners. Most frequently, the resolution and discharge of the morbid mat-
ter alone, has been the object which they have had in view, without any regard to the sensibility and debility of the fibres, although the greater part of the antirheumatic and antarthritic remedies, as they have been called, besides their resolvent, exert at the same time an evacuating power, by which the system must be still farther debilitated, and, of course, there must take place a greater tendency to the symptoms thence arising.

The roborantia, employed even alone, have, Dr Buchhave observes, a certain degree of efficacy, and render the disease at least more tolerable; but they leave the morbid matter fixed in the body: and thus, the cure being incomplete, severe symptoms are even renewed. But, from the combination of evacuants and tonics, he thinks we have reason to entertain the highest expectations of obtaining a cure.

How far Dr Buchhave's reasoning on this subject will appear satisfactory to many of our readers, may perhaps be a matter of doubt. But without presuming to judge from his theory alone, every candid practitioner will be desirous of forming his opinion of
of the advantages to be derived from the combination of evacuants and tonics here proposed, on the more certain ground of experience: and the author assures us, that a great number of trials made on this plan, have been so highly successful, as to exceed both his own expectations and that of the patients. In proof of this, to the theoretical observations, of which we have already given some account, he subjoins the history of twelve cases, selected from a number treated in this manner, which he thinks afford sufficient evidence of the benefit of this practice.

The first case here related, is that of a woman in the 40th year of her age; respecting whose complaints Dr. Buchhave was consulted by letter. For two years she had laboured under vertigo, alternating with lumbago, attended with coldness of the feet, inordinate menstruation, and obstinate constiveness. In this manner she passed for some time a valetudinary life, till the disease taking deeper root, affected her with universal coldness and pains, particularly severe in the head. From these symptoms, she was almost constantly confined to bed. A physician, con-
fulted in this situation, directed emetics, laxatives, anodynes, blisters, Guaiac, and other antarthritic, without any alleviation of the symptoms.

When Dr Buchhave was consulted on this case, he thought it first necessary to try the power of some strentheening medicine, and to attempt to restore the menes to their natural state. With this intention, he sent the patient half a pound of the powder of the root of the Geum urbanum, and directed it to be taken to the extent of a scruple, or half a dram, every two hours.

Some time afterwards, Dr Buchhave was informed, that the whole of the powder had been taken in the manner directed; that the patient’s appetite was increased, her belly regular, and her tongue clean; but that she was still afflicted with severe pains in her head and neck, with a sense of coldness over the whole body; and occasional vomiting, vertigo, sneezing, vermiculatio, and a rigidity of the fingers. Finding, therefore, that this tonic medicine left the rheumatism untouched, he sent equal parts of the Radix Gei and Gum Guaiac, reduced to a powder, to be
be taken to the extent of half a dram four times a day. The use of this was attended with so much advantage, that her pains were very soon much diminished. They were now observed to alternate with toothache and ear-ach, but still at times attended with sneezing. The principal obvious effect of the powder was, that she had two or three stools every day. As the powder of the Geum, however, became at last disagreeable to her, he directed the Guaiac alone, every morning and evening, and a dose of the Geum, under the form of tincture, thrice a day before meals. By these medicines, all her remaining symptoms were gradually removed; and in the space of about three months after Dr Buchhave was consulted, she was restored to perfect health.

The nine succeeding cases, of which we reckon it unnecessary to give a particular detail, consisted chiefly of severe pains in different parts of the body, frequently accompanied with affections of the alimentary canal, and sometimes with hysterical symptoms. In all these, a recovery, in general, to a state of perfect health, was obtained, from the use of the Gum Guaiac, and the Radix
Radix Gei. The Guaiac was sometimes given under the form of mixture, and the Geum under that of tincture or infusion; but most frequently, both were given under the form of powder. With the use of these, other articles were indeed sometimes conjoined. Occasionally, antimonials, opiates, and blisters were employed; and in some cases, Dr Buchhave tells us, he had recourse to volatile liniment, without camphor. But he strongly condemns the application of camphor, either in a dry or moist form, as he tells us, that he has often seen it, from a repulsion of the acrimony, followed by the most alarming appearances. From the internal use, however, of the Geum and Guaiac, no inconvenience, we are told, ever arose; and he considers it, in cases of the Rhematismus Arthriticus, as being an almost infallible cure.

From the good effects which he saw obtained from this mode of treatment, in instances of the disease complicated with hysterical symptoms, he thought there was reason to conclude, that it might also be useful in certain cases of Epilepsy. And in proof of this presumption, he here relates the
eleventh and twelfth cases. The first of these was the wife of a merchant, in the 50th year of her age, who had long been distressed with arthritic rheumatism, chiefly affecting the hip-joints and thighs. On the 24th of December, after severe pain in her breast, with much oppression, she was suddenly attacked with an epileptic accession; and fits of this kind afterwards recurred frequently, at short intervals. After a variety of remedies had been tried in vain, for the space of several months, under the direction of an eminent practitioner, this patient was, about the beginning of March, put under the care of Dr Buchhave. He found her affected with an arthritic pain, occupying the whole breast, arms, neck, and head, accompanied with great asthenia, anorexia, and tremors of the hands and feet. He prescribed for this patient a dose of the Pulv. Rad. Gei, to be taken four times a day, and a dose of the G. Guaiaci twice a day. Under these medicines she soon recovered appetite, sleep, and strength, and got entirely free, both from the epilepsy and from the arthritic complaint, to which, he was disposed to think,
think, that the origin of the former was to be attributed. Dr Buchhave had an opportunity
of seeing this patient seven years afterwards; and he found, that during the whole inter-
vening period she had enjoyed perfect health.

The last case here related, is that of a serv-
yant maid, in the 30th year of her age, who
had never menstruated properly. She ap-
plied to Dr Buchhave on the 2d of May
1783, and informed him, that for the space
of twenty months before, she had been at-
tacked, every eight or ten days, with an epi-
leptic accession. She was also affected with
almost constant cardialgia and swelling of
her stomach, particularly increasing in the
afternoon. For eight days she had been af-
fected also with a quotidian fever. For this
Dr Buchhave first prescribed digestive and
laxative medicines, and it was afterwards re-
moved by the use of the Radix Gei. On the
16th of May, when she was much affected with
pain in her breast, in the hypochondria, and
in the left acetabulum, she was attacked with
an epileptic fit; immediately on the termi-
nation of which, the pain passed into both
feet. From this transition, Dr Buchhave
was
was disposed to view it as a case of rheumatismus arthriticus; and he had immediately recourse to the Geum and Guaiac, the former being taken four times, the latter twice a day. From the time that she began the use of these medicines, she gradually recovered her health, and had afterwards no return of epilepsy. She persisted, however, in the use of the medicines for the space of three months; and Dr Buchhave had an opportunity of seeing her several years afterwards, still continuing to enjoy perfect health.

Although the title of Dr Buchhave’s dissertation applies to the use of corroborants in general in arthritic rheumatism, yet the only corroborant to which he seems to have had recourse, in all the cases here related, is the Geum urbanum; and we cannot, perhaps, from these cases conclude, that equal benefit is to be expected from other tonics in similar circumstances. But if the Geum, in combination with Guaiac, shall be found, by other practitioners, attended with the same good effects, the introduction of this practice may be considered as of no small importance.
VII,


Dr. Callisen sets out with observing, that both theory teaches, and experience confirms, that the stimulus of acrid matter contained in the intestines, renders the alvine dejections more frequent, and induces diarrhoea: for no discharge by the belly is obtained, but what is produced by the matter to be rejected, in consequence of its size, weight, acrimony, or some similar circumstance. Where the stimulus to the intestines is considerable, unless it be such as to induce inflammation, the expelling power of the intestines will be proportionally increased; the derivations of fluids to the intestines will be more copious, and the dejections of excrementitious
crementitious matter in a fluid state more frequent. Hence, among the remote causes of diarrhœa, authors have enumerated foreign irritations introduced, such as poisons, medicines, or the like; acrid matters deposited in the alimentary canal from the system, such as the bile or succus pancreaticus; or morbid matter generated in the system, as in cases of critical and colliquative diarrhœa: But no writer, Dr Callisfen observes, has considered a hardened mass, formed of the excrementitious matters themselves, as a cause of this affection: nor would such an effect, he thinks, appear probable, since a collection might naturally be supposed to induce rather mechanical obstruction than diarrhœa. But the possibility of such a cause of diarrhœa was demonstrated to him by the following case: A woman in the 40th year of her age, of a spare habit of body, the mother of several children, and menstruating regularly, had, for several months, been distressed with anorexia, vomiting, colic pains, particularly in the epigastric region and diarrhœa, by which black coloured faeces were evacuated. When she applied
applied for Dr Callisen's advice, he prescribed various saline, oily, and rhubarbarine laxatives; and afterwards, different tonics, with suitable regimen; but without deriving any benefit from them. A pressing colic pain seemed, to the feelings of the patient, to be now entirely seated in the left hypochondrium. Upon examining the abdomen, Dr Callisen felt a tumour on the left side, near the margin of the false ribs, about the size of a goose egg, which gave pain when touched. Suspecting this tumour to arise from obstruction of the spleen, he ordered alterant pills, consisting of soap, bitter extract, and gum ammoniac; and at the same time he directed external unction with mercury and camphor. Under these remedies, the vomiting ceased, and the pain descended to the region of the loins, on the left side; the diarrhoea, from which she had five or six stools every day, being little changed.

When Dr Callisen again examined the abdomen, at the end of fourteen days after his former examination, he found that the tumour had descended from the place it then occupied, to the region of the loins. The medicines
dicines before directed were ordered to be continued, as the patient was pretty easy, her symptoms being diminished. Some time afterwards, she affirmed she was no longer sensible of the tumour, nor could Dr Callifsen discover it by the feel: but from that period she complained of a peculiar sense of pressure in the rectum, and was excruciated both night and day with constant teneffus. She was at the same time affected with troublesome hämorrhoidal tumours, and frequent bloody dejections. To counteract these symptoms, Dr Callifsen directed leeches to be applied to the anus, emollient and oily injections, anodynes, and the gummy extract of aloes. But notwithstanding these, the teneffus so far increased, that the patient, under the violence of this complaint, frequently fainted. A low fever, with great prostration of strength, supervened, and she seemed to be in the utmost danger.

While the patient was in this deplorable situation, Dr Callifsen, upon examining the rectum with his finger, was able to touch a hard body; and, judging of the size of it by means of a probe, he concluded that it was too
too large to be discharged by the efforts of nature. From reflecting on the symptoms resulting from intestinal calculi, he now conjectured that his patient's complaints arose entirely from a concretion of that nature, and thought that no time was to be lost in extracting it. Having placed the patient in the situation for the operation for fistula in ano, he introduced the forceps employed for the extraction of stone from the bladder, into the rectum. From the distance of the handles, after he had laid hold of the foreign body, he concluded, that its diameter must be above four inches, and that it was therefore too large to be extracted entire by the natural orifice of the anus. But before thinking of enlarging the passage, it first seemed proper to attempt to break the foreign body. This he very easily accomplished; and it soon appeared, that it did not consist of a calculous matter; for he extracted several fragments of highly fetid excrementitious matter, of a very firm consistence, weighing about two ounces and a half. The remainder was easily brought away, by repeated emollient injections. The same day, many
many hard sctyballa were spontaneously evacu- cated by the anus. After this, the natural consistence of the excrements returned, the cholic pains, anorexia, and haemorrhoidal tumours soon ceased; and in a short time she recovered perfect health; care being only taken to obviate costiveness, by proper diet, and gentle saline and oily laxatives.

Dr Callisfen has no doubt that this excre- mentitious mass was accumulated and indurated in the colon. For the small intestines, he observes, on account of their equal figure, without cells, and of the greater thinness of their contents, scarce admit of obstruction, without some other disease. On the contrary, the cells of the colon give an opportunity for the retention of the more firm excrements, for their induration, and for their gradual increase. The concreted mass, by its size, acrimony, and weight, affords, he observes, an unusual stimulus to the intestines. Hence, in such a case, he thinks fluids would be derived to the intestines; and from thence, as in the present case, diarrhœa, and all the other symptoms here occurring, would take place.

Through
Through the whole course of this patient's disease, for the space of three months, diarrhoea was present; and he thinks it highly probable that this arose from the irritation of the excrementitious globe, since that symptom ceased almost as soon as it was evacuated.

Dr Callifon concludes this paper with an observation, which he thinks of importance in practice. In every habit, he remarks, where the intestines are weak and irritable, a diarrhoea may be present for many days; even for weeks, and yet excrementitious matter may be accumulated in such quantity, as to be prejudicial to the system, from its acrimony, putridity, and from the danger of absorption, particularly in acute diseases. In cases of diarrhoea and dysentery, we not unfrequently discover, he observes, at the end of several weeks, numerous hard foyballa evacuated, which could never be supposed to be produced, from the small quantity of nourishment taken during the course of the disease. And we find, that after the evacuation of these, the patient soon recovers. Hence he thinks, that, in many cases at least, strong purgatives are indicated
indicated in the beginning of the disease, for those affected with dysentery and diarrhoea. He considers them as particularly indicated in every case where foulness of the tongue and an oppressive fixed pain at any particular part of the abdomen, create a suspicion of accumulated faeces. And, on the basis of extensive experience, he ventures to affirm, that, in putrid diseases, particularly in the beginning, although either spontaneous diarrhoea, or one excited by gentle laxatives, be present, yet that an obstinate disease may be much more quickly and safely cured, if brisk purgatives be exhibited in due time. And, upon the whole, he is disposed to think, that in putrid diseases, brisk purgatives are to be preferred to more gentle ones, since a state of torpor and insensibility of the intestinal canal, and indeed of the whole body, often renders the use of the latter altogether ineffectual.
VIII.


It was long since an observation of the illustrious Linnaeus, "Esculenta conservant, venena restituunt sanitas." This observation, Dr Buchhave thinks, is confirmed by the experience of all ages; and it would, he imagines, be still oftener demonstrated, if more numerous experiments were made respecting the most virulent poisons, both from the vegetable and animal kingdom. There are, in particular, he remarks, many plants, the virtues of which are either altogether unknown to us, or not confirmed by a sufficient number of trials. Among these, he views the Belladonna as by no means to be considered as holding the lowest place.
Indeed, the ancient physicians always considered it as one of the most powerful narcotic plants, and most deliterious poisons, both to the human species and to other animals; and on that account, they styled it the Solanum Maniacum vel Furiosum.

About the beginning, however, of the present century, experiments were made, by different practitioners, respecting the employment of the leaves of this plant, in cases of schirrus and cancer, but with various success. Afterwards, Dr Munnich had recourse both to the leaves and to the root in cases of rabies canina; and, by means of it, we are told in many instances, removed this dreadful disease both from men and other animals. The analogy of its use in rabies canina, gave a foundation for trying it in instances of mania, melancholia, and epilepsy; and trials, not unsuccessful, were made by Evers and Greding; the last of whom employed it with advantage against obstinate jaundice, arising from infarction of the liver. From these trials there was reason to infer, that it had both a tendency to favour the resolution of tumours, and to overcome spasm.
modic affections. But as the number of experiments was not sufficiently great; to put the matter beyond all doubt, Dr Buchhave considered it as a matter of importance to make farther trials, with the view of determining the extent of its antispasmodic powers, and the diseases of this class to which it was particularly accommodated.

With this view, he resolved, on every proper occasion, to try this remedy with those labouring under diseases belonging to the class of Neuroses; and particularly to try its effects in Tussis convulsiva, a disease often obstinately resisting every mode of cure. Before mentioning, however, the result of his trials, he thinks it first necessary to give some account of the effects of this medicine on the human system.

The leaves, according to Dr Munnich, are equally powerful with the root, when given in double the quantity. But Dr Buchhave was disposed to place the greatest confidence in the root, in consequence of its superior powers. On this account, he resolved to employ the root alone, reduced to a powder, and combined with sugar.
The effects of the root of the Atropa Belladonna, as far as he could determine by experiment, were the following. Adults not accustomed to it, after an ordinary dose, were affected with dryness of the mouth, fauces, and nose, which continued for three or four hours. From this, deglutition became difficult, and articulation indistinct. No kind of drink could remove this symptom; but acids kept in the mouth, in part diminished the disagreeable sensation. To this symptom was sometimes joined a continued nifus for the discharge of urine. The pulse was always observed to be more full and quick than natural; and there was an evident congestion of blood in the head, producing redness of the cheeks, vertigo, drunkenness, dullness of the eyes, and dilatation of the pupils. But, with others who were either stronger, or accustomed to the powder, neither the whole of these symptoms took place, nor did they occur to so great a degree.

Infants, after a dose proportioned to their age, felt no inconvenience, excepting redness of the cheeks, with some swelling, and
a slight increase of heat. But with some who, in the beginning, got a larger dose than was accommodated to their age, more considerable swelling of the face, and a greater degree of redness extended over the whole body, was observed. To these were conjoined uncommon loquacity, and staring of the eyes, similar to that of epileptics. After an uncertain but short period, they became silent and torpid, and at length fell upon a deep sleep; during which, copious perspiration in general took place, and from which they awaked entirely free from all their symptoms. In proportion, however, as they became accustomed to the powder, these symptoms diminished.

Dr Buchhave exhibited the root of the Belladonna in smaller doses than it had been employed by Munnich, who, in desperate cases had given it to the extent of fourteen grains, and even upwards. With those who had not yet completed their first year, the dose was confined to half a grain; to patients between one and two years, he gave a full grain; to those arrived at their eighth year, he gave two grains; and to those who had
had passed their 20th year, he gave it to the extent of four grains; but he seldom exceeded this dose, which, however, was repeated twice a day.

In various diseases he experienced very great benefit from this medicine. It was useful in melancholia and mania; but he found it particularly beneficial in the Tussis convulsiva, or Hooping-cough. Hitherto, he observes, no medicine had been discovered, producing a speedy, safe, and pleasant cure. This led him to a trial of the Atropa Belladonna; and his expectation was fully answered; for he never observed from it, when given in proper doses, any alarming symptoms or dangerous sequelæ; and the cure was in general very quickly accomplished. The disease, under this medicine, very seldom continued for weeks, never for months; and was for the most part finished in a few days. Those who began its use very early, were often cured in the space of eight days. But where the disease had been of several weeks standing, it became necessary to continue it for twelve or fourteen days; and those who, deceived by the slightness of the cough,
cough, relinquished its use too early, were sometimes subjected to a relapse. The vomiting of food, and violence of the cough, soon after the use of this medicine, entirely left the patients, so that afterwards they could retain with ease every kind of food and drink; and with all patients, during its use, the discharge by the belly continued natural, without any signs of obstipatio. During the employment of the Belladonna, however, Dr Buchhave exhibited emetics every third or fourth day, because he found that, without these, the disease could not be overcome by any medicine. He contends, however, that in the Belladonna we possess a medicine which has long been a desideratum in this disease, equally suited for the rich and for the poor, for adults and for infants; and he has, therefore, considered himself as bound to publish its effects, for the good of mankind.

In confirmation of these general observations, Dr Buchhave subjoins a short account of several cases in which he employed it. From these we shall here select a few of the most remarkable.

On
On the 10th of September 1784, Dr Buchhave was called to a girl who had laboured for fourteen days under very violent Tussis convulsiva. Besides ordering an emetic every fourth day, he prescribed two grains of the Pulv. Rad. Bellad. in six grains of sugar, to be taken twice a day. Having taken a dose of the powder after the use of the emetics, there arose great heat and anxiety, succeeded by profuse sweat. These symptoms subsided towards evening; but she had a similar paroxysm after the dose taken next morning. The tongue being covered with white mucus, Dr Buchhave prescribed a laxative, and the day after an emetic. From this time she took the powder of Belladonna without any inconvenience; and after using it for twelve days, she had very little remains of cough.

In the year 1785, the Hooping-cough having prevailed as an epidemic at Copenhagen, Dr Buchhave had many opportunities of employing the Belladonna. He was applied to, on the 2d of January, for a boy nearly two years of age, who had been for some weeks subjected to Tussis convulsiva,
with vomiting. After ordering an emetic, he directed two grains of the powder of the root of Belladonna to be taken on the 2d of January, at nine in the evening. Soon after, there took place a species of insanity, with various gesticulations, redness of the face, and the whole body. These symptoms, with quickness of pulse, continued till about midnight. Then a sleep commenced, which continued for ten hours, attended with profuse sweating. On the 3d and 4th days of January, the cough continued much easier, and nothing was given. On the 5th, he took an emetic; and on the following days, the Belladonna was repeated to the extent of a grain and a half every morning and evening. Every evening, a certain degree of heat and inquietude followed the use of the powder; but these symptoms were not observed after the morning dose. As the cough then began to be much milder, the parents, thinking that medicines might be omitted, gave nothing for five days. During that time, the disease regained strength, and very much harassed the patient. Upon this, Dr Buchhave ordered
the powder to be repeated as before, from whence there was such a remission of the cough, that on the 25th, by which time he had continued the medicine for eight days, the cough rarely affected him. Dr Buchhave, however, thought it advisable, that it should be persisted in for some time longer; but the parents having failed to observe this direction, there was another return of the cough, after the medicine had been intermitted for five days. On the 1st of February, the powder was repeated for a fourth time; and in six days, a complete cure having been obtained, it was finally given up. From the frequent relapses, however, a month was in this case required for the cure.

On the 5th of January, Dr Buchhave was called to a girl nine years of age, who for three weeks had laboured under Hooping-cough, attended with much vomiting. After the use of two purgatives and emetics, she was directed to take two grains of the powder of the root of Belladonna every morning and evening. In the space of four days, the cough was much diminished, and the vomiting
ing gone; and in eight days it was thought no longer necessary to continue the medicine, as she was entirely free from the complaint.

Two sisters, the one five, the other three years of age, were put under the care of Dr Buchhave, after they had been affected with Hooping-cough for some days. After exhibiting vomits, he gave to the eldest two grains, and to the youngest a grain and a half, of the powder of the root of Belladonna, every morning and evening. The evening dose produced with both of them great heat, and redness of the cheeks; and with the eldest it produced also loquacity, continuing for some time. Both bore the morning dose without any inconvenience; and, after the space of twelve days, the cough being entirely removed, the medicine was intermitted.

A girl nine years of age had coughed violently for as many weeks; and for the three last of these had been confined to bed. All her food was discharged by bloody vomiting, and she expectorated a purulent sputum. She was at the same time affected with
with quickness of pulse, and pain in the abdomen. Although Dr Buchhave was here afraid of a disease of the breast, yet as the cough seemed to partake of the nature of the Tussis ferina, he did not hesitate to prescribe an emetic, and afterwards the Belladonna, to the extent of two grains twice a day. This medicine was begun on the 19th of February, and by the 25th, the cough was much mitigated. By the 1st of March, her cough rarely distressed her, even during the night; her expectoration was much diminished; her sleep and appetite were good, her pulse and tongue natural. By the 5th of March, the purulent expectoration had ceased, and her strength and flesh were much improved. And thus, by emetics and Belladonna, within the space of sixteen days, this patient was restored to perfect health.

Besides several other cases confirming the advantages of the Belladonna, Dr Buchhave relates also three which occurred in his own family. A son, in the 10th year of his age, got well under the use of the Belladonna. With a daughter, in her 11th year, the dif-
ease ran on for twenty days; and with a son in his sixth year, it was successfully terminated in the space of eight days.

Of the use of the Belladonna in this disease, we must acknowledge, that, for our own parts, we have no experience. But even the most tedious of the cases here mentioned, when we attend to the common course of Pertussis, may be considered as speedy recoveries: And if the Belladonna shall be found by others to be attended with the same happy consequences, its introduction in Tussis convulsiva may be justly considered as a very important practical discovery.
IX.


ALTHOUGH much has of late been written respecting the use of Opium in Syphilitic affections, yet practitioners are by no means hitherto agreed respecting the effects which it really exerts in that complaint. Hence, farther observations on this subject may justly be considered as well deserving serious attention. As soon as Dr Schonheyder was informed of the use of opium, he resolved to give it a fair trial in St John’s Hospital, where he attends as a physician. Some years before this discovery was made public, he had, he tells us, employed a suspicion against ill-conditioned venereal ulcers, with great advantage; not indeed giving up the use of mercurials. Be-
ing already acquainted with the powers of the affaætida, he resolved to conjoin it with an equal quantity of pure opium, in hopes of thus obtaining a more speedy cure. In a few cases, where the efficacy of the opium seemed to be doubtful, or slow, he prescribed mercury every second day; but in many, the opium and affaætida were of themselves sufficient. He never saw any one hurt by the use of the opium in this disease, though some of them took it to the extent of ten grains twice a day; nor did he ever observe it induce either sleepiness or a bound state of the belly, unless at the commencement of its use. In testimony of these assertions, he here presents us with a selection of seven cases, from a considerable number in which he employed it, these being, he thinks, the most worthy of notice.

A man in the 44th year of his age was admitted into the hospital, on the 16th of December 1784. He had been ill for upwards of a year, and had used much medicine in vain. He was affected with large and deep ulcers in the fauces, and also on the external head and neck. After the use of
of a laxative, he was put upon the decoction of the woods, and a grain of opium every morning and evening. After the four first days, one grain was daily added to each dose, till it arose to seven grains. He left the hospital, in good health, on the 26th of April, after being for three weeks entirely free from every symptom of lues. He was cured in the space of four months.

J. S., in the 54th year of his age, had been subjected to various venereal affections, for the space of twelve years, for which he had been even sometimes salivated. His disease chiefly appeared under the form of exostoses, and deep ulcers on the tibia; and there were some also on the cranium. He was put upon opium pills; and the quantity was gradually increased, till he took twelve twice a day, with a decoction of the woods. He was completely cured in the space of six months.

P. W., in the 31st year of his age, had laboured under syphilis for two years. His symptoms were exostoses of the tibiae and right parietal bone, with arthritic pains. He was directed to take, every third night, five grains
grains of mercurius dulcis, made into pills with the crumbs of bread; and in the intervening nights, he took opium and asafoetida conjoined, to the extent of fifteen grains; and in less than two months he was completely cured.

A. T., in the 23d year of his age, had been for three months syphilitic, notwithstanding the use of different medicines. His symptoms were, chancres, and condylomata on the glans, penis, and arthritic pains. On account of the arthritic pains, Dr. Schonheyder put him, for the space of eight days, on powders, consisting each of half a dram of crude antimony, and ten grains of magnesia alba, a combination from which, he tells us, he has often derived great benefit. Of these powders, one was taken four times a day. His pains being alleviated, he was put upon the use of opium and mercurial pills alternately, with the decoction of the woods. He was admitted into the hospital on the 1st of March, and left it in perfect health on the 30th.

C. I., in the 36th year of his age, had for six years been affected with different syphilitic symptoms. Upon his admission into
the hospital on the 26th of November 1785, a large foul ulcer appeared on the palate. The whole of the uvula, and part of the velum palati was consumed. After the exhibition of a laxative, mercurial pills were given him, to the extent of three grains every second night, together with a decoction of the woods. But, on the 5th of December, signs of excessive salivation appeared, with great redness and pain of the mouth; and to these, diarrhoea was soon added. Upon this, relinquishing the pills, he took rhubarb with magnesia. On the 8th of December, the diarrhoea seemed to be overcome; but there was no apparent change in his venereal complaints. As he seemed to bear mercury ill, and had before taken it without benefit, Dr Schonheyder put him on the use of pills of opium and affaefetida. By the 29th of December, the viscid matter of the ulcers began to separate; and by the 20th of January they appeared clear and florid. During that period, the dose of the pills was gradually increased to twenty daily. By the 4th of February, all his ulcers were healed; and on the 25th of
that month, he left the hospital in good health.

F. H., in the 24th year of his age, who had been subjected to Syphilis for nine months, had large foul ulcers on the fauces; the uvula, tonsils, and great part of the palate bones being destroyed. Before his admission into the hospital, he had taken, to a great extent, Van Swieten’s solution, sweet mercury, and cicuta. He was much emaciated, and subjected to febrile symptoms; on which account Dr Schonheyder at first gave him the decoction of Peruvian bark; to which, after eight days, were conjoined pills of opium. By the use of these, in nine months, he got entirely free from the complaint.

The last case here related, is that of F. G., a man in the 32d year of his age. He had been subjected to Syphilis for six months. His symptoms were nearly the same as in the former case. Recourse was here also had to the decoction of bark, conjoined with opium pills, which were at length taken to the extent of twenty grains in the day. They were
were continued till a complete cure was obtained, which happened in about six months.

These cases Dr. Schonheyder considers as confirming the good effects of Opium in Syphilis, which some have of late denied. He thinks that it operates in this disease, by rendering the nervous system insensible to the syphilitic stimulus; and that, in consequence of this, the syphilitic virus is gradually discharged from the system by the powers of nature; without giving any farther inconvenience.
X.


In a Memoir read before the Medical Society of Paris, M. Seguïn, after having slightly noticed the opinions of some of the ancients concerning respiration and its uses, commences his account of the opinions of the moderns with M. Lavoisier’s. That philosopher proved, in 1776, that atmospheric air is formed of oxygen and azote, brought to the state of elastic fluids, by means of caloric. He proved, in 1777, that during inspiration, great part of the oxygen was converted into carbonic acid in the lungs. In 1785, he suspected that water was formed during respiration. M. Seguïn.
Seguin insists particularly upon an experiment of M. Lavoisier, in which it was proved, that only four fifths of the oxygen inspired was consumed in forming carbonic acid, and that the remaining fifth was either absorbed by the blood, or, what our author thinks much more probable, had entered into the composition of water. M. Seguin also adduces the experiments of M. M. Cigna, Priestly, and Hamilton, by which this latter opinion is supported. These prove, that arterial blood, when in contact with hydrogen gas, absorbs it; is coloured, and passes to the state of venous blood: that venous blood, exposed to the action of oxygen gas, becomes florid, and assumes the properties of arterial blood, while it converts the oxygen gas into carbonic acid gas.

M. Seguin also observes, 1st, That the blood becomes venous at the extremities of the arteries, by absorbing hydrogen; and that the venous blood becomes arterial in the lungs, by giving out its hydrogen to the oxygen gas.

2d, That the hydrogen, when abstracted from the animal matters, holds in solution a considerable
considerable proportion of carbon: hence it results, that one portion of the oxygen, remaining in the lungs during respiration, combines with the hydrogen disengaged from the venous blood, to form water; while the other four parts unite with the carbon, and produce carbonic acid gas, which is expired.

Although these combinations at first seem difficult, for we know that the application of a burning body is required to inflame hydrogen gas, and a heat of near 150 deg. of Reaumur to burn carbon in open air; yet, in the lungs, they take place readily without either of those agents; because the hydrogen is not disengaged in the state of gas, and therefore not prevented, by its attraction for caloric, from uniting with oxygen in the ordinary temperature, and because the carbon is held in a very divided state by the hydrogen.

M. Seguin then examines whether respiration, and the formation of water and carbonic acid, which arise from it, be the sources of animal heat. M. Lavoisier first announced, in 1777, that this was owing to
the caloric difengaged from the oxygen gas, during its decomposition and condensation in the lungs. M. Crawford, in 1779, adopted and supported that opinion by experiments. M. Seguin, in his memoir, endeavours to confirm it, and principally inquires into the cause by which the heat of each individual is maintained nearly the same in every part of his body. To explain this, he has recourse to those experiments of Dr Crawford, which prove that the capacities for containing caloric in arterial and venous blood, are nearly as 11.5 to 10; that is to say, if it require a quantity of caloric, represented by 11.5, to heat a pound of arterial blood from Zero to 30°, it shall only require a quantity as 10, to heat a pound of venous blood from Zero to 30°.

On this fact, M. Seguin founds the following theory. In the lungs, oxygen gas is decomposed, in consequence of the affinity of the carbonated hydrogen of the blood for oxygen, being greater than that of oxygen for caloric, and of carbonated hydrogen for blood. In proportion as the oxygen unites with the hydrogen and carbon, water

\[ K 4 \]
and carbonic acid are formed: the caloric combines itself with the venous blood, which, in losing its carbonated hydrogen, becomes arterial, and has its capacity for containing caloric immediately augmented. But the blood, now arterial, in circulating through the body, gradually absorbs carbonated hydrogen, repasses to the venous state, and loses a portion of its caloric, in proportion as its capacity for containing it is diminished. The almost uniform temperature in all parts of the body is then owing to the successive changes of arterial blood to venous throughout the body, and of venous to arterial in the lungs. It is also a consequence of this fact, that the greater temperature of some parts of the body is to be ascribed to the arterial blood absorbing more carbonated hydrogen, or its becoming venous more rapidly.

M. Seguin terminates his memoir with some important consequences, drawn from these observations.

1st, The cold fit at the beginning of fevers coincides with the diminution in the number of pulsations and inspirations.
2d, The increased heat, which succeeds the cold fit, is owing to the accelerated circulation and respiration.

3d, The burning heat of putrid fevers depends upon the putrefactive state of the system, which increases the proportion of carbonated hydrogen in the blood, and detaches its caloric.

4th, The heat of inflamed parts is owing to the same cause, united to accelerated circulation.

In the present memoir, M. Seguin presents the beginning only of a most important inquiry respecting the philosophy of the animal body; for he has treated only of one of the phenomena of respiration. We are here informed, that, in conjunction with M. Lavoisier, he is engaged in experiments on digestion, tending to show the influence which respiration has in the combination of chyle with blood; which will contribute not a little to the advancement of medical science.
XI.


In this paper, M. Margueron, after giving an account of some experiments which pointed out a strong analogy between the serosity of blisters and the serum of the blood, proceeds to compare these fluids with each other. That the result of his experiments might be more accurate, he obtained the fluids from persons of the same age, sex, and constitution, at least as nearly as he could. The patient from whom he obtained the serosity, was affected with a pleurisy. The serum was got from a person who laboured under no disease indicating blood-letting.

They were both received into similar vessels. The smell of the serum was more sensibly
ibly peculiar than that of the serosity, in which the odour of the component parts of the blister was distinctly perceived. The serum was of a yellowish green colour; the serosity of that of amber: the serum was more viscid; and its specific gravity was to that of the serosity as 305 to 300, distilled water being 288. They had both a saline taste, and gave a green colour to the tincture of violets. After having been exposed some time, the serosity formed a net-work on its surface, which, contracting, produced a pellicle, which sunk to the bottom of the vessel. The serum formed no such pellicle.

They both mixed with cold water, and communicated to it the property of becoming frothy, on agitation. With boiling water, they assumed a milky colour, and formed a flocculent precipitate. One part of each of these fluids was mixed with two parts of distilled water, and placed in a bath of boiling water: the diluted serum was soon covered with a pellicle, which was easily taken off, as well as those which afterwards appeared. The serosity formed its pellicles more slowly, and in less quantity.

After
After no more pellicles appeared, the vessels were taken off; the liquors had a saline taste; alcohol caused in them a flocculent precipitate. This precipitate, as well as the pellicles, was albumen; that of the serum was whiter; that of the serosity of an opal colour.

The liquors, thus freed from albumen by evaporation and crystallization, gave muriat and carbonat of soda.

Exposed to a heat below that of boiling water, these fluids soon lose their transparency, and become opaque concretions: that of serum was white, and tolerably firm; that of serosity amber-coloured, with less solidity.

Subjected to distillation in a retort, they afforded the same products: 1st, An insipid phlegm; 2d, Water containing ammonia; 3d, Empyreumatic oil; 4th, Carbonated hydrogen; 5th, Carbonat of ammonia; 6th, There remained in the retort charcoal, from which, water extracted muriat and carbonat of soda.

The charcoals thus washed, being put into a crucible, and exposed to the fire, left white ashes, which were dissolved in nitric acid.

These
These solutions formed precipitates with lime-water and the oxalic acid. The liquors being then filtered and evaporated, the residuum formed, by means of the blow-pipe, a globule, which, dissolved in lime water, precipitated lime water: hence these ashes were phosphet of lime.

The acids had more or less action on these fluids, according to their concentration. When diluted, they caused a flocculent precipitate; when concentrated, they redissolved the precipitate as soon as formed.

Alkalis augmented the fluidity both of serum and serosity; and when deprived of their carbonic acid, dissolved the residuum these fluids left upon evaporation.

Alcohol precipitated the albumen from these fluids. On separating this by filtration, and evaporating the liquors, carbonat and muriat of soda were obtained.

Equal quantities of these fluids exposed to the same temperature, in similar vessels, left a scaly residuum, in which the salts already mentioned were recognised; and in this experiment, the serosity lost more than the serum.
Exposed to a moist air, they lost their transparency, and became covered with pellicles: their smell resembled that of fish which begins to spoil, and their colour grew deeper. In this state, they were still coagulable by fire, alcohol, and the acids. The alkalis and lime disengaged ammonia; to this a fetid odour succeeded, and at last their surfaces grew mouldy. In a dry atmosphere, on evaporation, they left a soft matter, of a deep amber colour.

The same chemist has also analyzed the synovia. It was obtained from the joints of the extremities in bullocks. To detail his experiments upon this fluid, would be almost a repetition of what we have already said.

The constituent parts of these fluids, he found to be in the following proportion:

<table>
<thead>
<tr>
<th></th>
<th>Serum.</th>
<th>Serosity.</th>
<th>Synovia.</th>
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<tbody>
<tr>
<td>Albumen</td>
<td>40</td>
<td>36</td>
<td>33.</td>
</tr>
<tr>
<td>Muriat of soda</td>
<td>4</td>
<td>4</td>
<td>3.5</td>
</tr>
<tr>
<td>Carbonat of soda</td>
<td>3</td>
<td>2</td>
<td>1.3</td>
</tr>
<tr>
<td>Phosphat of lime</td>
<td>2</td>
<td>2</td>
<td>1.2</td>
</tr>
<tr>
<td>Water</td>
<td>151</td>
<td>156</td>
<td>161.</td>
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XII.
XII.

Bernhardi Nathanaelis Gottlob Schregeri, Medic. et Philof. Doctor, Dissertatio de corticis Fraxini excelsioris natura et viribus medicis. 4to, Lipsiæ.

Dr Schreger begins this little treatise with an account of the names, botanical character, and place of growth of the Fraxinus excelsior of Linnaeus, or common Ash tree. In the second chapter is contained a chemical analysis of its bark.

An ounce of the dried bark, in coarse powder, was infused for a night in a pound of water, and strained. The colour of this infusion, when viewed between the eye and the light, was of a pale yellow; when placed against an opaque body, of a greenish blue. The colour of the decoction was nearly the same, but more obscure. The taste of each was bitter, austerer, and somewhat acrid, without any remarkable odour.
Four ounces of this bark were boiled with two pounds of water for three hours, and the decoction filtered. The same bark was again boiled with a pound and a half, and with two pounds of water. These three decoctions were mixed, and evaporated to a consistence fit for making pills. There remained fix drams and two scruples of gummy extract, of a brown colour, of a taste at first very bitter, but afterwards a little astringent, and with almost no odour.

On the bark dried, after these decoctions, by which it had been deprived of its gummy part, ten ounces of highly rectified spirit of wine were poured, to which it gave a pale brown colour. After it had stood a night infused, it was boiled by a gentle heat to one half, and poured into a glass vessel. Eight ounces of rectified spirits were then added to the same bark, and boiled gently. Both these fluids were mixed together, and evaporated to the consistence before mentioned. By this means, thirty-two grains of resinous extract were got, of a shining greenish brown colour, and of a bitter and somewhat acrid taste.

Four ounces of the dried bark of the ash were boiled, first in two pounds of Rhenish wine,
wine, and afterwards twice in one pound. These three decoctions were evaporated to the confluence of thick honey, and gave one ounce two drams and four grains of gummy resinous extract.

Two ounces of this bark gave a very slight smell, but no perceptible taste, to water distilled from it. The bark of the Ash, then, contains nothing which is volatilized by the heat of boiling water.

A pound of the bark was burnt in a crucible; the ashes weighed five drams two scruples and one grain. After being washed in water, they weighed twenty-seven grains less. This water, on evaporation, left a scruple and one grain of dry saline matter, which was principally carbonat of potash, with a small quantity of sulphat of potash; and carbonat of lime.

The ashes, which had been washed, were saturated with one ounce six drams and a half of diluted nitric acid. This solution was largely diluted with distilled water. In this, prussiat of potash scarcely indicated the presence of iron. Carbonat of potash precipi-

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tated from it half an ounce and forty-seven grains of carbonat of lime.

One ounce of the bark was boiled in a pound of water, and strained. Its colour was of a yellowish brown. The alkalies changed the colour of this decoction to a more obscure brown, verging towards green. Diluted sulphuric acid destroyed its colour. Sulphate of iron gave the decoction an obscure green colour.

Dr Schreger also relates some experiments, in which he employed this bark as a dye-stuff.

After these chemical observations, the author next proceeds to treat of the medical virtues of this bark. In examining its antiseptic powers, he observes, that the degree of this influence upon the living body, cannot be determined by experiments upon dead animal matter; for we know that there are substances, such as the air in the neighbourhood of marshes, sea salt, &c. which, although they exert considerable antiseptic powers on dead matter, yet, in the living subject, promote a tendency to putridity. Besides, putrefaction, properly so called, never takes place in the body of a living animal.
mal. The condition of the circulating fluids, in such diseases as putrid fevers, scurvy, &c. is not dependent upon putridity itself, but is merely such as to have a tendency to easy solution, and to show the signs of putridity when the external causes are applied, as, for instance, exposure to air.

Antiseptic remedies seem to have two modes of operation on the human body; the one acts upon its elastic fibres, and, by rendering them firmer, prevents their ready separation and solution; the other, and that the most efficacious, acts upon the vital fibre by irritation, and thus exciting the living parts to a more vivid reaction.

While antiseptics act on the living body in both these ways; on the dead body they act only in the former. Hence, our author considers experiments on dead animal matter as affording inaccurate proofs of the degree of antiseptic power any body may have. To be satisfactory, experiments ought to be made on living subjects, of the same habit of body, labouring under the same disease.

Dr Schreger has, however, related some experiments, in which he compared the a-
astringent powers of the Peruvian bark, and that of the Ash tree. From these it appears, that, as an astringent, the latter was by much the most powerful.

To prove its antiseptic powers on the living body, he quotes many authors. It seems to have been successfully used in continued malignant fevers, intermittents, dysentery, haemorrhages, ulcers, &c. From these observations, Dr Schreger is led to think, that although some may have valued too highly the medicinal powers of this bark, yet, since its virtues as a febrifuge are well authenticated, it ought to be considered as a valuable gift from the bountiful hand of Nature.
XIII.

A Treatise on the Gonorrhea Virulenta, and Lues Venerea. By Benjamin Bell, Member of the Royal Colleges of Surgeons of Ireland and Edinburgh, one of the Surgeons of the Royal Infirmary, and Fellow of the Royal Society of Edinburgh. Two Volumes. 8vo, Edinburgh.

Mr Bell introduces the treatise before us, with the consideration of a question by no means unimportant in practice, viz. Whether Gonorrhoea and Lues Venerea originate from the same contagion? On this subject he adopts, and, we think, with great probability, the opinion of those who contend, that the nature of the specific contagion producing Gonorrhoea, is different from that giving rise to Syphilis. After stating the arguments which have before been employed to support this question, drawn from the difference in the symptoms
of the two diseases, from the difference in their consequences and progress when left to themselves, but, above all, from difference in the method of cure, Gonorrhœa almost never requiring the use of mercury, while Syphilis, in this country at least, is almost never cured by any other remedy; he gives an account of various cases which have fallen under his own observation, tending to confirm this opinion. Several of these clearly prove, that the symptoms which sometimes arise from Gonorrhœa being suddenly checked, and which have often been considered as syphilitic, are in reality of a very different nature. Having endeavoured to ascertain this point, he proceeds to treat of each disease separately; and first of Gonorrhœa.

After some remarks on the impropriety of the term Gonorrhœa, as the semen has no concern, he offers some general observations on the symptoms, causes, and seat of Gonorrhœa. He gives very nearly the same account of the symptoms and causes of this disease, as are to be met with in preceding writers. With respect to its seat, he thinks it may be divided into four stages, or states.
1st, In many cases there is merely a slight degree of inflammation, extending from the extremity of the glans an inch or so up the urethra. 2d, In more obstinate cases, Cowper's glands, with their ducts, which terminate in the urethra, are found affected. 3d, In another state or stage, the prostatic gland, and contiguous parts of the urethra, are inflamed. 4th, and lastly, In some instances, the internal coat of the bladder is found inflamed.

On the differences thus taking place in cases, the prognosis is, he thinks, to be chiefly founded. But he admits, that in forming a prognosis, it ought always to be kept in view, that however mild the symptoms may be at first, they may very quickly and unexpectedly become severe, by the disease proceeding from one part of the urethra to another, or even by the inflammation in the part which was at first affected becoming more violent. The prognosis, however, he observes, is not more affected by any thing than by the management of the patients themselves; for there is not, he tells us, a more undoubted fact, than that the cure of the disease is, for the most part,
both difficult and uncertain, where the patient lives in a riotous and intemperate manner.

After these remarks on the prognosis, Mr Bell next proceeds to treat of the cure. He begins by pointing out the disadvantages which arise from the practice formerly employed in this disease, particularly from mercurials and strong purgatives.

As there can, he thinks, be no doubt that Gonorrhœa is a local affection only, it is obvious, that a cure is to be looked for from the use of local remedies only; and he considers no others as necessary, if it be not occasional blood-letting, and other evacuations, where fever, plethora, or much inflammation take place. As, however, different parts are affected in Gonorrhœa, in some it would be improper, and even hazardous, to apply the same remedies, which in a great proportion of cases are used with safety and advantage. This leads him to revert to the necessity of distinguishing between one state of Gonorrhœa and another. On this account, he treats, in separate sections, of each of the four already marked out.
In what Mr Bell calls the first stage of the disease, or more properly, perhaps, its slightest form, the running proceeds entirely from inflammation of the membrane of the urethra, without any affection of the glands which open into it. On the removal of this, therefore, the cure must depend. In this state of the disease, injections of a sufficient degree of astringency may, he tells us, even at the commencement, be employed with perfect safety, whether the inflammation which takes place be mild or severe. Injections of the emollient kind, which are by many recommended, never tend to shorten the continuance of the discharge, and often render it more fixed and permanent. The only symptom which, he thinks, precludes the immediate use of injections, is pain and swelling of one or both testes, as, by checking the running, they deprive us of one of the most effectual remedies of swelled testicle. In the way of injection, here, he tells us, that benefit may be derived from Calomel, Lapis calaminaris, Alum, Kino, Opium, Litharge, Ceruse, and other preparations of lead. But of all the astringent injections, he
he has found none so powerful as white vitriol dissolved in water. In the quantity of a grain or two to an ounce, it seldom, he observes, creates much uneasiness, and rarely fails in curing the disease; though he has sometimes thought, that its efficacy has been increased, by adding to each ounce two drops of the acetum lithargyri. Injections, however, must in every instance be accommodated to the nature of the case. All injections should be of such strength, as to excite some degree of irritation in the urethra, but by no means so strong as to occasion much pain. When too strong, they do harm; when too weak, no advantage can be expected from them. Although it be not necessary that injections should be thrown farther up into the urethra than the seat of the disease, yet, Mr Bell contends, that no evil ever arises from throwing them up to a greater extent; and he strenuously recommends, that they should be used eight or ten times daily, by which the cure, instead of being protracted for several weeks, will often be completed in as many days.

In
In the second form of the disease, where the inflammation has extended to Cowper's glands, the practice, he observes, is materially different from that recommended for the former modification. Here the greatest evils are to be dreaded, he observes, from the affection terminating in a state of suppuration. All our endeavours, therefore, are to be employed to remove, or lessen the inflammation. For this purpose, if the patient be plethoric, he should lose a considerable quantity of blood by the lancet; and whatever his habit of body may be, ten or a dozen of leeches should be applied to the pained part. Saturnine poultices should then be applied; the bowels should be kept open by gentle laxatives, and the patient put upon a low cooling diet; and where these fail, a resolution of the inflammation is sometimes obtained, by a blister covering the whole perineum. When suppuration cannot be prevented, nature must be assisted by emollient poultices, and the matter discharged by an opening made externally.

In the third form or stage of the disease, where there is an affection of the prostate gland,
gland, early blood-letting is, Mr Bell observes, almost the only practice from which any obvious advantage has been derived. Blisters, he observes, do not afford the same relief here as is derived from them in swellings of Cowper’s glands; nor is much advantage to be obtained from Saturnine applications. Opium, either by the mouth or in clysters, proves more useful than any other remedy, for removing the pain, and lessening the irritation. Mercury he considers, in swellings of this gland, as not merely an useless, but a dangerous practice. Nor has he decidedly seen any benefit from cicuta. But in some cases, where this disease has been connected with scrophula, he has seen benefit from sea-bathing.

The fourth and last form of the disease, of which Mr Bell treats, is that where the affection extends to the bladder. Although this might appear the most formidable form, yet he considers it as by no means so difficult of cure as the last mentioned. Here also, on the first appearance of the disease, blood-letting is, he thinks, the only remedy on which dependence ought to be placed.
Gentle laxatives, antiphlogistic regimen, and anodyne injections, are also of great service. In the more advanced stages of the disease, he has found the greatest benefit from *Uva Ursi*; and in some cases, where thickening of the bladder has taken place, advantage has been obtained from mercury. But in other cases, Mr Bell has never known any advantage derived from it; and in some instances it has done harm.

After these remarks on Gonorrhœa in men, Mr Bell concludes this branch of his subject, with some observations on Gonorrhœa in women. He considers the leading symptoms in Gonorrhœa as being so much alike in both sexes, that the general method of treatment must be similar in both; only, that in women, from the situation and organization of the parts affected admitting of it, injections may, he thinks, at all periods of the disease, be used with more freedom than in men; an inflamed state of the bladder being, in women, almost the only circumstance that can take place in Gonorrhœa to render injections improper.

Having
Having treated of the more common forms of the disease, Mr Bell next proceeds to consider some of those consequences which either arise from improper treatment, or will in certain cases occur even where the most judicious practices have been employed. He first treats of Gleet, by which he means the continuance of the discharge after it has become transparent, and is incapable of communicating contagion. As he considers this discharge as arising from different causes, and requiring different modes of treatment, he thinks it proper to treat of them separately.

The most frequent modification of Gleet, according to Mr Bell, is that succeeding what he calls the first stage of Gonorrhœa, where the original inflammation proceeded no farther than the urethra, or small mucous glands immediately connected with it. This form of gleet, notwithstanding the opinion being ridiculed by Mr Hunter, he thinks, clearly proceeds from relaxation and debility of the exhalents of the urethra, and of the excretory ducts of the mucous glands there. He admits, however, that much harm has been
been done by those, who consider it as in every case proceeding from a state of general debility; as, under the use of Peruvian bark, chalybeates, sea-bathing, and other tonics combined with full diet, while the patient daily gets more full in flesh, the disease has evidently been gaining ground. Our attention should, he thinks, be almost solely directed to the debility which occurs in the urethra alone; and in a great proportion of cases, the cure is to be performed by astringents and stimulants acting on the diseased part.

Astringent injections, when they have not been previously employed, should, he thinks, in the first place, get a full trial; and what he recommends as one of the best, is a solution of the Zincum Vitriolatum in distilled water, to the extent of about two grains to an ounce. Astringents are, he thinks, the safest and easiest cure; but after these have failed, stimulating applications, under the form of solutions, applied either in the way of injections or bougies, become necessary. What he thinks one of the best, is a solution of the Hydrargyrum muriatus corrosivus in
common water, to the extent of about an eighth of a grain to an ounce of the menstruum. According to circumstances the strength may be increased; but he tells us, that he has often seen very pernicious consequences from the use of injections containing too great a proportion of this mercurial. Besides these, he mentions also the use of aerugo aeris, crude sal ammoniac, volatile alkali, tincture of cantharides, and various other stimulants, which have sometimes been used with success. Where recourse is had to bougies, these composed of the most simple materials will commonly answer all we can expect from this kind of remedy. But when it is necessary to render them more active, this may be done by dipping them in oil of turpentine, or in a thin liniment of wax and oil, with a small proportion of red precipitate.

Although Mr Bell thinks, that the cure, in this form of gleet, is to be obtained by topical applications, yet, where the constitution has been much debilitated, we ought, he tells us, to conjoin with these remedies a nourishing invigorating diet, and a moderate
rate use of wine. In these cases also; cold-bathing will commonly be attended with good effects.

The second variety of Gleet of which Mr Bell takes notice, is that which succeeds the second state of Gonorrhoea, where the affection is chiefly seated in Cowper's glands. In this variety, which is chiefly distinguished by the discharge being forced off by very gentle pressure on the perineum, the remedies which Mr Bell has found of greatest service are, bougies of a large size, and blisters applied to the perineum.

A third variety of Gleet, is that which proceeds from strictures of the urethra; the presence of which, though sometimes to be detected by the feel externally, is yet, in general, best determined by the introduction of a bougie. And when the existence of stricture is discovered, all other remedies, Mr Bell thinks, ought at once to be laid aside, and the cure trusted entirely to bougies. When, however, the discharge continues after the strictures have been removed, it may, he tells us, be carried off by astringent injections; and for this particular purpose, he

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strongly recommends lime-water diluted with an equal quantity of common water.

The last variety of Gleet of which Mr Bell treats, proceeds from a swelled state of the prostate gland. Though this form be often combined with others, yet in its most simple state it is, he thinks, chiefly distinguished by the frequent desire to pass water, which it excites. In this form, no injections, he tells us, are of any utility; nor is any advantage derived from bougies. On the contrary, from irritation of the gland, they often, he tells us, excite both an increase of pain and of the discharge. Here the greatest relief is to be derived from opiates, particularly when thrown into the rectum under the form of glyster. In scrofulous habits, hyosciamus, cicuta, and sea-bathing, frequently afford relief. But Mr Bell tells us, that he never saw any benefit from mercury: on the contrary, he represents it as commonly doing harm.

Gleets in women are, according to Mr Bell, very generally cured by injections, either astringent or stimulant. When the disease is seated in the vagina, these, he tells us, may
may be thrown up with freedom; but when in the urethra, on account of the continuity of the bladder, they must be thrown up with much caution.

After some remarks on impotence, from seminal weakness, which sometimes, though very rarely, proceeds from Gonorrhoea, Mr Bell treats of consequences much more commonly to be met with, obstructions in the urethra. These may arise from various causes. Our author first treats of tumours in the substance of the urethra and contiguous parts, as giving rise to obstruction. In such cases, attempts must be made to diffuse the tumours by general and topical bleeding, assisted by cool regimen, and by the external use of cold saturnine applications. When suppuration occurs, he directs that the tumour should be speedily opened through its whole length. And when mortification ensues in the penis, from matter bursting from the abscesses into the corpus cavernosum, amputation of the penis is for the most part required.

Mr Bell next treats of spasmodic obstructions of the urethra. The remedies com-
monly employed for the removal of this obstruction are, warm emollients, anodynes, blood-letting, blisters, and electricity. Though opium, externally applied, particularly when mixed with aether, is often of great service, yet, in some instances, where in this way it gives no relief, it often proves serviceable when taken by the mouth, and still more so when injected into the rectum.

In treating of obstructions in the urethra, from fleshy excrescences or caruncles, he observes, that this is a very uncommon occurrence in the more remote parts of the urethra. When they do occur, the chief dependence is, he thinks, to be placed in bougies; and these, when duly persisted in, seldom fail of effecting a cure.

The last cause of obstruction of which Mr. Bell treats, is stricture in the urethra, properly so called. This he considers as very generally the consequence of inflammation; and he considers bougies, particularly those formed of the refina elastica, as being very generally the best mode of cure. He offers many directions respecting the use of these; and concludes, from what has happened in
his own practice, that very few cases will occur, which may not ultimately be cured by bougies. He makes some remarks on the method of introducing caustic into the urethra, in cases where bougies fail; and in such cases, he considers the application of caustics as either impracticable or unsafe. In all such instances, therefore, he thinks it preferable to let the disease take its course, even although it should terminate in the formation of sinuses behind the strictures, and the discharge of urine from the openings which these produce.

Mr Bell next treats of what he calls Deranged Sensations in the bladder, urethra, and contiguous parts. By these he understands, painful feelings in the region of the bladder, want of retention of urine, difficulty in the discharge of it, and a variety of morbid affections of other parts, particularly of the alimentary canal, occurring as consequences of Gonorrhoea, and not depending on any local cause. Against such feelings, recourse has often been had to the use of mercury; but Mr Bell is decidedly of opinion, that it never does any good, and often
much harm. The remedies on which, he thinks, that dependence is chiefly to be placed, are, blood-letting, opiates, warm-bathing, blisters, cicuta, hyoscyamus, electricity, Peruvian bark, and cold-bathing. He particularly recommends, in the most obstinate affections of this kind, opiates, in the form of injection, blisters to the perineum, and a free exhibition of the Cinchona bark, taken internally.

When swelling of the testicle occurs as a consequence of Gonorrhoea, since all the symptoms of the disease, as well as the consequences which ensue from it, are severe in proportion to the degree of inflammation which takes place, it ought, he observes, to be our view, in every instance, to prevent the inflammation from arriving at any great height. This, he tells us, is most effectually done by blood-letting, by a proper use of laxative injections, by opiates, by the application of anodynes and astringents to the parts affected, by preserving the body in a proper posture, and by suspending the testicle.

Swellings occur in the spermatic cord, as well as in the testicles, in consequence of Gonorrhoea.
Gonorrhœa. The remedies which he advises here, are blood-letting, blisters, and such others as are usually employed with advantage in swellings of the testis.

Swellings of the lymphatic vessels of the penis, are sometimes also observed. This symptom, Mr Bell is inclined to think, proceeds more from irritation than any other cause. Against affections of this kind, Mr Bell tells us, that he has commonly found cold poultices prepared with crumb of bread, and the cerussa acetata, prove more effectual than any other application. But where the inflammation spreads over the penis, it becomes necessary, he tells us, not only to discharge blood from the arm, but to apply leeches on the pained parts.

Swellings of the glands in the groin, putting on many appearances of the venereal bubo, sometimes also arise from Gonorrhœa. These, if not neglected, at first may in general be easily diselled, by the use of fasting nine poultices alone; but where the pain and inflammation are severe, blood-letting, both general and local, becomes necessary.
Excoriations sometimes occur of the glans and prepuce, which resemble Gonorrhoea, not only in being produced by the same matter, and in being entirely local, but also in the method of cure; for, bathing the parts affected in astringent solutions, proves, he tells us, the most effectual practice. Emollient ointments have frequently been employed in affections of this kind; but these, Mr Bell thinks, constantly increase the discharge, while no advantage of any kind accrues from them. In women subjected to such excoriations on the parts of generation, the method of cure is nearly the same as in men. But when actual ulcerations are formed on these parts, no application, he thinks, answers better than the Ceratum lapidis calaminaris, or Unguentum zinci.

Mr Bell next presents us with some observations on Phymosis and Paraphymosis. Where more simple modes of cure fail, he describes different chirurgical operations to which recourse may be had. These, however, are, upon the whole, but rarely necessary. Where, however, either of these affections are conjoined with Lues Venerea,
as is often found to be the case, the patient cannot be safe without the assistance of a course of mercury.

The glans, penis, prepuce, and labia pudendi, are frequently attacked with warty excrescences, on the termination of Gonorrhœa. As they are frequently the consequence of chancres, they have been by many considered as always of a venereal nature. This opinion, however, Mr Bell thinks, is by no means well founded; and he contends, that in ninety-nine of an hundred cases they are entirely local, in so much, that remedies acting only on the constitution have no influence whatever in removing them; while they are easily carried off by a variety of applications which act solely on the excrescences themselves, or upon the vessels by which they are produced. They may be more quickly removed by the scalpel, or scissors, or by tying ligatures of waxed silk round them, when they have narrow necks, than in any other way. But when removed in this manner, they are apt to return; and Mr Bell thinks, that they are most effectually removed by exciting some degree of inflammation.
mation. This may be done in various ways; but a preference will necessarily be given to that which is easiest for the patient, and at the same time proves effectual. Solutions of crude Sal ammoniac, Hydrargyrum muriatus corrosivus, and Hydrargyrum nitratius, have been employed; but it is found, Mr Bell tells us, that our success is more certain, from the application of such powders as irritate and inflame the skin, such as those of the Sabina, Sinapi, or Veratum, than from any remedies in a liquid form.

Mr Bell concludes this volume on Gonorrhoea, with some observations on the Gonorrhoea simplex, as it has been styled. In this affection, which he considers as in many respects similar to Fluor albus in women, a discharge from the urethra, in every respect similar to the matter of Gonorrhoea virulenta, occurs in persons who have never been exposed to contagion. After pointing out the necessity of attending to the distinction between these two diseases, which is chiefly to be drawn from proper attention to the progress of the affection, and proper inquiry respecting the exciting causes, he observes, that
that although the disease will for the most part soon disappear without the use of any remedies, yet a cure may be much more speedily obtained by the proper use of injections, than in any other manner.

When, however, this disease seems either to depend on general debility, or to be much connected with that state of the system, it is found, he tells us, from experience, that whatever tends to restore the loss of tone which has taken place, proves more obviously useful here than in Gonorrhoea virulenta.

We have thus endeavoured to give a concise view of Mr Bell's treatise on Gonorrhoea Virulenta, which occupies the first volume of the present work. In the second, he treats of Lues Venerea, or Syphilis of the modern nosologists, which he considers, and we think with truth, as being a disease essentially different in its nature from Gonorrhoea, and depending on a contagion sui generis, giving rise to a very different train of symptoms. The analysis of this second volume, however, we are, from different reasons, under the necessity of delaying till a future occasion.
XIV.

Observations on the Scurvy, with a review of the Opinions lately advanced on that Disease, and a new Theory defended, on the approved method of Cure, and the induction of Pneumatic Chemistry; being an Attempt to investigate that principle in recent Vegetable Matter, which alone has been found effectual in the treatment of this singular Disease; and from thence to deduce more certain Means of Prevention than have been adopted hitherto. By Thomas Trotter, M. D. Member of the Royal Medical Society, Edinburgh, late Surgeon to his Majesty's Ship the Duke, &c. 8vo, London.

This treatise, the intentions of which are so fully expressed in the title-page, is divided into three parts. In the first section, after a short introduction, Dr Trotter treats of the History of Scurvy. In the second, he presents us with his sentiments respecting the Theory
Theory of Scurvy; and, in the last, he considers the Prevention and Cure of the disease.

In treating of the History, he first attempts to settle a proper definition of the disease, drawn from its leading symptoms: And, after stating some objections to that of Dr Cullen, who, in his definition, considers it as being entirely a disease of cold climates, he thinks it may be best characterised in the following manner: "Asthenia, stomacace, in cute maculæ diversicolors, plerumque livecentes; deficiente simul vegetabili materie recente, eundemque vehemente inge-rendi desiderio."

From attention to this definition, conjoined with the preceding kind of diet, and the situation in which it occurs, there can, he thinks, be but little danger of confounding Scurvy with any other disease. But after enumerating the appearances commonly marked in this disease, which he divides into two stages, the Mild and the Inveterate, he describes more particularly the disease, as it broke out on board a slave-ship, where it was attended with many singular phæomena.
Of these, one of the most remarkable was, that the disease was particularly confined to those slaves who were the most corpulent, and had taken the least exercise; insomuch, that Dr Trotter is disposed to attribute the disease to too abundant diet, and to want of exercise; and so fully, he tells us, was he confirmed in this opinion, that when a negro was becoming rapidly fat, he thought it no difficult matter to determine how soon he would be seized with the Scurvy. Few of the boys, he observs, had any scorbutic symptoms; which he ascribes to their being allowed to run about the deck, and occasionally assist in the duty of the ship.

After giving a view of the History, he next turns his attention to the Theory of this disease. Here he thinks it unnecessary to consider the opinions of the more ancient writers on this subject: But he bestows a particular consideration on the opinions which have of late prevailed most generally in this country; those viz. of Dr Cullen, referring the disease to a preternatural saline state of the fluids; and of Dr Milman, who contends, that Scurvy is not a disease of the fluids,
fluids, but of the solids; that its seat is in the muscular fibre; and that its proximate caufe consists in the gradual diminution of vital power. Against both these opinions he urges many strong objections, drawn both from the phænomena of the disease, and the method of cure; and, in particular, in opposition to the doctrine of debility, he concludes, apparently not without good reason, That a seaman's diet, as consisting of salted meats, &c. does not produce Scurvy, by weakening the digestive organs from its indigestible nature, and thereby abstracting nourishment from the body. 2dly, That the debility which accompanies Scurvy, cannot be cured by those means which are found, in other cases, to be most effectual in restoring the tone, tension, and contractibility of the weakened muscular fibre. And, lastly, That the proximate caufe of Scurvy is still to be sought for from some peculiar state of the blood.

Having endeavoured to refute the opinions of others, he next proceeds to state his own conjectures on this subject. He considers it as being a fact now fully established, that Scurvy
Scurvy is never found where there is a due supply of fresh esculent vegetables. There is not, he tells us, an instance where the prevention and cure could not be fully accomplished by the acid fruits, at least, as far as human knowledge extends in preventing and curing the disease. This circumstance throws, he thinks, considerable light on the proximate cause of Scurvy.

It is, he observes, agreed, that vital air, or what is more properly called Oxygen, is a component principle of acid fruits; and he thinks we have reason to conclude, that this is the quality which they restore to the human body in Scurvy. He contends, that in this disease the blood is altered in colour from its natural state, being changed from the florid to a livid and black colour; and he affirms, that vital air, or oxygenous gas, is the principle in nature which restores the florid colour to the blood. Hence he thinks the conclusion is obvious, that the good effects obtained in Scurvy from those substances containing recent vegetable acid, is owing to this quality. The proximate cause of Scurvy is, therefore, he thinks, nothing else but the abstraction
abstraction of oxygen from the body by the remote causes.

Dr Trotter indeed admits that many facts and experiments are still wanting to establish this Theory, and he therefore offers it with diffidence: But he observes, that a substance which exerts such wonderful powers on the face of creation, has unquestionably its share in the internal economy of the animal machine. And, upon the whole, while he thinks he has proved to a demonstration, that the late theories of Scurvy tend to mislead the practitioner, he considers the theory now suggested, as corresponding to the most important facts respecting the cure; to which he next proceeds.

In treating of the Prevention of Scurvy, after some observations on the predisposing causes of that disease, and particularly on the practice of pressing, which he considers as highly injurious, he concludes, that the most effectual means of countering a sea-diet, will be to increase the vegetable part, and to bring that, as nearly as circumstances and situation will admit of, to the recent state. For the prevention of Scurvy, he observes,
that the British navy is at present supplied with Sour-Krout, Elixir of Vitriol, Malt, and Essence of Wort. On each of these articles he bestows a separate consideration.

It is now, he asserts, pretty generally admitted, that the effects of four-krout are by no means equal to those of the fresh vegetable; and, in opposition to many strong testimonies, that it affords not only a very pleasant, but a highly salutary part of diet to seamen, when used in conjunction with their salt beef, he tells us, experience has now demonstrated its antiscorbutic virtues to be very trifling; and he thinks that it may be advantageously laid aside for other preparations. Perhaps the contradictory accounts given with respect to this article, may in some degree be reconciled, from the four-krout which has been furnished to the navy being sometimes prepared in a careless and improper manner, and served out to the crews in a bad condition. Where it is furnished of good quality, we may with some degree of probability infer, both from the nature of the article itself, and from the acid taste, that it will not only be an agreeable addition to
to salt beef, but will furnish to the system a large proportion of vegetable acid; and therefore, if Dr Trotter's theory of this disease be well founded, that it should be productive of all those advantages which others allege they have observed from the use of it.

With respect to the elixir of vitriol, he observes, that although it be furnished to the navy surgeons, it is but very little employed unless as a gargle. And he considers the sulphur, which is the base of this acid, as having so strong an attraction for the oxygen, that it is incapable of being acted upon by the powers of digestion, or converted into animal fluids. On the contrary, however, Dr Beddoes represents vitriolic acid as readily decomposed by animal substances; and tells us, that perfons taking vitriolic acid, smell sensibly of sulphur.

His opinion of wort, and the essence of malt, is not more favourable. Without meaning to impeach the veracity of those gentlemen, who have established the credit of the preparations of malt, he tells us, that in his own practice he has never seen it attended with any good effect. Although of
a nourishing quality, from the sugar it contains, yet there are, he thinks, sufficient testimonies on record, to expunge it from the list of articles that cure this distemper. It has been supposed to operate from the fixed air, or more properly carbonic acid, which it gives out. Hence he admits, that in his theory of Scurvy, something might be expected from it as affording oxygen. But he remarks, that of all bodies carbonaceous matters appear to have the strongest attraction to oxygen. Hence the decomposition of the carbonic acid is found to be the most difficult. Thus it cannot, he thinks, be acted upon by the animal processes, although it may join itself with other substances before it passes through the body.

After thus flattering his sentiments respecting the antiscorbutics at present furnished to the navy, he proceeds to point out some other particulars which he considers as more important, with a view to the prevention of Scurvy.

Pure water, he thinks, may be justly considered as a preventor of Scurvy. He strongly enforces the propriety of furnishing it in sufficient
sufficient quantity; and he points out different methods of preserving and purifying it. He offers also several very judicious remarks on the provisions used at sea; and proposes several important alterations, particularly the diminution of the allowance of salted meat, and, if necessary, the increase of other articles of diet; and he strongly advices, that on the West India station, the men should be furnished with cocoa and sugar, in place of oatmeal, butter, and cheese. Beer and wine, as abounding with sugar and mucilage, he considers as nourishing and healthful. But diluted spirits, he thinks, have a contrary tendency; and grog he considers as of all liquors the most likely to induce a habit of dram-drinking, and all its horrid consequences.

As correctors of salted provisions, Dr Trotter recommends different pickles, particularly of red cabbages, which, he thinks, may be purchased for the same expence as Government generally pays for sour-kraut, and which, while they will readily keep for any length of time, are much more grateful to the taste; and, by serving pickled cabbage

 alternately
alternately with the four-krout, both, he thinks, would be rendered more beneficial.

After having considered the means of Prevention, Dr Trotter concludes this treatise with some observations on the Cure of Scurvy. From what he has seen, he is inclined to believe, that fresh esculent vegetables of all kinds will cure this disease. But he holds those fruits abounding with an acid, such as the genus of Citrus, to be the most effectual. The lemon, lime, shaddock, and orange, give out the citric acid in different degrees of purity. The unripe gooseberry has the citric and oxalic acid combined in its juice. These, therefore, he also recommends; and as they can be preserved without difficulty for a considerable length of time, he recommends their being carried to sea. Apples also, particularly those containing the malic acid in its most pure state, where they can be had, he recommends as valuable antiscorbutics.

The great desideratum in long voyages, as he thinks, some preparation of the citric acid, which preserves all its virtues for a length of time. And in preference to the extract
extract strongly recommended by Dr Lind, he advices, that the juice should be immediately bottled up, as soon as it is squeezed and strained.

So great confidence has Dr Trotter in the cure of Scurvy, by articles containing the citric, malic, or other vegetable acid, that, he thinks, when the service requires a large fleet for a length of time to keep the sea, vessels ought to be appointed to supply the ships with fresh fruits and vegetables occasionally. And there are, he observes, few stations where they could not be procured.

In the cure of Scurvy, the state in which the patient was when seized with the disease, is always to be had in view. If the constitution was weakened by preceding illness, a diet of restorative food, with the use of wine, will, Dr Trotter tells us, be more beneficial than on other occasions. And whatever symptoms of other complaints remain after those of Scurvy disappear, ought, he observes, to be treated in the same manner as the original disease to which they belong.
XV.


In this very interesting publication, Dr. Wade seems to have formed his opinions from accurate observation of facts. Although, then, in some instances they may appear singular, they still merit considerable attention, particularly when we recollect the great influence which difference of climate has upon the phenomena of disease.

The prevention of disease first engages our author's attention. He expresses great doubts, with respect to contagion being so frequent a cause of disease as is generally supposed. During his residence in Bengal, he observed, that fevers and dysenteries were often
often epidemical, but never exhibited any appearance, to his faculties, which could excite a suspicion of contagion. Where many persons are seized with the same complaint, in the same place, and nearly at the same period, contagion is generally suspected. Our author, however, ascribes this to the perfect similarity which takes place, particularly in places where contagion is said to be most common, as in gaols and ships. As this opinion does not in the least affect the treatment of diseases, Dr. Wade has taken notice of it chiefly on account of the bad effects a dread of contagion produces in depressing the minds of the sailors, and in preventing their obtaining necessary refreshments at the Cape of Good Hope, &c.

He considers the action of miasma, or marsh effluvia, as less doubtful than that of contagion. But, the elevation of spirits on landing after so long a voyage, the emancipation from restraint, giving rise to an unlimited indulgence of their passions with women, and every possible excess in the gratification of their desire for strong liquors; the neglect of personal cleanliness, and the suppression
suppression of the insensible perspiration, by
an alternation or coincidence of hot and of
wet weather, are, in our author’s opinion,
the principal causes of the diseases of seamen
at Bengal.

Dr Wade, therefore, recommends the fol-
lowing precautions to be attended to, in en-
deavouring to obviate the baneful effects of
an anchorage in Diamond Harbour. A very
considerable reduction of the quantity, and
alteration of the quality of food, should im-
mediately take place. It ought to consist
principally of vegetables. The less of any
fermented liquor which is used, the greater
is the probability of preserving health in
Bengal. Spirits are less hurtful, in propor-
tion to the quantity of water with which
they are mixed. In all situations, pure wa-
ter has a decided superiority over every
other beverage. This article may in gene-
ral be procured of a good quality, and is
easily cleared from muddiness, by sprinkling
into the jar or cask a small quantity of pow-
dered alum, and allowing it to remain at
rest a day or two. Cleanliness in all its
branches must be particularly attended to.

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The decks should be well ventilated, and frequently scoured; the hammocks occasionally washed, and never permitted to remain below during the day, unless it rain. The daily use of the cold bath, our author strongly recommends; and he assures us, that it may be employed with the greatest safety, even in the prickly heat, and other cutaneous eruptions. As Dr Wade considers the want of regular intestinal evacuation as the principal source of disease in these climates, so he directs our attention chiefly to that. In his opinion, frequent intestinal evacuation, if not a certain preventive of these, is at least of the greatest importance. Castor oil, calomel, and other purgatives of small size, are most convenient in fulfilling this indication.

After these remarks on the prevention of disease, our author next proceeds to treat of the fevers of Bengal. He is of opinion, that the ideas entertained of their origin in warm climates, are probably erroneous, and that they may be deemed universally to originate in these latitudes from the bowels and their contents. The indication should consequently
requently arise from this source, and the curative means be derived from such medicines as operate on those parts by evacuation, or otherwise, but particularly by purging. In support of his opinions, Dr Wade refers to the Select Evidences of a successful Method of Treating Fever and Dyentery in Bengal, lately published by himself.

In treating of the remedies employed in Fever, our author pays very little attention to the immense variety of diuretics, antispasmodics, corroborants, and cordials. Blisters he also considers as of little service, except in alleviating local pain. With regard to Peruvian bark, he observes, that the modifications of fever in which it is applicable, occur very seldom; and that it is never to be employed previous to evacuations, particularly in those cases which are deemed highly putrid, and requiring its instantaneous use in the largest possible quantities; for he supposes the general putrefaction to arise from the putrid contents of the stomach and intestines, and regards as an absurdity the attempting to correct, in place of expelling the putrid matters. He is also of opinion, that the bark has often,
often, directly or indirectly, occasioned those obstructions and other inconveniences in warm climates, which, on its first introduction, were ascribed to its use.

Dr Wade considers the use of opium as mischievous in almost every instance, even in combination with antimonials.

Wine is, in his opinion, very ill adapted to any period of Fever in those latitudes, when the treatment has been proper in other respects; and he declares, that of the cases which have fallen under his observation, in none was it eligible as a medicine, and few required it as an article of diet.

Vennection he regards as always a dangerous remedy, never to be employed previous to the operation of purgatives, even in the most inflammatory fevers.

Sudorifics he considers as at best but trifling remedies, which ought to be laid aside.

The employment of emetics, so as to support a tendency to vomit for some time before the actual evacuation takes place, is, according to our author, a safe, and often efficacious practice. Their good effects he ascribes to their promoting fresh and healthy secretions from
from all the bowels, and to the action of the stomach which accompanies nausea, being admirably calculated to discharge its contents into the intestines. Previous, however, to their exhibition, he recommends the evacuation of the groser matters lodged in the lower intestines, by means of purgatives.

Dr Wade recommends us to trust the cure of all species of Fever to copious intestinal evacuation; and proceeds to direct our choice of the best method of producing it. Glysters seldom evacuate more than the rectum: they may, therefore, properly precede or accompany the use of purgatives, at the commencement of Fevers, until the groser matters be evacuated. At other times they are inadmissable, from the languor which they occasion. Active purges, he observes, have been recommended by some authors, but never to the extent, and in the form, indispensably necessary in most instances. On the first attack of Fevers, our author assures us, that purging will infallibly prevent the approach of dangerous symptoms, and, at their height, will always faye, and generally cure
cure the patient. Saline purges seldom contribute to convey any impurities from the stomach into the intestines; and their operation, after the first discharges, is considerably debilitating. By the addition, however, of tartar emetic, they have considerable action on the stomach, and the secretions in general. Oily purgatives are often productive of large bilious discharges; and their efficacy, after the first evacuations, superior to the saline. Castor oil does not appear to increase the feverish heat so much as the others; nor have those pernicious qualities, which are attributed to oily medicines in Fevers, been perceived. Their operation should be rendered certain, by an early repetition. This is a precaution, our author observes, never to be neglected, after the exhibition of any purgatives. The saline and oily purgatives combine with advantage; and their peculiarities may render each applicable to certain periods and circumstances of the disease.

In all cases, these should have the precedence. But, Dr Wade observes, that as the disease does not always arise from the quantity
tity or quality of groffer matters in the stomach and intestines, or from any proportion of vitiated bile and other secretions, which the utmost power of these purgatives can affect, we must have recourse to such as are more active, and better calculated to remove the cause of the complaint, which may frequently be supposed to arise from the quantity, deficiency, vitiating, or immobility of certain secretions of the stomach and intestines, particularly the mucus adhering to the latter. It may be deemed particularly fortunate, that the purgatives which prove most successful in Fevers, are as mild in their operation, as they are certain and powerful. From two to ten or more grains of calomel, with a greater proportion of any of the other articles, our author informs us, form a dose of the utmost safety; for these medicines do not act in the exact proportion of their quantities. These doses may, and should be repeated every second night, or, according to the pressure of the symptoms, every night, as long as any thing offensive shall remain to be discharged from the bowels. The most trifling detriment has never been observed
from this method of treatment, although a discharge from the salivary glands has frequently ensued. It is always, however, proper, as well to obviate this inconvenience, as to render their evacuating powers more certain by other cathartics, especially in a liquid form. It may be received as a general rule, that the mercurial laxative be given at night, and the medicines necessary to promote its effects early next morning, as well as during the course of the day. A very dilute solution of tartar emetic answers this purpose extremely well.

The more those symptoms called putrid, nervous, &c. are present, the more strongly, our author thinks, is the use of mercurial purgatives indicated. He is also of opinion, that Puerperal fever may be always prevented, by effectual evacuations after delivery, and generally cured by the use of purgatives.

Since distillation has shown that the liver, spleen, &c. are violently affected in the Yellow fever, Black vomit, &c. Dr Wade observes, that mercury exhibited so as to affect the mouth, has uniformly proved successful.

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In these instances, as the disease is rapid, so must the exhibition of the mercury be equally rapid and vigorous.

Fevers which have, from bad treatment, degenerated into a chronic form, and have become what are called hectic, nervous, &c. will generally yield to a more gradual course of mercury. Apparently disagreeable symptoms sometimes attend the restorations of the secretions of the bowels, particularly of the liver; but from these, Dr. Wade observes, an experienced practitioner will draw the most favourable omen of the ultimate success of his remedies. The agency of mercury should be assisted by frequent changes of situation and air, with a diet of mild vegetables and water only, and frequent exercise of the gentler kind.

These are the fevers in which the lunar influence is most observable, particularly when they are accompanied by any local complaint. This influence is also most remarkable during the unhealthy season, and ought to be counteracted by intestinal evacuation, before the different periods of the moon. In recent fevers, our author observes,
serves, this influence is very obscure at all seasons of the year.

Dysentery is the next disease of which our author proceeds to treat. Between this and diarrhoea, he thinks it unnecessary, if not pernicious, to draw a distinction. The treatment recommended in these, is exactly the same with that of Fever.

Dr Wade concludes his work, with an account of all that variety of complaints to which, in the nomenclature of the East, the name of The Liver is given. In this complaint, the secretions of the other bowels are affected, as well as that of the liver; and it would be as difficult as unnecessary, says our author, to assign to each its particular share of symptoms in the disorder: but the liver should be suspected in every derangement of the secretions of any of the bowels. These appear to have a concern in all chronic complaints in that country; in old pains, general or local, that are not decidedly venereal; in moment, or in all cuticular affections; and in all obstinate complaints of the head, chest, and abdomen. Every variety of affection to which the alimentary canal
canal is subject, has at times been a symptom of this disease; and there is no form of fever with which it has not been connected. The appearances of the viscera, on dissection, have been as various and anomalous as the symptoms.

Having minutely detailed all the phenomena of this disease, Dr Wade proceeds to the treatment of it. On the first suspicion of the disease, he advises us to evacuate the bowels completely, by saline purges, with the occasional intervention of emetics. Venection is only admissible, when the local symptoms remain violent after copious evacuations, and is hardly ever to be repeated. On the slightest recurrence of the symptoms, the purgatives must be again exhibited.

If, from the obstinacy of the symptoms after these evacuations, we have reason to suspect a morbid state of the liver or other glandular parts of the bowels, mercurials are to be immediately had recourse to. In exhibiting mercury in complaints of the liver, our author advises us never to combine it with opium; for, in these, it answers best when it procures frequent discharges downwards,
wards, during the whole of the treatment; and the speedy affection of the salivary glands is of no importance. Dr Wade recommends the exhibition of mercury during every period of the disease; as he considers the symptoms said to point out the existence of abscefs in the liver as very ambiguous, and as he is unacquainted with the evils arising from the use of mercury in cases of real abscefs. Mercury may be advantageously combined with antimonialis and purgatives; but never with any medicine which may have a tendency to check the secretions. With respect to diet, he recommends the strictest confinement to a spare and vegetable diet, without any fermented or spirituous liquor. As patients are subject to relapses, low diet, and exercise in the open air, are of the greatest importance.

Dr Wade concludes his account of this disease, with the following directions for the treatment of acute cases of the liver, commencing with a sudden circumscribed swelling of the part. "On all these occasions, mercurial ointment should be rubbed into the part, without the loss of a single moment."
ment, and continued without intermision, and without any scruples with respect to the quantity, until the mouth be decidedly affected. If the symptoms do not remit or vanish when this takes place, it is probable, that an abscess, or some permanent, and perhaps fatal affection will ensue. The purgatives are equally necessary in these instances, as well as the diet. Farinacea, however, are better calculated for these forms of the complaint than fresh vegetables."
XVI.

A Treatise on the Hydrocele, containing an Examination of all the usual Methods of obtaining Relief in that Disease. The radical Cure, by Injection, is particularly described, and illustrated with Cases. With an Appendix, containing additional Proofs of the Efficacy of Injection. By James Earle, Esq; Surgeon Extraordinary to his Majesty's Household, and Senior Surgeon to St Bartholomew's Hospital. 8vo, London.

THE radical cure of the Hydrocele, by operation, is a subject which has deservedly engaged the attention of the ablest writers on surgery in all ages. Different modes of cure, proved by experience to be effectual, have been proposed and recommended. But the most eminent writers of our own days, are by no means agreed with regard to the particular operation which is entitled to preference.
The ingenious and learned author of the treatise now before us, recommends a mode of cure, which, in Britain at least, has hitherto been but little practised, but which, from the cases here related, there is reason to hope, will be found much preferable to the more painful, tedious, and loathsome operations at present commonly employed.

After some observations on the meaning of the term Hydrocele, on the parts affected in this disease, and on its diagnostic marks, Mr Earle proceeds to examine the various means which have been practised for its relief.

He treats, first, of what has been called the palliative cure. The inconvenience arising from the distension may be removed by the evacuation of the water. This evacuation should, he thinks, be performed at least once on those who are determined to undergo a radical cure, as it both gives an opportunity of examining the state of the testis, and of afterwards performing the operation, when the cavity is filled only to such an extent as to give the best chance of success. With the view of obtaining this evacuation,
cation, Mr Earle considers a small trocar as in many respects preferable to a lancet. But as this evacuation produces a temporary relief only, the obtaining a radical cure becomes a desirable object.

Though many operations have been proposed with this view, they may, Mr Earle thinks, be reduced to six principal ones; the Incision, the Excision, the Caustic, the Tent, the Seton, and Injections. Of each of these he offers some remarks in order.

Incision through the whole extent of the hydrocele, so as to bring the naked testis completely into view, is, Mr Earle tells us, the most ancient operation for this disease of which we have any account. He describes particularly the method of performing it, which was recommended by Celsus, Paulus, Albucahis, and other ancients. And although cases have been recorded by Hildanus, Dodonaus, Wileman, Cheffelden, Sharp, and others, where this operation has been the cause of very serious consequences, yet it is still, he observes, practised by surgeons of the first reputation and abilities, and preferred by some ingenious practitioners.
ers to other modes of operation. Mr Bell, in particular, in his System of Surgery, lately published, is a strenuous advocate for incision, as preferable to other operations for Hydrocele. But even from his work, Mr Earle here introduces several quotations, tending to shew, that, on some occasions, it induces very troublesome symptoms; such as, great pain and tension of the abdomen, inflammation and fever; and that, if practised on persons otherwise diseased, on old or infirm habits, the symptomatic fever is apt to run too high for the patient; and the suppuration tends to destroy entirely the remains of a constitution already impaired.

Mr Earle acknowledges that he took an early and deep-rooted dislike to the cure of Hydrocele by incision, which more extensive experience has not removed. He has constantly remarked, that it is not only severe in the execution, but that great tension, pain, and fever, are generally its immediate consequences; after which the progress of the cure is often slow and tedious, requiring, in some cases, though under the most able practitioners,
practitioners, many months for its completion.

Excision, of which Mr Earle next treats, would appear, he tells us, as well as incision, to have been an operation of early date. It has been strongly recommended by Mr Douglas, from whom Mr Earle here particularly describes the method of performing it. But this operation, he observes, though followed by Mr White of Manchester, and other surgeons of eminence and character, must have been both tedious, and exquisitely painful in the performance; and from the manner in which it was directed afterwards to be treated, must have been attended with violent and dangerous symptoms.

The caustic, at least in certain forms, seems also to have been a mode of cure of early date. Actual cautery is recommended by Paulus; but the most improved method of employing the caustic, so as to make a small opening in the middle of the tumour, sufficient to discharge the water, and to excite, in the internal part of the sac, an inflammation and suppuration, after which an adhesion would take place between the integuments.
ments and the testicle, is that described by the late Mr Else, of which a particular account is here given from his writings. Although Mr Earle considers this method as preferable to some others, yet, as here, even according to Mr Else’s own account, the entire membrane suppurates, and comes away in sloughs, our author has no hesitation in asserting, that it causes an unnecessary destruction of the parts, and produces a tedious, painful, and offensive sore.

The next method of which Mr Earle takes notice, the use of the Tent, for the cure of Hydrocele, is not of very old date. In the time of Nuck, it was, he tells us, the most common operation. It was tried by Mr Pott, but still more strongly recommended by Mr Warner, who pronounces it an easy, safe, and simple cure. But the four cases which he has related do not seem to warrant this conclusion. On each of these cases Mr Earle offers some observations, pointing out both the uncertainty and disagreeable nature of the operation. Nay, he tells us, that modern instances might be brought, of violent inflammatory symptoms following
following the practice, attended with mortification, and having even a fatal termination. And although he acknowledges that he has never practised this method, yet, from what may fairly be collected from the general account, he concludes, that it does not stand in a very favourable light.

The first mention of the use of the Seton for the cure of the Hydrocele, is, Mr Earle tells us, in a work of Guido de Cauliac, in 1363. This method of operation, after undergoing several different alterations, was materially improved by Mr Pott. Of his method of operating, Mr Earle here gives a particular detail. He considers it as preferable to any of the methods which have hitherto been practised in this country; and he strenuously defends it against several objections stated by Mr Bell, who thinks there are sufficient reasons for setting it entirely aside. Mr Earle thinks that this operation, as practised by Mr Pott, stands on the most rational grounds; the whole of his aim being, to produce a cohesion, without destroying the tunic, or causing it to slough off. But he adds, that it went beyond its inten-
tion. Being a solid body, an adhesion took place between it and the part of the sac with which it was in contact; and a suppuration, at least in the track of it, became necessary to loosen it, so as to make it capable of being removed. He farther observes, that it was certainly productive of more inflammation than was requisite for the adhesion of the tunics, by which fever was sometimes produced, and abscesses were sometimes formed: and he adds, that the matter which was collected and discharged was always peculiarly offensive, owing to the putrid disposition it received from the air, which found a ready entrance through the orifices made by the serton.

Upon the whole, from the observations offered on the different methods which have been treated of, Mr Earle thinks himself warranted to conclude, that all of them, when they have proved effectual, have been attended with great inconveniencies, and sometimes with very alarming danger, both to the functions of the diseased part, and to the life of the patient. Impressed, he tells us, with these ideas, he turned his thoughts to
to fluids, as alone capable of causing an immediate irritation, without the necessity of lodging and remaining in contact with surfaces so liable to inflammation. After his examination, therefore, of the usual methods, of which we have now given some account, he proceeds to treat of the radical cure by injections.

There is no reason to believe that injections for the cure of the Hydrocele were in use among the early practitioners. The first example of their employment mentioned by Mr Earle, is by Mr Monro, an army surgeon, who employed, in this way, spirit of wine; which, although it produced a cure, gave rise to an inflammation so violent, that he thought it necessary to substitute a milder injection. He accordingly afterwards employed wine, which answered the purpose as well, with less violence. But although an account was given of his practice in the lectures both of the late and the present Dr Monro, yet it could hardly be considered as introduced into practice. And although a trial had been made of it by Mr Sharp, yet he never seems to have repeated it;
it; and the practice was afterwards strongly condemned by Mr Pott, who ranked the use of injections in this disease among those practices which, happily for mankind, were laid aside.

Although the opinion of Mr Pott had deservedly great weight with Mr Earle, yet, from careful consideration of the subject, he was still led to think favourably of this mode of cure, when an injection sufficiently mild was employed. He had frequently succeeded in procuring an adhesion of parts in sinuses, by injections, without causing great inflammation; and by this means he had avoided the necessity of extensive divisions of the skin; which, in addition to every other inconvenience, often disfigures the appearance very much; and he also learned with satisfaction, from M. Sabatier’s account, that mild injections, though neglected in Britain, had been used with success in France.

The proper object, Mr Earle observes, of all attempts to the cure of the Hydrocele, without the destruction of the sac, is to produce such adhesion of the vaginal coat of the testis
testis to the gland, as shall annihilate the cavity in which the water constituting the disease was contained. We well know that this may be produced by a certain degree of inflammation; and we do not know any other process, either natural or artificial, by which it can be brought about. Injections may certainly be prepared so corrosive, as not only to inflame, but even to dissolve the most indolent parts. But, on the contrary, they may be prepared so mild, as not to offend even the most sensible surface of the body; and they may be made to produce every intermediate effect. What seemed, therefore, to Mr Earle the great desideratum, was, to regulate the nature of the injection, and the mode of application.

Other great advantages of injections, according to Mr Earle, are, that they apply themselves universally over the whole surface into which they are thrown, and that, when they have remained long enough to produce the requisite stimulus, they may be easily and completely discharged. As an injection, Mr Earle gave the preference to wine; which had been used with success in
France, and which he had often employed with great benefit in procuring adhesions in other parts. The strength of wine is never so great as to render it unsafe; and it may be readily lowered, according to circumstances. From every trial which he has made, he has no reason to wish for a different one; and the success which has attended it, has fully answered his expectation. The pain produced by the cure of Hydrocele in this way, is, he tells us, incomparably less than by any other operation; it does nothing more than is intended; and its curative effect, as far as his experience has yet gone, is equally certain.

In proof of these assertions, Mr Earle, in the treatise before us, and in the appendix now added, has given a particular account of upwards of forty cases, in which the cure of Hydrocele by injection was performed with complete success, and that too with very little pain or inconvenience to the patient. To demonstrate the advantages of this practice, as well as to explain the method which Mr Earle employed, it will be sufficient to give a short account of a few of these.
The first patient, of whose case an account is here given, was a man about fifty years of age, admitted into St Bartholomew's hospital, with a large Hydrocele, of many years standing. On the 21st of June 1787, in the presence of Mr Pott, a large quantity of fluid, of the usual consistence and colour, was drawn off by a trocar. After this, Mr Earle found that the tunica vaginalis was remarkably thickened and unpliant, to the feel not unlike buff leather; and the testicle was much larger than the natural size. Although, from these circumstances, the case seemed very unfavourable for any operation excepting the palliative, yet Mr Earle filled the sac with Port wine, diluted with a decoction of red rose leaves. From this the patient felt not the smallest pain; and after it had been retained for a few minutes, Mr Earle suffered it to be discharged. The next day, a small degree of inflammation had taken place. The third day from the operation, it was increased, and the whole scrotum considerably swollen; but the patient continued absolutely free from pain. By way of precaution, a poultice was applied,
and he took an opening draught. On the sixth day, the inflammation continued, the scrotum much swollen, and the patient without any other complaint. In a few days, the inflammation lessened, but the scrotum was almost as large as before the operation; and, to all appearance, it now contained a fluid. It seemed extraordinary that water should be again secreted and collected in so very short a time; yet, as the swelling was not attended with any pain or inflammation, Mr Earle concluded that it was possible; and being the first attempt which he had made, he was rather inclined to think, with every one who had seen it, that the injection had failed, and that there was a fresh accumulation of water. In consequence of this, it was agreed that the operation by the feto should be performed; and on the 8th of July, the seventeenth day from the former operation, he was brought into the theatre for that purpose. But as, on examination, it appeared to Mr Pott, and to all who were present, that the size of the tumour was lessened, he was sent back into his ward. From that time the tumour continued gradually to diminish,
diminish, till the testicle was plainly perceptible, surrounded by the thickened tunica vaginalis. On the 18th day of July, the twenty-seventh day from the operation, Mr Earle examined the parts with attention, and found the patient not only free from any fresh accumulation of fluid, but the testicle less in size than when he first let out the water; and the patient, being in every respect well, was discharged from the hospital. The success which attended the use of the injection in this unfavourable case, naturally led Mr Earle to hope for every thing from it, in more recent ones. And these hopes, from the other cases here related, it would appear, were not disappointed.

The next case of which we shall give an account, is the third in Mr Earle's treatise. He drew off from a Hydrocele, which had been of a few months standing, in a young man, about a tea-cupful of straw-coloured water, and found the testis rather enlarged, but free from disease. He immediately filled the cavity with injection, which was kept in a couple of minutes. As the patient com-
plained of some pain shooting up his loins, it was then discharged, and he went to bed. The next day Mr Earle found him free from fever: He said he had felt some pain, similar to what he had felt during the operation; but the inflammation was not more than to be desired; the scrotum was gently distended, with a scarlet blush. Mr Earle ordered a poultice and bag truf, and advised the patient not to suffer the scrotum to fall down between the thighs, but to support it by a small pillow, or by keeping the knees close. On the 26th, the inflammation was moderate; he had no pain, nor had he felt any since the second day. It continued gently to increase, and seemed to be about its height on the 28th, the fifth day from the operation. Two days after, it appeared to be gradually decreasing; the patient during the whole time being entirely free from pain. On the 4th of December, the tumour was about half its original size; and on the 10th, which was the seventeenth day from the operation, all inflammation had left it, and the adhesion of the membranes appeared complete.
Similar success attended this mode of cure in the other cases here related. The injection which Mr Earle commonly used was about two-thirds of wine to one of water. If the parts appeared insensible, and no pain at all was produced by the quantity first thrown in, he added to the proportion of wine. On the contrary, if the complaint was recent, and the parts irritable, he increased the proportion of water. And he found pure water mixed with wine answer as well as when astringents were added. The length of time for which the injection was retained, as well as its strength, was also regulated by circumstances, extending from two to ten minutes. The instrument which he commonly uses, is a pipe, with a stop-cork, which is made to fit into the cannula of the trocar, by which the water is drawn off, and to receive the beak of a syringe of moderate size, which may be applied and removed at pleasure. By means of these, fluid may with ease be thrown up to any extent, and retained for any time that may be thought necessary.
Mr Earle flatters himself, that he has related sufficient instances, even in his original treatise, to demonstrate the preference which is due to the cure of Hydrocele by injection. One merit which he is confident it possessest in a very superior degree, is, that the inflammation which is excited by it is so gentle, that it may be safely used under almost any circumstances, and at any period of life. And if the inflammation should not be raised to a sufficient degree to effect the purpose of cohesion, it can do no harm, nor produce the smallest ill effect or inconvenience, provided it be properly performed. The same consequences alone would take place, as usually follow the mere letting it out by puncture. There would be a fresh accumulation of water; and we should not be prevented from another attempt to cure, either by injection, or any other method, as if no previous operation had been attempted. He trusts, therefore, that hereafter, when present prejudices are laid aside, and old habits worn out; when all the different methods of curing the Hydrocele are fairly scanned, he shall have the gratification to think,
think, that the pains which he has taken to introduce a mild and easy method of cure, will not be in vain, but will be the means of saving the rising generation from much pain and distress.

In the conclusion to his appendix, published but a few months ago, he adds, that he has now the pleasure to know, that many practitioners have followed the plan recommended in his treatise, and have succeeded to their utmost wishes. We have the satisfaction of being able to inform our readers, that, in consequence of Mr Earle's publication, the radical cure of Hydrocele by injection, has, among other places, been revived at Edinburgh, where it had been practised, above forty years ago, by Mr George Monro, but afterwards, from some accidental circumstances, entirely laid aside.

This mode of cure was lately employed at Edinburgh, with the utmost success, upon a gentleman in the 46th year of his age, whose eminent abilities as a lawyer have deservedly raised him to the head of his profession. The operation was performed on the 9th of September last, by Mr George Wood, an ingenious
genious young surgeon, and excellent operator, in presence of his father Mr Alexander Wood, and of Drs Monro and Duncan, all of whom afterwards visited this patient frequently during the progress of the cure.

About seven or eight ounces of a mixture, consisting of two parts of port-wine with one of water, being nearly equal to the quantity of water drawn off, were injected into the sac, and retained for five minutes. He then began to complain of flight pain; upon which the fluid was discharged. This pain continued, and indeed increased for about two hours, when the parts obviously began to swell. Soon after this, the pain entirely ceased, but the swelling continued gradually to increase for the space of about three days; and at the end of that time, the tumour in the scrotum, though totally free from pain, was fully larger than the Hydrocele ever had been. In this situation it continued stationary till about the eighth day after the operation. From that time it began gradually to subside; and by the twentieth day it was entirely gone; after which he went about as usual, without any restraint.

Although,
Although, to prevent any risk or inconvenience, from the inflammation being greater than necessary, it was thought prudent, that he should be almost constantly confined to bed for five or six days after the operation, yet he enjoyed good sleep the very first night; and from the time that he awaked in the morning, till the complete removal of the swelling, he continued in every respect in perfect health, not only enjoying the company and conversation of his intimate friends, and the pleasure of a game at chess, or such similar amusements, but even engaging in some degree in the duties of his employment, by dictating law-papers for the prefs, during even the few days for which it was thought advisable to confine him to bed, From having enjoyed such a state of ease, it is perhaps unnecessary to add, that it was not thought requisite to employ any measures with the view of mitigating the inflammation. Several weeks have now elapsed since the swelling totally disappeared, and he continues perfectly free from even the slightest appearance of any return of the Hydrocele.

The
The radical cure of Hydrocele, by injection of wine and water, has likewise been lately tried at this place, by Mr Thomas Anderson of Leith, a member of the College of Surgeons of Edinburgh, and has been attended with the utmost success that could be expected.

Upon the whole, as far as we are able to judge of this operation, either from reflection on its nature, or from the observation of those facts which we have had an opportunity of witnessing, it appears to us incomparably preferable to every other mode yet proposed for the radical cure of Hydrocele. And as, even supposing it to fail, it does not prevent any other operation from being afterwards had recourse to, it is certainly, in the first instance, entitled to a trial in every case.
XVII.


On the 13th of December 1790, an American ship was cast away on a sand-bank that lies in the opening of the river Mersey into the Irish Channel. The crew got on a part of the wreck, where they passed the night; and a signal which they made being discovered next day from Hillberry Island, a boat went off, though at a great risk, and took up the survivors. The unfortunate men had remained twenty-three hours
hours on the wreck; and of fourteen, the original number, eleven were still alive, all of whom in the end recovered. Of the three that perished, one was the master of the vessel; another was a passenger, who had been a master, but had left or sold his ship in America; the third was the cook. The cook, who was a weakly man, died a few hours before the boat reached the wreck; but the two masters had been long dead; and this added to the sympathy for their loss, a curiosity to inquire into its circumstances and causes. When the following particulars came to be known, this curiosity was increased. Both the masters were strong and healthy men; and one of them a native of Scotland, in the flower of life, early inured to cold and hardships, and very vigorous both in body and mind. On the other hand, several of the survivors were by no means strong men; many of them long accustomed to warm climates; and, what was singular enough, the person among the whole who seemed to have suffered least was a negro.

Upon
Upon inquiry, Dr Currie learned from Mr Amyat, the mate, that there was no liquor, or food of any kind, saved; that the whole crew were on an equality in all points, except that some were deeper in the water than others; but that the masters had the advantage in this respect, for they fat on the only part of the wreck that was out of the sea, whereas the poor negro, who escaped almost unhurt, was perhaps deepest in the sea of any; and that where the masters fat, although generally out of the sea, was frequently overwhelmed by the surge, and at other times exposed to heavy showers of fleet and snow, and to a high and piercing wind.

The temperature of the air, as nearly as can be guessed, was from 30° to 33° of Fahr.; and that of the sea, from trials in similar circumstances, from 38° to 40°.

The master of the ship, Captain Scott, a native of North Carolina, and about forty years of age, died first. As they were in the dark, Mr Amyat could not see his countenance; but he was first alarmed by hearing him talk incoherently, like one in the delirium of a fever. By degrees, his voice dwindled
dwindled into a mutter, and his hearing seemed to fail. At length, he raised himself up in a sort of convulsive motion, in which he continued a few seconds, and then fell back dead on the deck. This happened about eight in the evening, four hours after the ship went aground. Soon after this, Captain Davidson, who was about twenty-eight, began to talk incoherently, in the same manner as the other. He struggled longer, but died in the same way, at about eleven at night. The cook died in the forenoon of the succeeding day. He was a low-spirited man, and desponded from the beginning. All the rest held out, as has been already mentioned, though sorely pinched with cold and hunger, till they were taken up about three in the afternoon. Mr Amyat said, that his hands and feet were swelled and numb, though not absolutely senseless; he felt a tightness at the pit of his stomach, and his mouth and lips were parched. But what distressed him most, was cramps in the muscles of his sides and hips, which were drawn into knots. Though immersed in the sea, they were all of them very thirsty; and though
though exposd to such severe cold, none of them were drowsy, nor did sleep precede death in those that perished.

These remarkable facts led Dr Currie to conclude, that the death of the two masters was to be imputed to their peculiar position on the wreck. Exposed to heavy showers of fleet and snow, they might suffer by being wet with fresh, rather than salt water. They might also suffer from being exposed to the cold of the atmosphere, probably seven or eight degrees greater than that of the sea. The chilling effects of evaporation might operate against them, promoted as these must have been by the high wind; or they might receive injury from their frequent immersions in the sea, producing an alternation in the surrounding media.

Of the powers attending animation, that which seems fundamental, our author observes, is the capacity of the living body of preserving the same heat in various degrees of temperature in the same medium, and, indeed, in media of very different density and pressure. He also remarks, that seafaring men universally know, that pure water on the surface of the body, is much more hurt-
ful than water in which salt is dissolved. As a striking evidence of this truth, the Narrative of Lieutenant Bligh is referred to.

After these observations, Dr Currie proceeds to give a detail of the experiments which reflection on this curious subject induced him to make. In these, his principal object was to ascertain the effects produced on animal heat by immersion in fresh and in salt water, of equal temperatures.

His experiments show, that the temperature of the human body, on immersion into a cold salt-water bath, at first fell rapidly ten or twelve degrees, but gradually rose again almost as much; and that, on exposure to an atmosphere of the same temperature, it also at first fell considerably and rapidly, although the effects of evaporation were prevented as much as possible.

Dr Currie thinks this remarkable; for, had the increased power of the heat-producing process, which was necessary to keep up the temperature of the human body in a medium so dense as water, remained for some time after coming out of the bath, there must have been at that time a considerable accumulation of its heat.
Our author also found, that the temperature of the body, after it had remained in a cold salt-water bath, till it had almost reached its usual standard, fell considerably and rapidly on immersion into a warm fresh-water bath; but rose rather more quickly than in the cold bath.

In one instance, undulations of the cold bath produced, in the subject of the experiment, the same sensations in his shoulders that Mr Amyat felt in his hips and thighs. They seem, therefore, to have arisen from alternate immersion in water, and exposure to air. In this same experiment, the warm bath was incautiously heated to 104°. The man had hardly entered it when he screamed out with pain, especially in his extremities and scrotum; and, when taken out, his shivering amounted almost to convulsions. The bath was lowered to 88°, and progressively, but rapidly, increased to 100°. But he continued to shiver, and his heat remained at 90°, until a bladder with very hot water was applied to his stomach; when his shivering ceased, and his heat mounted rapidly to 98°.
Dr Currie found, that in all instances this was the most speedy and effectual way of counteracting the effects of cold. Our author now proceeds to make the following observations on animal heat.

"One general remark will serve for the pulse, in all these experiments. It was not possible to keep the subjects of them from some degree of previous agitation; and this always quickened the pulse. The natural pulse of Edwards*, was about 70 in the minute: but it may be observed, that it was never lower than 85 before immersion, and generally more. However this might be, it invariably sunk to 65, or from that to 68, in the water, and became firm, regular, and small. After being long in the bath, it could hardly be felt at the wrist; but the heart pulsated with great steadiness and due force. In the last experiment, when the heat sunk rapidly, Sutton* said, that he felt a coldness and faintness at his stomach, which he had not perceived before; and when I felt the motion of his heart, it was feeble and languid. In some future trials of the effects

* Men on whom the experiments were performed.
effects of immersion in fresh water, the same coldness at the stomach preceded a rapid fall of the mercury: and these facts, together with the effects I found from applying a considerable heat to this part when the body was chilled with cold, convince me, that there is some peculiar connection of the stomach, or of the diaphragm, or both, with the processes of animal heat. Whoever will consider the rapidity with which a dead body would have cooled, immersed in water of the temperature of 40°, may form some estimate of the force with which the processes of animal heat must have acted, in the experiments already recited. These experiments, however, furnish irrefragable proofs of the futility of some of the theories of animal heat. The increase of heat in fever, has led some persons to believe, that animal heat is produced by, or immediately connected with, the action of the heart and arteries. Here, however, it may be observed, that while heat must have been generated in the bath with more than fourfold its usual rapidity, the vibrations of the arterial system were unusually slow. Another, and a very beautiful
tiful theory of animal heat, supposes it immediately to depend on respiration. But, in the bath, after the first irregular action of the diaphragm, from the shock of immersion, was over, the breathing became regular, and unusually slow. Lastly, the curious phenomenon, of the heat rising, and falling and rising again in the bath, with the body at rest, and the temperature of the surrounding medium unchanged, is, I think, fatal to those theories of animation which consider the living body as a mere machine, acted on by external powers, but not itself originating action, and differing only in the peculiarity of the powers which are fitted to set it in motion. I have said, that the temperature of the medium continued unchanged; but it may be supposed, that the bath was heated a little during the experiments: it was so; but being exposed with a large surface to the open air, the wind blowing briskly over it, its heat was little altered. In twelve minutes immersion, it had gained nearly one degree; and in forty-five minutes, the longest duration of any of the experiments, it had gained three degrees.

As
As this accession was regular, if it had been greater it would not have invalidated the foregoing observations.

"Many other trials were made on the effects of immersion in water on the human heat, which I shall speak of generally, under the general conclusions which they suggested.

"The experiments already recited, suggested to me the notion, that in all changes, from one medium to another, of different density, though of the same temperature, there is a loss of animal heat. I found, however, that this conclusion requires many restrictions.

"1. My experiments being made on bodies of such very different density as air and water, do not admit an universal inference of this sort.

"2. Being all made in a temperature fifty degrees under the human heat, no certain conclusion can be drawn as to what might happen in degrees of heat much higher, where it is probable the effect of the change, if it appeared at all, might be less striking. It would seem, however, that after a person is long chilled in cold water,
the first effect of passing through the external air into the warm bath, is a fall of heat in the air, and after this a still greater fall in the warm bath, followed, however, by a speedy rise.

"The air and water being equally cold, and both 45°, or under, I found the loss of heat, in passing from the one to the other, to be regulated in the following way.

1. If, instead of being exposed to the wind previous to immersion in the water, the body was kept warm by a flannel covering, the mercury fell much less on the first plunge.

2. If, after plunging into the water, the person continued in it only a minute or two, a subsequent fall of the mercury did not always take place on his emerging into the air. On the contrary, there was sometimes a rise on such occasions in the mercury, especially if the atmosphere was at rest.

3. In one instance, after continuing in the water fifteen minutes, on rising into the air in a perfect calm, though during a frost, there was little or no seeming diminution of the heat; while exposure under similar circumstances,
cumstances, with a north-eaft wind blowing sharply, though the air was many degrees warmer, produced a rapid diminution. The effects of wind in diminishing the human heat are indeed striking, and are not, in my opinion, explained by the common suppositions.

"4. The loss of heat, by a change of media, depends much on the rapidity of the change; for the plastic power of life, in varying the process of animal heat, so as to accommodate it to the external changes, acts for a time with great celerity, though this celerity seems to diminish with the strength.

"5. The influence of the application of cold water to the surface of the body on the heat, is in some respects regulated by the animal vigour.

"6. The power of the body, in preserving its heat under the impressions of cold, and the changes of temperature and of media, seems in some measure regulated by the condition of the mind.

"7. There are particular conditions of the atmosphere, not perfectly understood, that
that seem to have an influence in depriving us more speedily of our animal heat than others where the cold is greater.”

Dr Currie next details an experiment, in which the effects of immersion in cold fresh water are pointed out. During the whole of thirty-four minutes, the time the subject of this experiment remained in the bath, the mercury continued to sink. The warm bath did not restore his heat. He passed a feverish night; and next day had wandering pains over his body, with great debility, resembling the beginning stage of a fever. By cordials and rest this went off.

Dr Currie concludes this paper with the following observations.

“1. It is, I think, well known among seamen, that where there is only the choice of being wet with salt or fresh water, it is always safest to prefer the first. In the heavy showers of rain, hail, or snow, by which gales of wind are generally accompanied, the men that must be exposed to them, ought, like Lieutenant Bligh and his crew, to wring their clothes out of salt water.

“2,
2. In all cases where men are reduced to such distress, by shipwreck or otherwise, that they can only choose between the alternative of keeping the limbs constantly immersed in the sea, or of exposing them to the air while it rains or snows, or the sea is at times washing over them, it is safest to prefer a constant immersion.

3. Whether, in high and cold winds, without rain or snow, and where a situation may be chosen beyond the reach of the waves, it be safer to continue in the air, or to seek refuge in the sea, must depend upon several circumstances, and cannot perhaps be certainly determined. The motives for choosing the sea will be stronger in proportion as the wind is high and cold, and in proportion as the shore is bold.

The foregoing narrative shows, that men may survive twenty-three hours immersion in the sea, of the temperature of 38° or 40° (as great a cold as it almost ever possibly), without food or water, and almost without hope of relief. But that any man ever survived an equally long exposure to the
the higher degrees of cold of the atmosphere, in the same circumstances, does not appear. Though, in the case related, immersion in water did not prevent thirst, yet there is no doubt that it alleviated it; a circumstance of high importance towards the preservation of life.”
S E C T. II.

Medical Observations.

I.

Observations on Native Camphor, by Dr John Crawford of Demerary, formerly in the service of the Honourable East India Company.

I confess it is not without astonishment I consider that Native Camphor has not yet been brought into medical practice. It is a medicine so much superior to that in common use, which bears, undeservedly, the same name; it is produced in such abundance, in a part of the British dominions, and might secure so advantageous a branch of
of commerce in our own hands, without being obliged to resort to foreigners for what we require of that article; and these circumstances are so well known, I may say, all over India, from whence it may be obtained, that I acknowledge myself not a little surprised, no well instructed adventurer has yet been found, capable of informing the inhabitants of Europe how much they would be benefited by preferring Native to Spurious Camphor, and of supplying them with a quantity equal to the demand which would be thereby produced. Specimens of Native Camphor have frequently been handed about amongst the medical gentlemen of London, Paris, Dublin, and other parts of Europe; and there are many who are not unacquainted with its superior qualities. If what is here offered should happily stimulate those who are furnished with the means of investigation, to a more accurate inquiry, and this valuable drug should be brought into general use, I shall feel real satisfaction in knowing I have had some share in conferring an important benefit upon mankind.

The botanical description of that species of the
the Laurus, from whence the genuine Camphor is obtained, and to which it gives the trivial name, is well known, and has been accurately delivered by Linnaeus, and many other writers on the vegetable kingdom. But it appears to me, that the appellation has been given to the tree, merely from the smell and taste of the bruised leaves; and that not one of the authors who have seen and described it, I mean such as have written generally on botanical subjects, ever made themselves acquainted with the manner in which the Camphor was obtained; nor would they probably have known the native production, had they seen it, except as it partakes of the above qualities, in smell strongly, in taste to a certain degree, with the adulterated drug, that has been so long imposed upon the practitioners of the medical art. The Laurus Camphor abounds in the islands of Sumatra, Borneo, Gilolo, and many other of the eastern Asiatic islands. The natives, at the proper season of the year, fell the trees, cut the trunks and branches into junks of from three to five feet in length; these they split into several pieces,
pieces, and they discover the Camphor, in a white concrete form, lying betwixt the fibres of the wood. Having provided themselves with an iron instrument, shaped like a hare's foot, they lightly scrape out from the interstices the pure concrete, taking care that no part of the wood is removed with it. This they set apart, and call it Head Camphor. They then continue their work, with rather more force, and collect all the small particles, not greatly solicitous to avoid detaching some of the minuter woody substance; of this they also make a separate parcel, and give it the appellation of Belly Camphor. They now labour industriously to scrape off every fibre that has a camphorated smell; which being reduced to a gross powder, in the process of scraping, exceeds both the others in bulk. Having likewise collected into a parcel what is thus obtained, they denominate it Foot Camphor. These are duly proportioned, and sent to China, at which place the unrefined aggregate brings a very high price, although there is no other country wherein it has hitherto found a market. And here a remark occurs, which cannot
cannot fail to press strongly on the mind. China is the only part of the world from whence the sophisticated article can be imported; and a single pound may be purchased from a druggist in London, refined, and apparently free from every impurity, for five shillings; whereas, I could not procure a pound of the Head Camphor, even from a friend at Sumatra, under sixteen dollars.

The Head Camphor, which is of the first quality; it is manifest, must be in the state in which it came from the native tree. It is of a chalky white colour; opaque, and reducible into a fine powder by friction betwixt the finger and thumb. The taste is by no means disagreeable, producing on the palate, first, a sensation of coldness, afterwards of heat; and these are extended to the stomach: There it excites no disorder, allaying nausea, and proving most comfortably cordial. From the facility with which it is pulverized, it may be readily exhibited with any substance possessed of the same property. A very small proportion is capable of being chemically dissolved in water. A mechanical solution
of a considerable quantity is easily practicable, by the intervention of any vegetable mucilage. On distillation, it yields almost its whole weight in oil; and if this be poured upon cold water, it quickly concretes on the surface, and nearly the whole of the camphor is recoverable in its native form. This I have accomplished, by means of filtering the water through paper; and it merits observation, that, in this simple process, the water acquires a strong camphorated taste and smell, from which it cannot be freed by repeated filtrations; and consequently there is a portion which admits, without difficulty, of a chemical solution in an aqueous fluid, although no method, hitherto discovered, is capable of increasing that portion. This, indeed, is one of the desiderata respecting Camphor, which well deserves the most attentive investigation. There are few of the properties above enumerated, that do not obtain in the common Camphor. The most distinguishing characteristics are, that the last has a bitter, acrid taste, is extremely offensive, seldom failing to produce a most distressing nausea, and therefore often defeating
ing the intention of the prescriber. It cannot be reduced to powder, unless by means of ardent spirit or thick mucilage; and by either imperfectly. It cannot therefore on many occasions be resorted to, where, under different circumstances, it might be strongly indicated. For these reasons, it is no way wonderful, that medical inquirers have yet to lament their ignorance of the extent in which Camphor might be employed in the cure of diseases. All these evils will be remedied, if Native Camphor should be in future employed. In the East Indies, in almost every case of beginning Pyrexia, it is administered, joined with nitre; advantageously. A scruple of this Camphor, added to half an ounce of Cortex Peruvianus, I have found more efficacious than an ounce of the latter alone, as a tonic, in the removal of intermitting fever. I unfortunately lost a number of papers which contained a history of my practice with this medicine, during several voyages to the East Indies: What I have above written, is alone derived from memory. These papers likewise contained extracts from, and remarks upon, the different authors I had consulted.
fulted upon the subject. From the time I became acquainted with the native production, I was zealous in my inquiries concerning it. I diligently read every author I could meet with in the public and private libraries of such parts of Europe as I happened to be in; and it is astonishing how little satisfaction I obtained from my labour. The process of procuring it, above described, is pretty accurately mentioned in a letter from a surgeon, who had been at Batavia, to Dr Gaubius, which he published in his Adversaria. He expresses the same surprise as that by which I am still influenced, at the high price the Chinese give for this article, and the low terms on which they dispose of the Camphor with which they furnish us. But not one of the other authors, whether ancient or modern, who treat of Natural History, or the Materia Medica, that has fallen within my notice, seem to have the least knowledge of the native production. Many give a history of a process, by which they assert the pellucid substance we have, is prepared; but as the art of preparing it is wholly confined to the Chinese, and as they are so difficult of access,
access, I very much doubt the truth of every thing that has been thus advanced. When I was at China, I could obtain no kind of satisfaction on that head. Many people assured me it was much employed as a perfume, and burnt before the altars of their idols; and in this way they accounted for the high price at which they purchased it. I cannot, however, yield much credit to such assertions, because the common Camphor is as completely consumable by fire, as that of the native kind; and the effluvia, during the time of conflagration, is so much alike, that the one cannot be distinguished from the other.

Mr Marsden has lately published a natural history of Sumatra, which has been spoken of as a work of merit. I have not seen it, and cannot therefore say whether he has described the Camphor tree, and the manner of obtaining the Camphor; but if he has, it is obvious, that what he has said has had no effect on those who have since written on the Materia Medica; nor is it mentioned in the last edition of the London Pharmacopoeia. It cannot therefore supersede what is above.
above urged: And as I am wholly unacquainted with the work, I must remain excused for omitting to notice any thing it may contain on the subject.

I have already remarked, that what I have above advanced, is merely the result of memory; and in this remote part of the world, I have no means of consulting such authors as have written professedly on Camphor; but in the journal of a voyage I made to Bombay and Bengal, in the Marquis of Rockingham, East Indiaman, in the year 1772, which I delivered to the Court of Directors of the East India Company, such being, at that time, required of all the surgeons in their service, I gave a much more accurate history of the nature and use of the Camphor in question, than is now in my power: This I shall endeavour to procure; and shall be happy to communicate any thing it may contain worthy of notice, provided my future researches should enable me to offer any thing meriting the public attention.

If this article in question proves of that moment to the medical world which I have long supposed, I have already shewn that it is
is procurable, in any quantity, in Sumatra and the adjacent islands, through the medium of the East India Company; and it is ascertained, that the tree may be readily cultivated in the West India islands. My very ingenious, and much esteemed friend, Mr Anderson, who has for a long time conducted the Royal Botanical garden at St Vincent's, with so much honour to himself and advantage to the public, has now several plants in great perfection, which he obtained about three years ago from Kew garden, and which he planted in this extensive and valuable nursery. That which he first planted, is now upwards of twenty-five feet high; and the trunk, near the earth, is not less than sixteen inches in circumference. Another which he propagated from a layer about twelve months ago, is already more than twelve feet high; and the trunk is about the same number of inches in diameter. Thence, forests of it may be easily raised; and as it is beautifully branching, plantations of this tree, in these hot climates, around the habitations, would prove not only useful, but highly ornamental. It may also be employed as boundaries
boundaries of fields and estates, and thus afford Camphor, and the most agreeable fuel in abundance. I am informed it grows spontaneously, high up in the country, in the vicinity of the river Essequibo in Guiana. This I shall very shortly ascertain; and the result of my inquiries, if I should find them of sufficient importance, shall be the subject of some future communication. Mr Anderson has kindly promised me, that in the month of December next, he will cut off a limb from his largest tree, in order to ascertain what quantity of Camphor may be procured from it. Indeed, nothing could be more desirable than researches of this nature, when the quantity within our reach admits of them. In the mean time, if those who reside in, or occasionally visit the islands where this valuable drug is procured, could be prevailed upon to ascertain whatever may be necessary for conducting the process of collecting the Camphor, and of making the oil with most advantage, and furnish the public with the necessary information on these heads, the means of procuring it here, in either form, would be greatly facilitated. It
It would be likewise gratifying, in the highest degree, if any of the supercargoes, or the surgeons of the Factory at Canton, were to bestow some portion of their leisure time in making inquiries with regard to the manner in which the Chinese manufacture the Camphor. It is alone from such a source we may hope for any information respecting it, on which we can place any dependence. For my own part, I have no doubt that there is some very cheap material which they combine with Camphor, and from which the acrid nauseating taste is acquired; and that, during the operation, it becomes pellucid.

The estimation of Camphor, even in its adulterated state, is very considerable; but almost every one who has treated on the subject, regrets the very little knowledge we possess of it; yet all subscribe to the importance of Camphor, as a medicine. The means for improving our acquaintance with Native Camphor are now evidenced to be easy; and as it is obvious we may administer the Native, so much more frequently than the Camphor hitherto in use, let us hope,
hope, in due time, that medical writers will be able to speak more decisively of its virtues, and that writers upon natural history will have no difficulty in giving a more satisfactory account of the advantages derivable from the Laurus Camphor.
II.

History of an uncommon Epidemic Fever observed in the Island of Grenada. By Mr. C. Chisholm, Surgeon in St George’s, Grenada.

It is not improbable, that all fevers, but particularly intermittents, of an irregular type, or attended with unusual symptoms, derive their irregularity, or extraordinary appearances, from local and obscure causes, too often little attended to, frequently not even observed, and certainly very seldom investigated in the only sure way, Dissection. But whether this should generally prove true or not, it certainly can do no harm to the patient to consider all anomalous complaints as depending on an internal local disease. And, if the usual mode of treatment in regular intermittents should prove utterly insufficient in those of an anomalous form, would it not argue an unjustifiable
liable negligence, indolence, or attachment to received opinions, in the practitioner, should he persevere in the use of it, without endeavouring to discover the cause of its insufficiency? I have been led to make this remark, from the consideration, and subsequent investigation, of a very uncommon fever which lately appeared, and raged with considerable violence, in part of my practice. It will appear, I think, beyond a doubt, that its irregularity and insidious nature depended on local disease; and the more certainly will this conclusion be drawn, when it is seen, that a new and uncommon mode of treatment, but one evidently adapted to the hidden malady, was found the only successful one, after several fruitless trials of others generally recommended.

This uncommon fever made its appearance in the corps of artillery of this garrison, about the end of September. Several patients were admitted into the Artillery Hospital, labouring under this complaint at that time. During the month of October, and part of November, the number increased considerably: towards the end of the latter,
ter, it entirely ceased; but in the latter part of December it again appeared with its usual bad symptoms, and did not altogether cease afflicting the corps till they were removed to Richmond Hill, where new barracks were erected for them.

It is an observation not less extraordinary than well founded, that the diseases of this country, depending on a morbid state of the visera, whether anomalous or regular in their form, are so much more peculiar to marshy districts than those of a dry soil and high situation, that they may be called Endemic to such. Thus, it is curious to observe, that the rapidity or slowness of the progress of Hepatitis has been almost always, in this island at least, proportional to the contiguity or remoteness of marsh effluvia; that the irregularity and obscurity of its symptoms have observed the same order; and that its commixture and coexistence with diseases, generally attributed to septic causes, such as dysenteries, intermittents, and low remittents, have been more frequently remarked in such situations, than in others of a drier soil, greater height, and more remote
mote from the influence of marshy exhalations. The disease in question is another instance of this. The barracks of the artillery are situated about three quarters of a mile to the south-east of St George's, at the foot of a mountain called Richmond Hill, and in the midst of a marshy piece of ground, in many places lower than the surface of the sea, which bounds it on one side. About half a mile to windward, there is a considerable tract of mangrove swamp, at the extremity of a large piece of water called the Lagune, the vapours arising from which being continually blown towards the barracks, the soldiers may be said to be situated in, and surrounded by marshes. Unfortunately, the commanding officer, Major Lloyd, having been off the island for a considerable time previous to this period, the drains, and other means which had been recurred to, for the purpose of keeping the ground tolerably dry, were totally neglected; and heavy rain falling during the months of August and September, the whole became a perfect morass, whilst the range of the thermometer was from 78 to 90; a heat necessarily contributing
tributing at once to increase the quantity, and render the quality of the exhalations more destructive. In November, the drains having been opened, the surface having been cleared of bushes and the immense variety of wild plants which vegetate in astonishing profusion in neglected soil in this climate; and the northerly winds having set in, which lessened the heat and moisture considerably, the barracks became more healthy, and the disease for a short time disappeared. But no means could be suggested sufficient to prevent it from returning about the end of December, when it again appeared, as I have already observed, with all its formidable and destructive symptoms. It is remarkable of this situation, that some years ago, when the negro huts, sugar-works, &c. of a plantation were standing on it, it was considered as by far the most unhealthy spot of the quarter of St George’s, a number of whites and blacks having lost their lives on it.

The general type of this fever was that of a quotidian intermittent, but so extremely irregular, as not to admit of a reference to any of the common species. It was truly anomalous;
anomalous; and so insidious, as to endanger the life of the patient before any apprehension could be entertained of its fatal tendency. In almost every case, the patient seemed in a state of very great anxiety at all times, with eyes inflamed, and a little protruded; a strong expression of depression of spirits in his countenance; a very great degree of debility, and a sense of weariness, as if he had undergone excessive fatigue. But the symptoms which most troubled the sick, during both the paroxysms and intermissions, if they can be properly called such, were an intolerable headach, with a throbbing in the temples, and a lethargic heavines. During the intermission, whilst the patient laboured under all or most of these symptoms, his skin was preternaturally cool, his pulse small, quick, and hard, and his whole body covered with a clammy moisture. The paroxysm generally came on some time between eight and twelve at night; and its approach was indicated by a very great increafe of the coldness, with a shivering. These were soon succeeded by violent heat, increased anxiety and headach, and very frequently by delirium.
rium. It continued two, three, or four hours, and terminated in profuse diaphoresis; but, contrary to the usual form of intermittents, on the ceasing of the diaphoresis, the patient continued afflicted with anxiety, headache, &c. to the degree I have mentioned. The paroxysm, in some, was marked with infinitely greater violence than in others. In the case of a soldier, named Michael Still, the third paroxysm began about twelve o'clock at night, with all the most violent symptoms at once, a deadly coldness of the body, and excessive delirium. These constantly increasing, terminated, in about two hours, in total insensibility, coma, and death. In the cases of two others, Stephenson and Wiseman, the disorder was not so rapid in its progress, but terminated exactly in the same manner. These were the three first cases which occurred.

In a few cases, very little intermission could be perceived throughout the whole course of the disease, till the salivary glands became affected. In these, there was a continual alternate succession of shiverings and flushings, with a disagreeable clamminess on the
the surface of the body, which never afforded relief. When, in such cases, any thing like distinct intermissions could be observed, they occurred at or a little before noon, and continued one or two hours; but, in the others, the periods of shivering and diffusion of heat returned so rapidly, that scarce any interval could be perceived. The prostration of strength brought on by them was astonishing; and it was observed, too, that the patients who laboured under the disease in this form, had a much more ghastly countenance, sighed and moaned more, were infinitely more restless, were more subject to raving, and had more of a dirty yellow suffusion over the skin, than the rest.

In three cases, the form assumed by the disease differed a good deal from its general appearance. About eight at night, the patients were suddenly seized with a violent hot fit, which in an hour or less was succeeded by a sweat, affording them no relief. The sweat continuing about two hours, they felt themselves cooler. But, an hour after, they were again seized with a hot, succeeded by a sweating fit, which abating to-
wards the expiration of two hours, they again felt themselves cooler, but by no means entirely free from fever. In this manner they were, during the whole night, alternately seized with these hot sweating paroxysms, and relieved by an imperfect and short intermission. In the day-time, they were affected with a violent constant pain at the pit of the stomach, stretching to the spine, head-ach, accompanied with a coldness and clamminess of the skin, foul tongue, no appetite, and excessive thirst, with a sense of much internal heat. The following night, they had frequent hot paroxysms and sweatings, as before, succeeded in the day-time by the pains, thirst, &c. The use of mercury put a stop to this uncommon form of the disease, when it acted on the salivary glands.

In a soldier of the name of Holmes, the progress of the paroxysm was in some measure reversed. About seven in the morning of the 13th of November, he was suddenly attacked with a violent hot fit, which continued till noon, when it was succeeded by a general coldness and shivering, without the least appearance of sweat. The fourth paroxysm
roxofin was attended with delirium, and most of the bad symptoms; but fortunately a salivation coming on, his disorder entirely ceased.

In most of the cases, respiration was extremely difficult; and, on ordering the patients to make a deep inspiration, they were suddenly checked by pain, more or less acute, which, however, they could not refer to any particular place, except in a few instances, when it was found most troublesome at the pit of the stomach, stretching to the hypochondria or to the spine. Some also complained of a rawness, as it were, from the throat to the stomach, or, as they expressed it, "a rawness and burning of their inwards."

The stools of many were either black, dark brown, livid, deep yellow, or of the colour of an infusion of tobacco. In some, particularly a man of the name of Yates, whose disease terminated favourably by means of mercury, the stools were variously coloured, black, brown, livid, yellow, &c. In general, black or inky-coloured stools indicated a fatal termination. Black vomiting occurred in one case only, which ended fatally on the fifth
fifth day. The black vomiting came on the
day before the patient's death.

A cholera morbus has in some instances
alternated with the paroxysm of fever; that
is, every second day, at the usual time of
the accession of paroxysm, this disease took
place, and became excessively distressing to
the patient. Much danger was indicated by
its appearance.

In November, and more especially towards
the middle of the month, when the northerly
winds began to set in, and the consequent
change from heat to cold to take place, the
pains became more local, respiration was
more difficult, and the fever had evidently
lefts tendency to intermit. It is singular,
however, that although no doubt remains,
from the dissections, that hepatic inflamma-
tion was one principal cause of the fever, no
symptom of that disease could ever be per-
ceived, except difficult respiration, which is
by no means peculiar to it. In one or two
patients, at this period, the calves of the legs
were strangely affected with most excruciat-
ing pain, which deprived the patients of the
use of them.
In two patients, much pain in the throat, and difficult deglutition, were complained of; but, on examination, nothing particular could be perceived.

A yellowness of the skin was by no means a constant symptom. When it took place, it occurred on the fifth or sixth day; or, if the fever ran out to a longer period, on the ninth. The suffusion was general over the body, sometimes of a deeper hue, and sometimes, particularly about the eyes, and on the neck, approaching to a livid colour. Together with this yellow suffusion, sometimes a bleeding from the nose occurred, which in no instance afforded relief to the patient. About this period also, some degree of hiccough was observed; but this symptom was by no means general; and in most of those who died, it did not appear at all. I have perceived, likewise, some intermission in the pulse, nearly about, or soon after the appearance of the yellowness. But although these were certainly bad symptoms, no immediate danger was indicated by them.

In one case, a gunner, of the name of Doughton, something like crisis took place.
In this man, the headach was infinitely more violent than in any of the others, the pain stretching from the forehead to the occiput, and occasioning incessant throbbing in the temples. The balls of his eyes were also more affected than in the rest. In short, had it not been for the other symptoms, I should certainly have considered him as labouring under Phrenitis. Almost at the time he felt ptyalitic soreness in his mouth, in consequence of the calomel he had taken, he complained of a very troublesome itchiness, and even pain, all over the hairy scalp; and on examining it, I found a general eruption of large bumps and scabby blotches. On the 6th of November, which was the eleventh day of his illness, still finding that the pain continued with no small degree of violence, and that his mind appeared a little deranged in consequence of it, although he had no fever, and his skin continued cool, moist, and soft, I ordered his head to be shaved, a blister to be applied to the nape of the neck, and, as the salivation had not advanced so rapidly as I wished, five grains more of calomel to be taken. On the following day,
day, on examining the shaved scalp, I found the eruption to consist of a vast number of furunculi, or boils, the basis of each of which was at least the fourth of an inch in diameter. A fresh crop of these succeeding those that dried up and became escars, the pain continued with much violence for several days. On the upper part of the head, instead of the furunculi, there was a prodigious quantity of surfuraceous scales, which abundantly fell off on rubbing it. In all other respects he continued to recover. Irritability of the stomach was not so general as might be expected, in a disease so entirely depending on visceral inflammation, and glandular obstruction. When it did occur, it was a tremendous symptom, preventing the use of any medicine whatever, unless administered in the form of pills, or after the previous use of opium.

When great restlessness, a raving, drowsiness, or seeming inclination to sleep, a delirium, a sudden recollection immediately succeeded by lethargic heaviness, an excessive, almost insupportable heat at the praecordia whilst the extremities were cold and clam-
my, were perceived, the danger was great indeed; and in such cases, if the mercury acted not on the salivary glands, death was soon to be expected.

On the contrary, when the fits, after the mercurial course was begun, became less frequent and shorter, if the thirst abated, and the tongue became clean, a favourable termination of the disease might be looked for. And in the worst cases, if a salivation came on, the recovery of the patient might be depended on.

It is not a little extraordinary, that not a single instance of relapse happened when the disease was cured by salivating. In how few instances can this be said of common intermittent, cured by bark? The convalescents, the moment they could be moved with safety, were sent to barracks fitted up for them on Richmond Hill, where the purity and coolness of the air, their easy duty, and regular supply of wine and wholesome nourishing food, restored them to perfect health in a few weeks. Richmond Hill, a considerable mountain in the neighbourhood of the town, and on which our principal fortresses
has been erected, is to St George's, with respect to temperature, as 76 to 84; that is, it is in general cooler by eight degrees of Fahrenheit's scale; and as there is no higher hill near it, nor swampy ground any where immediately in its neighbourhood, the salubrity of its atmosphere is infinitely greater.

The number admitted, labouring under a more or less violent form of this disease, from the latter part of September to the 1st January 1792, amounted to no less than sixty, which I believe was considerably upwards of two thirds of the whole detachment, as it stood at that period. Of these, twelve died, which is one in five; a proportion by no means great, considering the formidable and treacherous nature of the complaint. The days on which the fatal termination took place, appear, from the hospital book, to have been the 5th, 6th, 7th, 8th, 11th, and 20th. Four died on the 7th; two on the 5th, 6th, and 8th; and one on the 11th and 20th.

Having failed in all my attempts to save the three first men in whom the disease made its appearance, and being exceedingly embarrassed
rashed by its irregularity and violence, I resolved to examine the body of the last who suffered, George Wiseman, a gunner in the 3d battalion of the Royal Regiment of Artillery. This man was admitted into the hospital on the 30th of September, and died on the 11th of October. He always bore a good character in the regiment, and was never known to commit much excess in drinking, nor to have had any sickness for many years. On his admission, he complained of slight symptoms of fever, of the remittent kind, for which he had a vomit, and afterwards several decoctions, with and without bark. Nothing very alarming took place till the 7th of October, when symptoms such as those I have described came on. On that day, he had James's powder frequently. On the 8th, he had some salts, to aid the operation of the antimonial; and the symptoms seemingly abating a little, I ordered the bark in as large quantity, and as frequently, as he could possibly take it. 9th, Worse; threw up all the bark, and had a violent paroxysm in the night-time; had blisters applied to the pit of the stomach, thighs, and arms. On the
the 10th, he continued in the same state, and had bark and wine, and bark injections very frequently: but to no purpose: for about one o'clock of the morning of the 11th, he died in a paroxysm of the disease.

A few hours after his death, I opened the body. On cutting through the integuments of the abdomen, I was astonished to find the adipose membrane at least an inch thick. The whole of this cavity was lined with a prodigious quantity of fat; the omentum was not uncommonly loaded; but the whole of the mesentery was so, in a very remarkable degree. On the right curvature of the colon, I perceived a very considerable excrescence, very hard; but which, from its covering of fat, I imagined was entirely composed of that substance. On cutting into it, I found it to be a gland, enlarged to a very considerable size, and containing in its cavity a large quantity of purulent matter. On examining the mesentery further, I found a prodigious number of these enlarged glands, inclosed in a thick covering of fat, and almost all of them containing purulent matter. Close by the appendicula vermiformis,
miformis, I perceived on the external surface a vast number of small substances, in clusters, resembling the vesicles of a shaddock, adhering to the intestine by small slender pedicles. The whole of the intestinal canal was found. The spleen was much enlarged; its coat was so very tender as to burst on the slightest pressure; and its substance or parenchyma had all the appearance of being in a state of putrid dissolution, more resembling grumous blood than an organized body. The pancreas was found; but also immoderately large. The liver was remarkably enlarged, and nearly in a state similar to that of the spleen. Its surface was curiously diversified with a variety of colours, and the vessels of its peritoneal coat were much distended with blood. The gall-bladder was not large in proportion to the liver, but was much distended with bile, of a chocolate colour, which, on being taken up on the point of the scalpel, seemed to contain a matter very like the grounds of coffee. The visceræ of the thorax were all healthy.

I examined the bodies of five more, and the appearances, in general, were exactly similar.
similar. In the body of John Almon, a gunner, the portion of the colon lying over the left kidney adhered closely to the lower apex of the spleen, and resembled it exactly in colour. The coats of the intestine in this part were so remarkably thin as to be perfectly transparent. The spleen measured ten inches in length, and five in breadth. In the right ventricle of the heart of some, polypi were found; and in one in particular, I found a polypus, two inches in breadth, and, exclusive of the branch which ran into the pulmonary artery, three inches in length.

In one, the body of a gunner of the name of Manning, the intestinal canal was generally inflamed, and the duodenum in particular very much so, and in some places sphacelated; the mesenteric glands were much enlarged, and discharged ichor; the liver and spleen were remarkably enlarged, and both, but particularly the latter, rotten. In the biliary ducts, the whole internal surface was covered with small tubercles, resembling in colour, size, and figure, millet seeds; and so hard, as to feel like gritty substances.
When the disease first appeared, and before I opened the body of Wiseman, I considered it as an irregular intermittent, which would in all likelihood yield to the judicious use of antimonials, deobstruents, anodynes, blisters, bark, and wine. Accordingly, I had recourse to all these, endeavouring to reduce the disease to a regular type by the former, and to prevent the accession of the paroxysms by the latter. But, as I have already observed, having derived no advantage whatever from these, and having reason to conclude, from the appearances on dissection, that the disease depended chiefly, if not entirely, on visceral inflammation and glandular obstruction, I altered my mode of treatment; and, mingling mercury with tonics, I pushed the latter to salivation. The first case I treated in this manner was that of a bombardier of the name of John Paterson, whose disease evidently proceeded from no irregularity of conduct, but was assignable to the general causes the whole of the corps were exposed to. The worst symptoms were already present; so that, to trust any longer to medicines which hitherto produced no desirable effect, would
would have been altogether unjustifiable. I therefore ordered, as his stomach rejected the powder, a quart of the cold infusion of bark, prepared agreeable to the prescription of Dr Skeet, to be taken during the imperfect intermission, and five grains of calomel, with fifteen drops of Thebaic tincture, to be taken in a little common syrup every four hours. Forty grains brought on a ptalism; and instantly, as if by magic, all the disagreeable and alarming symptoms disappeared. From that time he had no return of paroxysm; and in three or four days, he had an appetite, and complained of nothing but the soreness of his mouth. After this, I treated all my patients labouring under the disease with mercury; and my success, upon the whole, has been astonishingly great. It is necessary to observe, however, that in nine of the twelve cases which terminated fatally, the mercury did not act in any way whatever; but in all the other forty-eight cases, except one, a salivation being produced by it, a complete and speedy cure was effected. In obstinate cases, I have used the mercury in every shape and manner I could think of; calomel
calomel in large quantities, and sometimes to 150 grains; the strongest mercurial ointment rubbed in below the groin of each side, and calomel rubbed in on the gums, and inside of the cheeks.

In the month of November I found it necessary to bleed, when the fever had a tendency to become continued, and when much local pain was complained of. In all, except one, the blood was remarkably fizy, and bleeding gave relief.

Blisters were of little use, although applied with freedom to the most irritable places.

Bark was of no use, except when combined with mercury. The red bark, given without mercury, rendered the second paroxysm much shorter than the first; but on the accession of the third, no intermission ever after took place, till the patient was salivated. Most of the more distressing symptoms, the headach, and anxiety in particular, were much aggravated by the use of it; I therefore found it necessary, either to lay it aside altogether, or to conjoin it, as I did the pale bark, with mercury.

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Having
Having in my possession at the time, some of the Angustura bark, or the Quina del Barina, as the Spaniards of Angustura, on the river Oroonoko, call it, from the name of a district of that province in which it is found, I gave it a very fair trial in two cases, in both of which the symptoms were very violent. In one, I tried it at first without mercury; in the other, with. Upon the whole it seemed to agree better with the stomach than the Peruvian bark; but not perceiving much alteration in the state of the patients, I judged it prudent to combine it with mercury in both. In one, a salivation took place; in the other, the mercury had no visible effect; but both recovered.

In the patients who complained much of a soreness in their throats, and of difficult deglutition, the pepper gargle, in common use in this country for all morbid affections of the throat, had an excellent effect.

Upon the whole, I found mercury and opium excellent in this disease; and, indeed, they were the only remedies in which I could with safety confide.

I shall
I shall conclude this paper with observing, that much about the time this disorder made such devastation among a part of the corps of Artillery, Dysenteries appeared among a few of the rest, frequently accompanied by an intermittent fever; which was cured by means of a combination of ipecacuanha and calomel, and the occasional use of a purgative medicine, composed of lime juice, Glauber's salt, common or table salts, and water. At the same time also, a fever of a very bad kind, symptomatic of an inflammatory affection of the liver, as appeared on dissection, was not uncommon among the inhabitants: and it is not a little singular, that those who were seized with it, either lived altogether, or at least slept, in situations exposed to the influence of neighbouring marshes. This fever was so anomalous, as to shew no evident symptom leading to a knowledge of its nature or seat; and in the cases of it which proved fatal, which unfortunately were too many, a deep dusky yellow, or copper colour, took place on the whole of the surface of the body about the fifth or sixth day: On the seventh, raving sopor, bleeding from the nose,
nose, a blackish colour of the face and neck, insensibility, coma, and death, took place. It is a curious observation, that when every characteristic symptom of hepatic affection has been wanting, the nature of the disease may, by a good deal of attention to the state of the urine, be conjectured with tolerable precision. Thus, if the urine be turbid, or like unfined porter, it indicates nothing very peculiar in the fever: but if it be of a light yellow colour, or like what is generally called straw-coloured Madeira, and if it tinge linen of that colour, the probability is so great that the fever is symptomatic of hepatic affection, as to render the use of mercury not only justifiable, but even necessary. This I have frequently observed myself; and my friend Dr John Stewart, who has long and most deservedly enjoyed very extensive practice on the windward side of this Island, has told me, that this appearance of the urine has almost always, in anomalous cases, directed his practice. At the decline of the usual fever of the country, the urine deposits a lateritious sediment: but in this hepatic fever, there is seldom any sediment; if there be
be any, it is white: but most generally, instead of a sediment, there are whitish clouds to be seen suspended in the glass. It is remarkable too, that in this fever, the patient never discovers any inclination for acids or fruits; which, in fevers of a less dubious nature, wherein the tendency to putrefaction is manifest, is very urgent. This circumstance joined with others, may afford a tolerable criterion of the diathesis then prevailing in the system; and consequently, will induce the practitioner to make use of a doubtful remedy, rather than to trust to bark alone, which in all probability will be of no avail.
III.

Observations respecting the Guinea Worm. By Mr. J. Drummond, Surgeon in the Service of the Honourable East India Company. Communicated in a Letter to Dr. Duncan.

I am disposed to believe, that the Guinea Worm sometimes induces symptoms, which, as far as I know, have not hitherto been described. Personal experience of the disorder, first led me to form this opinion.

About the end of November 1791, I perceived an unusual stiffness and forenness in the inferior part of the gastrocnemii muscles of the right leg, at that part where the tendons of both gastrocnemii unite to form the Tendo Achillis. This forenness was never acute, consequently did not occasion particular inconvenience, or prevent me from walking. Several days afterwards, I observed a swelling in the part; but this was not attended by an increase of pain, nor discolouration.
tion. A few days after the occurrence of the swelling, a small redish-coloured pustule, with a black point in the middle, appeared on the inside of the leg, about an inch above the maleolus internus, on the fleshy part of the leg, and behind the tibia. This pustule appeared to contain a watery fluid. At the same time, I felt very distinctly, under the skin, a round firm substance; and was able to trace the animal with my finger to a considerable distance, extending in convolutions obliquely towards the posterior and upper part of the leg. Though the disease was now evident, yet I did not think it necessary to use any remedies, with a view to expedite the animal’s progress; nor, indeed, was I acquainted with any medicine or application which could produce that effect. I concluded, that he would work his way out, and that it would be most prudent to leave him unmolested. But, on the night of the 17th December, a few days after the appearance of the pustule, though I went to bed otherwise in perfect health, I awoke, at two in the morning, with a sensation of intolerable itching over the whole surface of
the body. This sensation was so extremely urgent, that I could not refrain from scratching violently. Soon afterwards, I felt an excessive heat and pricking in my face. On looking in a glass, I remarked a redness and flushing over my face; and the muscles of the face were swelled and convulsed. On those parts of my skin where I felt the itching, I could discover with my finger a thickening, as it were, of the skin; it felt as if full of hard bumps. While puzzled to account for these symptoms, which I had never seen, nor read, nor heard of, I was attacked with excruciating pain in my belly, accompanied by violent retching, vomiting, and loose stools. A little bile and acid matter were rejected, by vomiting. But as very little bile, notwithstanding the violent retching, was brought up, or passed downwards, these symptoms could not have been occasioned by an unusual quantity or acrimony of that fluid. The vomiting, as nearly as I can guess, continued with very little intermission above half an hour; during the whole of which time, the pain continued with unabated severity. These symptoms were
were succeeded by violent rigors, which continued for some hours, and resembled the cold stage of the paroxysm of an intermittent, unusually severe. When the vomiting ceased, I went to bed, and was well covered with blankets. The sensation of cold gradually abated, and I fell asleep. The coldness and shivering were not followed by any preternatural degree of heat of which I was sensible; but when I awoke in the morning, I felt a moisture on my feet. In the course of the night, the pustule had burst, and a white firm substance appeared in the spot where the pustule had occupied, but so deep that it could not be laid hold of. The animal had changed his situation during the preceding night, and had buried himself very deeply among the muscles. He had effected this so completely, that though I felt him with my finger to a great extent on the 17th, yet, on the morning of the 18th, there was not the smallest portion perceptible; nor could I discover the least trace, on the strictest examination. I felt no inconvenience from the attack which I have described on the following day, except a little weakness; nor
nor had I afterwards any return of these distressing symptoms. On the night of the 18th, a considerable inflammation appeared, surrounding the ankle; and I found it necessary, on the 19th, to refrain from walking, and to confine myself to a horizontal position. On the 22d, I drew a small thread across the surface of the fore, so as to touch the extremity of the animal, which felt hard, and firmly fixed in the flesh. In consequence of this irritation, he threw up a considerable quantity of a watery fluid. Some time after this, he entirely disappeared, and the inflammation abated. A troublesome fore remained, with a bloody ichorous discharge, which continued until the beginning of February 1792. It then healed, except a small point. At this time the animal made his appearance, and I was enabled to secure him with a thread. He was wrapped round a small bit of stick, and pulled twice a day, in the common manner. At the expiration of twenty days the extraction was completed.

The animal was upwards of two yards in length, and of the thickness of a crow quill. After the half was extracted, he gradually diminished
diminished in size. I found that his progress was quickened by the application of the aloe leaf, as hot as it could be born, to that part of the leg which was hard, swelled, and painful. The same effect was produced by hard friction. A greasy substance was well rubbed on the part, by which means the friction could be employed for a greater length of time, and induced less pain. The animal was coiled up in hard knots, in different parts of the leg; and to these the friction was chiefly applied. These remedies, particularly the friction, seemed to stimulate the animal, and induce him to quit his hold more expeditiously than he otherwise would have done. The application of a great degree of heat to the part, promoted the formation of matter around the animal; in consequence of which he became less fixed, and was therefore pulled out more easily. I am inclined to believe, that the extraordinary symptoms which appeared on the night of the 17th December, were occasioned by the animal having changed his position; and that they might have been prevented, by making
making an opening through the sound part of the skin, and securing the animal with a thread. Had this practice been followed, perhaps the greater part, if not the whole, might have been extracted immediately, and without farther trouble or danger.
IV.

Remarkable Case of a Boy, who lost a considerable Portion of Brain, and who recovered, without detriment to any Faculty, Mental or Corporeal. By Mr R. Leny, Surgeon, Stirlingshire.

Although the brain be not only the seat of those powers which distinguish animate from inanimate matter, but also of all those mental operations which dignify man above the inferior orders of animals, yet there is no part of the human body concerning which we possess so limited a knowledge. Its intricacy is great, and to that, our ignorance seems to bear proportion. We neither know the manner in which it performs its functions, nor the share which each of its parts have in their performance. The former is perhaps, for wise purposes, placed above human understanding; and the latter, though it appears more within our reach, has hitherto eluded
eled the research of inquirers. Perhaps, with regard to it also, we shall always remain in the dark. Its different parts are so intimately connected, that when one is affected, so, in general, are the whole; and it is possessed of such delicacy of structure, and is so immediately connected with the vital principle, that it cannot easily be made the subject of experiment. Accidental injuries seem to bid fairest towards its elucidation; but even these, as a source of information, must be regarded as exceedingly uncertain. Sometimes, when to appearance small, their effects have been almost instantly fatal, while, at other times, when seemingly of much greater importance, they have been productive of little subsequent harm. Of the latter kind, the following case of William Stewart, in the parish of Kippen, and shire of Perth, affords a most remarkable instance; the detail of which, if it can in the least conduce to illustrate a subject so curious and interesting, will afford much pleasure to the person within whose observation it fell. This at least he thinks it points out, that every part of the brain is not equally concerned in the execu-
tion of its functions: But being little acquainted with this subject, he neither pretends to trace causes, nor to draw conclusions. Whatever inferences it may suggest, he leaves to be deduced by those more versed in physiology. He only aims at an accurate statement of facts; which, from a regular journal he kept during the progress of the cure, he hopes he shall be able to give; and, if he succeed in this, the singularity of the case will, he hopes, of itself, entitle it to attention.

The patient, a servant boy, about 14 years of age, met with the accident on the 1st of July last, in consequence of a blow from the foot of a horse, which knocked him to the ground, and left him in a state of insensibility. He remained alone nearly two hours, and was then accidentally discovered by a person of the same family, who, being strictly interrogated concerning the condition in which he found him, and what happened before the circumstances of the case were examined into, related, "That his face, and the ground underneath, were covered with blood, which still continued to issue in considerable
siderable quantity, from a wound on the right side of his forehead: That, from the same wound, a whitish, or rather greyish substance, of a soft and pulpy consistence, and of nearly the size of a hen’s egg, was discharged; but that no pieces of bone were observed along with it: That he was sensible (which, from the boy’s own account, he became soon after the accident), but was so weak, that he could not rise: That, upon raising him from the ground, he fell into a swoon (perhaps from the erect posture), and continued in it till brought home, and laid in bed: That his recovery from this was attended with several efforts to vomit, which occasioned the discharge of about half the quantity of the same greyish coloured substance as formerly, from the wound; but that, from this time, till he fell within the writer’s own observation, in about an hour thereafter, nothing remarkable took place.” The last portion of the greyish substance discharged from the wound, being preserved for the purpose of examination, was now found to consist of brain, principally cortical, but intermixed with striae of medullary
dullary substance. The former was left on the field where the injury was sustained; but from the exact similarity observed by the person who discovered the patient, must have been of the same nature.

When the wound, which was ragged and unequal, was laid open, the substance of the brain projected a little way from its surface; which being wiped off, exposed to view an orifice in the bone, extending from a considerable way above the external corner of the right eye-brow upwards, and backwards toward the coronal future. That this might be examined with accuracy, the integuments were more freely divided through its whole extent, and its dimensions thereby ascertained to be in breadth at the middle part about an inch, and in length rather more than two inches, with its sides gradually converging together, so as to form an acute angle at each extremity. From its edges, fissures ran in almost all directions; and one piece of bone, about the size of a sixpence, on its upper side, was so nearly detached, that it could have been removed by the finger; but being noways depressed, was left remaining.

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That portion, the separation of which occasioned the hole, was in all probability either beat out by the horse’s foot, or left so loose as to be carried away by the first portion of brain discharged, as no pieces of it could be detected, though sought after with all possible attention. The dura mater appeared on all sides torn and ragged, and the heaving and falling of the brain underneath, were so great during examination, from the full inspirations and expirations occasioned by his cries, that at one time some of it was pushed out through the wound, while at another it receded so far from the bone, that a void space was left, into which the finger could for a good way easily have been inducted. The protruded parts were so torn by the sharp and ragged edges of the bone, that at different times, more than the size of a hazle nut required to be wiped off; and this appeared to consist principally of medullary substance, or, at least, contained now a much smaller intermixture of cortical than that formerly discharged.

It being by a careful search made pretty evident, that no pieces of bone were so situated
ated, as to be productive of any future injury to the parts below, either by compression or irritation, the integuments were brought together, and secured near the upper extremity of the wound with a future. This was done, to prevent as much as possible the access of air, while more was thought improper, for fear of obstructing the egress of matter, which apparently would be great, and which, if in any way confined, might occasion very pernicious effects. The wound was covered with lint, secured with a bandage; and in order that the lower extremity of the wound might be made as depending as possible, he was laid to rest, with his head pretty much elevated in bed.

The patient's pulse, which before the examination of the wound was 120, in about half an hour after had risen in frequency to 160, and was so weak as hardly to be counted. His respiration was very anxious, and he felt very feeble and languid. On being raised erect, he had a tendency to deliquium. A clammy moisture was present on his skin, and he had frequent starting of the muscles of his extremities.
Every circumstance here was unfavourable, and seemed to forebode approaching dissolution; but a desire to know the issue of so remarkable an accident, made it appear improper to desert the patient till the fatal event had actually taken place. This, and another consideration of equal importance, namely, that of the boy's low situation in life, excluding him from proper medical assistance, not the sanguine expectation of performing a cure, were the motives which induced the writer to undertake its management; and this he did, though he had been hitherto more engaged in the study than in the practice of his profession. He regulated the medical treatment entirely by the symptoms which presented themselves, thinking it more expedient carefully to watch the efforts of nature, and implicitly to follow her indications, than by too active an interference upon the rules of method and system, probably to counteract her operations. This plan was adopted the more readily, as it coincided exactly with the sentiments of Mr Campbell, a very intelligent surgeon at Balfron, who was present at the examination and
and dressing of the wound; and it afterwards gave much satisfaction to hear it approved of by Dr Leckie of Broich, a gentleman who has had an extensive and successful practice, both in Stirlingshire and in the West Indies, for many years, who saw the patient during the progress of the cure.

As the symptom which required most to be counteracted, seemed to be debility, the patient was ordered a drink moderately cordial, and this appeared to take effect so far, that next day his pulse had descended to 120, and had now a much fuller and firmer beat than the preceding evening. The starting of the muscles was quite gone; the sensation of languor was much diminished, and he breathed with considerable freedom; but the symptoms of debility were again aggravated by a slight hemorrhage from the wound, which, during the first two days, took place repeatedly. On this account, the same cordial was continued, and had seemingly the same good effects. Afterwards, however, the pulse gradually rose in strength, and the other symptoms of fever supervened, which required

* Whisky toddy.
required the discontinuation of this, and the pursuit of another very different plan. The antiphlogistic regimen, in all its branches, was strictly enjoined. All impressions from found, from light, and from heat, were carefully avoided; and likewise whatever could call the attention, or in any way excite to action any of the internal faculties. Indeed all this seemed strongly pointed out by nature herself; an increased sensibility to every impression appearing a very urgent symptom. Sleep was wanting; but supervening inflammation seemed to forbid opiates. The thirst too was great, but was as much as possible guarded against by acidulated drink. The only medicines administered were refrigerants, and cooling laxatives; by the former, if possible, to moderate the violence of circulation; and by the latter, not only to produce the same effect, but also to obviate any irritation from an improper state of the alimentary canal. On the fourth and fifth days, he was at times delirious, with his pulse above 100; great heat of skin, thirst, and restlessness. From these circumstances, blood-letting was on the point of being used; but
a general sweat upon the morning of the sixth day, moderated all the symptoms, and made it afterwards unnecessary.

In the mean time, the wound was very painful. A discharge of blood took place from its edges, on the two first days; but from that till the fourth, its edges were rather dry; when, by the help of emollient applications, it began to discharge copiously; at first a matter thin, and intolerably fetid, but about the ninth day, it was changed into a laudable pus. About that time also, small masses, seemingly brain, in a dead and corrupted state, constituted a part of the discharge, the egress of which was much assisted by the depending position in which the wound was always kept.

After the sixth day, the symptoms of fever began to disappear. His tongue, which was before white, and furred, gradually became clean. The heat of his skin, and thirst, totally went off; and his pulse from 100, descended first to the natural standard, and afterwards sunk so low as, for a number of days, not much to exceed 60. It sunk, however, in frequency, not in strength.
With this, his sensibility also diminished, but could never be perceived to be below its natural state. His sleep was now found, abundant, and refreshing; and his appetite began to recover. His urine, which was red, and in small quantity, was now more copious, and deposited a large brownish sediment. He had still transitory headache; but excepting this, and general weakness, from the 11th day onwards, he made little or no complaint.

The discharge was at this time great, but consisted of matter that was well formed. The edges of the wound looked clean, and granulations began to sprout out all around. No adhesion was the consequence of the future; but as the orifice in the integuments was rather higher than that in the bone, the latter was kept pretty well covered by them. The motion of the brain seemed to be synchronous with the action of the heart and arteries, and not with respiration. This indeed was the case from the beginning, except when the latter was increased by preternatural causes. The edges of the wound were daily covered with slips of linen,
linen, spread with common cerate, and lint was laid over its middle part, to absorb any matter discharged. About the 18th day, the discharge seemed to diminish, and the integuments had fallen considerably inwards, thereby forming a hollow. The former of these circumstances arose apparently from the matter not getting free exit, in consequence of partial adhesions having formed underneath. This gave considerable irritation, which for a short time caused headach, quickness of pulse, and a slight return of fever. But these symptoms were prevented from running high, by the introduction of a probe below the integuments, by which they were gradually raised, and free exit given to matter, which had accumulated in considerable quantity.

From this time he felt himself so well, as to have an inclination to get out of bed; and being permitted, he rose at first for a short space only, but increased it by degrees. He was now also allowed to take more nutritive diet than for some time he had been permitted to do, which was thought the more necessary, as the discharge was great, and as
night sweats, and the other symptoms of hectic fever appeared in a slight degree to supervene; but these were in this manner obviated.

The discharge now diminished space, and the wound gradually filled up; so that at the end of a month from the accident, it was almost well. Only a small portion of it remained open, which in little more than a week afterwards, was completely cicatrized. The part was still considerably hollow, and to all appearance will remain permanently so, it being hitherto little filled. At that time, its bottom felt soft and yielding; wherefore, to prevent the chance of its sustaining any injury from accidental causes, a piece of paste-board, lined with flannel, was recommended to cover all that side of the forehead.—He was now sent home to his friends, who lived farther north in the country, with strict injunctions to avoid exercise. Indeed, that he might the more conveniently do so, was the principal reason for sending him thither; and the propriety of this injunction was evident from this, that its use always gave him pain in the affected side of his head.
On the 10th of September, an opportunity having offered of examining him, it was found that the paste-board was laid aside, and the orifice which had been in the bone, seemed completely ossified through its whole extent. The bottom of the hollow part felt hard, and made a resistance when pressed upon, that could only be done by bone. His general health was now complete, and had been so since he was sent to his friends. In short, he said that he never enjoyed more perfect health. Every function, both mental and corporeal, was unimpaired, and indeed had always been so since the accident, except the short time he was delirious. His external senses were all entire, and his internal faculties, so far as could be distinguished, either by his relations, or by others who have seen him, have not suffered the smallest diminution of acuteness. He seems naturally to possess great vivacity, and quickness of apprehension, which, to all appearance, will continue. At least, so far as yet appears, no alteration in these, or any other endowment, will be the consequence of the present accident.

N. B.
N. B.—Since the above was written, the patient has been examined frequently, and is found to enjoy health, strength, and the exercise of all his functions, as entirely as before the accident. A circumstance of some curiosity, which he has repeatedly mentioned, is, that since his recovery he has been quite free from an occasional headach, with which he was formerly much troubled.
Account of an alarming Case of Flooding, which happened in the Ninth Month of Pregnancy.  
By Alexander Gordon, M. D. Physician to the Dispensary, and Teacher of Midwifery in Aberdeen.

On Sunday the 20th of December 1789, I was called to the wife of Robert Leslie in Northstreet.

When I went in, I was told that she was at the full period of pregnancy; and that, without any known cause, a violent flooding had come on the preceding evening, and that she had two returns of it in the course of the night.

In the morning she had sent for her midwife, who, it seems, was ignorant of the danger, and therefore gave no alarm; and the poor woman would have flooded to death, had not a lady, whose servant she had been, sent to inquire after her. The lady's
lady's servant, who was a sensible woman, discovered the patient's situation, and told her mistress; and at her desire I was sent for.

I found the patient very much exhausted; her countenance was pale, and her pulse scarce perceptible; the bed was deluged with the discharge; and here and there lay a large coagulum, or clot, of blood.

Upon examination per vaginam, I was much concerned neither to find the os uteri inclined to dilate, nor any other sign of approaching labour.

I told the midwife and friends, that the patient was in the most imminent danger, and that her only chance lay in immediate delivery.

But seeing her already so much exhausted, I was extremely doubtful if her strength was sufficient to go through the operation.

In such circumstances, I thought it prudent to call in the assistance of another practitioner, in order to give his sanction to my proposal, and to vindicate me from blame, in case the patient should die in my hands.
I therefore called in Dr Skene, who, after examining the patient, coincided with my opinion, and approved of my proposal; but was at the same time extremely doubtful of the success of the operation.

I accordingly proceeded to give the woman the only chance which she had for her life.

But I was sorry to find, that she was already so weak, that she could not be placed on her back, the common position for delivery in such cases.

I therefore contented myself with the position in which she then lay, which was on her left side. And when the breech was brought near the edge of the bed, and the knees drawn up to the abdomen, I found that, in this position, I could reach the os uteri with the fore-finger of the right hand; which being introduced into the orifice of the uterus, I began slowly to dilate, in hopes that this stimulus would bring on the action of the uterus. But in that I was disappointed.

Seeing so many difficulties present themselves, I was concerned, but not intimidated; and was therefore resolved to proceed with the
the greater circumspection, wishing to imitate the wary traveller, who walks with cautious steps where the road is slippery. And as nature refused her assistance, I saw that there was a necessity for doing the whole by art.

With the finger which was introduced, I proceeded to dilate; and went on, dilating and resting alternately. After making some progress with one finger, I introduced another, and went on in the same manner with two fingers as I had already done with one, till the os uteri was considerably dilated. I then introduced the third, and after that the fourth finger; so that the os uteri was sufficiently dilated to admit the whole hand, while the bulk of it was without the os externum. A method of operating which I hope will be considered as an improvement.

Having gained this ground, I rested for some time, till something like a pain seemed to offer; which, however, was interrupted by a copious discharge of blood. The patient then sank into a deliquium.

Instead of desisting on account of this disaster, I took the opportunity of carrying my hand
hand into the uterus, introducing it between the body of the child and the belly of the mother, to search for the feet, which I found, and brought down. As soon as I had got the feet without the os externum, I stopped, on purpose to give a little respite to the exhausted patient.

After a respite of two hours, exhausted Nature began to exert her feeble efforts in form of a pain; and I did not fail to co-operate, by gently extracting; which I continued to do very slowly, resting at intervals, till the delivery was accomplished.

The fatigued patient fell asleep immediately after delivery, and had an hour’s repose. She then awoke; and I thought proper to remove the placenta, which I found no difficulty in disengaging, as it was attached to the cervix of the uterus, and had been partly separated in the dilatation of the orifice of the uterus.

The child seemed to have been dead before the hand was introduced into the uterus: It was very large, being 22 inches long, and weighed 9½ pounds.
The woman had a pretty good night’s rest, and I found her better next morning than I had reason to expect.

I endeavoured to recruit her strength, by directing nourishment and cordials to be given in such proportions as she was able to bear. But the vis vitae was too much exhausted to admit of restoration. The loss of blood could not be repaired, and produced a dropsy, which terminated in the patient’s death five weeks after delivery.

Her death, however, cannot be imputed to the manner of her delivery (which was done as nearly in imitation of nature as it was possible for art to approach), but to the great quantity of blood which she had lost before I was sent for. Thus the unfortunate patient perished because the midwife had neglected to call for assistance at the first appearance of the flooding; for had she been earlier delivered, her life might have been saved.
VI.

A singular Case of Extra-Uterine Conception, assuming the Appearance of Retroverted Uterus. By Dr Gordon, Physician to the Dispensary, and Teacher of Midwifery in Aberdeen.

In the month of May 1788, Isobel Allan, a married woman, aged 36, was recommended as a patient to the Dispensary under my care.

This woman had been 13 months pregnant, before there was any effort made to expel the foetus. But at the end of that time, she was seized with pains similar to labour pains. These she took for actual labour, and sent for her midwife, who, after an attendance of several days, perceived no signs of delivery, and therefore advised that I should be sent for. When I visited the patient, I proposed an examination, by which I found a child’s head in the cavity of the pelvis, the most depending part of which was...
was about half way between the brim and bottom; but, to my great surprize, the os uteri was elevated towards the brim of the pelvis, lying under the os pubis of the right side, and in a natural state.

All the most eminent gentlemen of the Faculty in Aberdeen, were called to see this singular case; and they all agreed, that it was most proper to do nothing, but wait for the operations of nature.

The patient, the bulk of whose abdomen was much about what it commonly is in the seventh month of pregnancy, remained in a situation similar to that of a woman in labour for the space of a week. She at the same time had a considerable degree of fever, attended with diarrhoea. Her pulse at length began to sink, and the abdomen to swell, till it was as much distended as it is in tympanites, or in the last stage of the puerperal fever. We were all of opinion, that such alarming symptoms would soon terminate in the patient’s death.

But we were mistaken in our prognosis; for in the space of three days the tumefaction of the abdomen subsided, the fever began to abate, and a bone was voided by the anus. Upon
Upon an examination per rectum, I found an opening in that intestine communicating with the cavity of the abdomen, and perceived that there were some bones on their way, and, among the rest, the half of the os frontis, which I extracted. All the other bones were discharged in the same manner: the small ones she voided, and the large ones I extracted; and in the space of three months, the whole skeleton was disjoined and voided. The os uteri then returned to its natural situation; the woman began to menstruate, which she has done regularly ever since, and now enjoys perfect health.

In this manner terminated this singular case, which before its termination was attended with many puzzling and perplexing circumstances. But after its termination every difficulty vanished, and the whole business was explained in a very simple and satisfactory manner, by supposing that there was an extra-uterine conception in the cavity of the abdomen, which, by descending between the uterus and rectum, had elevated the os uteri towards the pubes, and produced other symptoms of retroverted uterus.
VII.

A curious Case of Expectoration of Bile. By Dr Gordon, Physician to the Aberdeen Dispensary.

On the 29th of April 1788, Elspet Roger, aged 40, a married woman, who never had born any children, was admitted as a patient to the Aberdeen Dispensary, under my care.

Upon examining the patient, I found that she had every symptom of that disease which, in books of Nofology, is denominated Hepatitis; for she complained of a severe pain in the region of the liver, which viscus was enlarged, and painful to the touch. She likewise complained of a pain in the right shoulder, and of great uneasiness in lying on the left side. Her pulse was quick and feeble, her belly collive, her thirst great, her urine high-coloured and without sediment, and her skin and eyes were tinged with a yellow colour. The disease was of six weeks standing;
ing; and the monthly evacuation had been interrupted for the space of six months.

It was now too late to attempt a discussion of the tumour by bleeding and other evacuations. What, therefore, remained to be done, was to try the effects of a gentle mercurial course, and to apply a blister to the side affected. But I was sorry to find, that she was not able to bear the smallest doses of mercury, either under the form of friction or of pills; and therefore, no hopes could be entertained of her recovery. Gentle laxatives, and cooling diaphoretics, with opiates, to procure rest and remove pain, were administered. Her complaints, however, gained ground very fast.

The patient, finding that she derived no benefit from my prescriptions, and supposing her disease to be a consumption, asked my permission to go to the country. I did not oppose this proposal; but advised her to take an airing in a chaise, before she undertook a long journey.

She took my advice. At the first airing, the jolting of the chaise gave her great pain, and was followed by a cough, and very copious
pious expectoration of a yellowish matter, which had every appearance of bile. I called in Dr Skene and Dr Bannerman (two physicians of great experience), to see if remarkable a cause, who were both satisfied that what the patient expectorated was bile, and that it came from the trachea.

But, that it was actually bile which the patient spit up, I was at pains to prove by chemical experiment; for upon mixing it with the vitriolic acid it coagulated, and from yellow became green; and when mixed with caustic volatile alkali, it was thereby thoroughly dissolved. From these experiments, and from its colour and bitter taste, there cannot be a doubt but that it was bile.

I had not paid any attention to the colour of the faeces before this remarkable event; but afterwards I observed them, and found that they had the same colour as in jaundice; and was thereby satisfied, that none of the bile was poured into the intestines, but that the whole was discharged by expectoration. The urine, which was before uniform and high-coloured, after the same event depo-
fited a sediment; and the patient's skin, which before was dry, now became moist.

The patient lived in great agony a month after this remarkable event; during which time, opiates were given in very large doses to ease the pain.

I was much disappointed at not being permitted to inspect the body after death, in order that I might have had an opportunity of examining the state of the viscera, and of tracing the tract of the bile, which, by a singular deviation, had made its way into the bronchial tube, to be discharged by expectoration.

As, therefore, I was denied the satisfaction of determining by dissection the real state of the parts, I shall take the liberty of giving my opinion with respect to their supposed state. And it seems very rational to imagine, that the consequence of the inflammation had been an adhesion, comprehending the liver, diaphragm, and lungs, in which the biliary ducts must have been included; for if the two first had not adhered, the bile must have been poured into the cavity of the abdomen, forming an empyema there; and...
and if the lungs had been left out, the same
liquor must have been poured into the cavity
of the chest, forming a thoracic empyema.
Thus nature, by a very curious and wonder-
ful contrivance, had directed the bile to the
bronchial tube, and thereby afforded it a
passage to be discharged out of the body.

I was very desirous to know how much
had been expectorated by the patient, in or-
der, if possible, to ascertain the quantity of
bile secreted by the liver in a given time;
for which purpose, I measured for several
days the patient’s sputum, which in the space
of 24 hours amounted to an English pint,
the greater part of which was pure bile.

The above case I consider as very extra-
ordinary, and worthy of being recorded;
especially as no similar case is to be found in
the valuable collection of the great Morgagni,
VIII.

History of a singular Case of Chronic Rheumatism, successfully treated by Sarsaparilla in substance. By Mr John Leeds, Surgeon, Hemingston, Suffolk.

June 26. A MAN, thirty-two years of age, 1792. A whose constitution is naturally strong and healthy, having, in the month of August last, stood several hours in a pond, in pursuit of fish, all his limbs, in a short time after, became affected with pain. As no medical means were at first used for his recovery, his complaints continued increasing, in such a manner, as at length to bring on a considerable degree of universal debility and emaciation, attended with a small quick pulse, a whitish tongue, and profuse sweating. He suffered such very acute pain in the thighs, knees, and legs, that he was totally prevented, for a long time, from getting any comfortable rest, and was constant-
ly obliged to keep in bed. The countenance was pallid and dejected. This is the state in which I found him, when he became my patient, about a month ago. The appetite was pretty good, and the intestinal evacuation regular. The remedies which I first employed for his relief, were the Peruvian bark, joined with guaiacum; antimonials in small doses; and the pulvis ipecacuanhae compositus, given in suitable doses at bedtime. I also ordered him a strengthening, nutritive diet, with a proper quantity of wine. But not perceiving the least amendment from this plan, after it had been continued for a month, I was induced to make a trial of the Sarafparilla in substance, which he began to take on this day: The dose of it was two scruples, three times in a day, mixed up in a cup of sage-tea. Of this medicine he used four ounces. The result was, that, by degrees, the pains of the limbs entirely ceased; he gained strength and flesh, and, in the course of a few weeks, was enabled to follow his usual employment of a shoemaker.
Remarks.

So very characteristic are the symptoms of the preceding case, of Chronic Rheumatism, that I think no doubt can arise concerning the propriety of calling it by that name. At the same time, I think it is, in some degree, to be considered as of a different species from that which shows itself (and which I believe is most usual), without any general emaciation, or unusual quickness of pulse: But in the present case, it appears there were both. With regard to the quickness of pulse here, I have reason to look upon it as having been in some degree dependent on debility, as I did not perceive it was accompanied with any other remarkable febrile symptom.

When the body has been long or imprudently exposed to cold, the most usual effect, especially in young people, is known to be that kind of rheumatism which is attended with fever, called the Acute; but this does not appear to have happened in the case before
fore us. And that such a kind of rhema-
tism is not always, or invariably, the effect
of cold, we farther learn from Sir John
Pringle, who says, "The chronic rheuma-
tism I found one of the more obstinate dis-
eases of the hospital, being either the remains
of a rheumatic fever, ill cured, or pains that
had at first been owing to colds, and were
rivetted through want of timely care."

I am scarcely acquainted with a remedy
where practitioners betray so much diversity
of opinion, as in what relates to the use of
Sarsaparilla. For by some, we find it has
been, and still continues to be, highly com-
mended; while there are others who appear
to doubt, whether it possesses any particular
medical power. With regard to myself, I
cannot say that I ever recollect having ad-
ministered Sarsaparilla with any remarkable
success, except in the preceding case, where,
I confess, its peculiar utility far surpassed my
expectation. Although the success of any
particular remedy in a single case, is very
insufficient for establishing its reputation, yet,
perhaps, it is all that is requisite for the pur-
pose.
pose of setting aside any doubt, whether or not it be possessed of any medical power.

Concerning the particular mode of action of Sarafparilla, or on what principle it produces its effect, when successfully employed, I confess I can give no satisfactory account. Nevertheless, permit me to advance something relative to this point, by advertiing to the present case. If, then, the severe pain with which this patient was afflicted, arose, according to the idea of Dr Cullen, from a state of atony of the blood-vessels and muscular fibres, I should imagine, and indeed it seems to be the only rational opinion, that the Sarafparilla produced a good effect here, by having restored diminished tonic power. But if such pain were the effect of irritation, from an acrid serum (another source, in the opinion of some, of chronic rheumatism), it probably then acted as a corrector of acrimony. However inconsistent it may be with the opinion of the present period of medical improvement, to avow any partiality for the humoral pathology, I confess I cannot but avail myself of some little advantage, on the present occasion, from such a doctrine,
doctrine, by supposing, that an acrimonious state of the fluids may sometimes have a share in the production of chronic rheumatism. And indeed I have reason to suppose, that this, in a certain degree, was the case with my patient. For had there been no foundation for a supposition of this kind, is it not reasonable to conclude, that the use of the Peruvian bark (given in the manner above mentioned), would have been more likely to have afforded effectual relief than the Sarsoparilla? But as the event proved otherwise, it occurred to me, that there was probably some other evil to combat, besides an atonic state of the system; which evil, I was led to believe, consisted in some peculiarity in the state of the fluids.

Those who hold Sarsoparilla in any estimation, consider it as having a restorative power, which I conceive to be consistent with a tonic one. At the same time, it must be allowed, that it produces this effect very differently from those substances, which, strictly speaking, are properly denominated Tonics, and which are known to act as such on the constitution, merely by increasing the cohesion
cohesion of the animal fibre. With regard then to Sarfaparilla *, I should look upon it, like fago, or any other nutritious substance, that it so far tends to add to the natural healthy texture of the blood, when depraved or diminished, as to be capable, at last, of producing an effect on the general system, similar to a real tonic medicine, or one that acts primarily on the solids;—I mean, where the digestive organs are not impaired.

In consequence of my having allowed a restorative or tonic quality to Sarfaparilla, it may, I am aware, be supposed that it was owing to this, that it had so happy an effect on my patient, and that his disease consisted of nothing further than mere debility. It will be perceived, that I have already held out a different opinion, and at the same time endeavoured to advance some reason for doing so. But as I am uncertain about the propriety of such an opinion, I only wish to add an observation, relative to the point in question, by way of analogy. We well

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* Agit Sarfaparilla principio amylaceo, quod decoctione cum aqua in gelatinam vertitur, in aqua solubilem.

Verius.
know, that a great part of the efficacy of the Peruvian bark consists in its bitterness and astringency; yet if we combine two substances, separately possessing these qualities, as, for instance, chamomile and alum, such a composition would in general be found very inferior in its effect to the Peruvian bark, in the cure of an intermittent. Therefore, whatever power this remedy is possessed of, besides what may be implied from its aforesaid properties, I should be inclined to call a specific one. Such a power, then, am I led to ascribe to Sarafparilla, and to suppose that the success with which its use was attended in the preceding case, was an instance of it. Hence am I of an opinion, that this remedy, in certain diseases, is capable of producing an effect, beyond what we are altogether able to judge of, from its sensible qualities.

I should then hope (if there be any truth in my reasoning), that by farther attending to its effects, we shall be fully as able to ascertain its specific power, or to know what the virtue of it particularly consists of, as we are that of the Peruvian bark. Why Sarafparilla
parilla has, by Geoffroy and others, been said to act as a sudorific, I know not, as it is an effect which I have never been able to observe from its use;—I mean, when it is given without being joined to any other medicine. The decoction, prepared according to the London Pharmacopoeia, is, I believe, the form in which Sarsaparilla is usually administered; but I cannot help observing, that it does at any rate appear (except in very weak stomachs) the most eligible way of giving this medicine. The Spaniards, to whom this remedy was first known, used to administer it in substance, mixed with a decoction of the same. And we are also further informed by Geoffroy, in his Materia Medica, that it may be given in substance, from 3 is. to 5 ij. for a dose. It seems rather wonderful, then, that such a mode of using Sarsaparilla should in some measure have been laid aside. In short, I think that it should scarcely ever be exhibited in any other but that of substance, as the preference of giving it in this manner, appears to be supported, not only by medical practice, but also by phar-
maceutical experiment*. With regard to the quantity of Sarsaparilla which it may be proper to exhibit in the course of a day, I am inclined to believe, that from 3 ij. to 3 iiiij. will, in the generality of cases, be found a sufficiency. I know it has been recommended, and given, to the quantity of an ounce in a day. But as the cases in which Sarsaparilla is usually administered, are of the chronic kind, and require a long and unremitted use of it, I should prefer giving it in the manner which I have just mentioned; as the patient would then be much less liable to nauseate, or feel any inconvenience from it; and at the same time, would very probably, on this account, be able to persevere a greater length of time in its use, and at last to consume a larger portion of it, than if we were to begin by giving it in the very considerable quantity of an ounce in a day. With regard to Sarsaparilla, I have only to add, from the great success with which its use was manifestly attended in the preceding case,

case, that I should think it highly worthy of trial in similar circumstances; that is, in cases where there is pain in the limbs, from a rheumatic cause, accompanied with a state of general debility and emaciation. At the same time, I beg it may be understood, that I only venture to speak of its efficacy at present in a very confined manner. But as I am induced to look upon it as a medicine of no inconsiderable importance, I purpose in some other diseases, to make a more liberal and extensive trial of it than I have hitherto done. And should I be able to make any observations therefrom, that promise in any degree to be useful, I shall feel much pleasure in communicating them, through the channel of this very interesting publication.
IX.

History of a Case in which a Recovery took place, after a remarkable Injury to the Brain.
By Mr. Thomas Brown, Surgeon in Musselburgh.

Charles Burnet, about 12 years old, having, on Thursday evening the 9th of May, been engaged with some of his companions in throwing stones, received a blow on his head, which made him fall down, and he remained insensible for a few minutes. He was soon after led home, and appeared so immaterially hurt, as to require no immediate assistance.

On the following morning I was sent for, and found him out of bed, complaining only of some sickness, giddiness, and inclination for vomiting; his senses every way perfect; his sight and hearing very distinct. His pulse, however, was much disordered, not beating two strokes alike, in general slow, and sometimes
times with the intermission of two or three
seconds.

Upon examining the place where he re-
ceived the blow, I could only observe a small
wound, little larger than a pin head; no tu-
mour: but, upon pressing with the finger,
the teguments gave that feel, as if there
were no bone beneath, with some faint fluc-
tuation. Upon enlarging the wound with a
lancet, I was much surprised with the ap-
pearance of a quantity of brain, mixed with
blood. Introducing my finger, I felt the
cranium much broke and beat in, a con-
siderable way upon the brain. I proceeded
to enlarge the wound, in the directions that
appeared most necessary and convenient, so
as to expose the whole fracture. A space,
nearly about the size of half a crown, was
sensibly depressed; and in that place where
two pieces were beat in, the depression ex-
ceeded half an inch. The assistance of the
trepan was not necessary; and I readily ex-
tracted one piece, about the size of a large
farthing, shaped like a wedge. The other
piece seemed to adhere pretty firmly by
its largest surface. After raising it to a
level,
level, I determined to give it a chance of uniting. There was a fissure extended about three fourths of an inch, which stopped at the junction of the frontal bone. The fracture was situated in the left parietal bone, nearly in the middle between the sagittal and squamous futures, and about an inch from its junction with the frontal. Having done every thing that appeared immediately necessary, I dressed up the wound, put my patient to bed, and gave every direction that appeared requisite, and left him more relieved than before the operation, having seemingly no complaint.

I shall not give a particular detail of the progress of the case, but content myself with observing, that for three or four days the symptoms were rather more unfavourable, the giddiness severe, the vomiting almost constant, and attended with frequent hiccough, the pulse very much affected, and a considerable languor and want of energy over the whole system. He only once made his urine, and had one stool insensibly. His mental faculties were at no time deranged. During these few days, I allowed him nothing but gruel
gruel acidulated with lemon, whey, or water with a toast in it; and made him take a spoonful of a mixture every three hours, with tintūra thebaica and vitriolic acid. No symptomatic fever appearing, and his pulse becoming flat, I allowed him white wine in his drinks; and about the fifth day, his vomiting and hiccup entirely left him. After this period, he uniformly did well; and about three weeks from the accident, he was able to go about the house. At this period he had no complaint whatever, but his pulse was still affected. It however gradually became more regular for about six weeks, when it was not in the least affected; and now he undergoes every fatigue, and attends his usual diversions, without the smallest inconvenience.

There are a few particulars which occurred during the operation, and in the after state, which deserve to be taken notice of. Immediately upon allowing vent to the brain, by enlarging the wound, the boy felt himself instantly relieved both from sickness and giddiness; and, from being languid and oppressed, became lively and strong. During the whole
whole operation, he remained sitting erect in a chair, without the smallest tendency to faint. When the patient cried severely, small quantities of the brain came out repeatedly; and I am confident that this, together with what was immediately extravasated, would nearly fill a table spoon. The motion of the brain, from the pulsation of the arteries, was very distinct, and produced small evacuations of its substance. This motion continued till the wound was quite healed, which required nearly two months. Its cure was very much retarded by the piece of bone which I allowed to remain. I was under the necessity of extracting it a month after; which was easily effected without any bad consequence. I was but little troubled with an excrescence, which sometimes occurs after the operation of the trepan. It, however, exceeded the size of a cherry, was remarkably sensible, and, upon pressure, I could easily produce giddiness or sickness. It put on very much the appearance of the brain in a schirrous state. Sneezing, coughing, and even speaking, for a few weeks after the accident, gave great
great pain; and the first produced slight stupidit.

From the whole history of this case, I think we may draw the following concludi-

ions.

1. That a sound state of the brain is not so essentially necessary to life as has been imagined.

2. That it may be very much injured, without producing dangerous, or even alarming conseqences. And,

3. That this case affords a proof, that the brain may be more freely treated, provided, in every circumstance, the injury is entirely unconnected with compresion.

This last conclusion is clearly pointed out, by attending to the situation of the patient; for notwithstanding the bone was beat in upon the brain, the dura mater lacerated, and a quantity of brain extravasated between the cranium and teguments, no alarming symptom ensued. It can only be explained from that quantity of brain getting immediate vent, which was necessary to compensate for the depression of the bone, and consequently preventing its power of compresion.
X.

History of a remarkable Inflammatory Disease, terminating in a fatal Affection of the Bowels. By Mr Thomas Brown, Surgeon, Musselburgh.

J. a girl aged 10 years, of a slender habit, and rather a dull, unhealthy complexion, had been affected upwards of six years with spots on her skin, which put on the appearance of erysipelas, but not of such a shining bright red. These spots were of various sizes, and frequently exceeding a crown-piece. No part of the body was exempted from them; and when they fell upon a joint, they produced considerable pain and loss of motion. If they were upon muscular parts, the patient felt no pain, or other inconvenience. In general, the inflammation did not last above six or eight hours, when it began gradually to diminish, and, from being of a deep red, and some-
what tumified, it put on the appearance of a dull purple, as if approaching to gangrene, quite circumscribed, and not changed upon pressure: they never suppurated. The system in general was never affected, even although many spots occurred at the same time; and I have often seen her whole skin covered, without her pulse being affected, or any other symptom of fever.

There is one particular still to be taken notice of, and which made it more interesting. These inflammations often attacked the bowels, and were invariably attended with obstruction. The most acute pain, attended with violent vomitings, ensued. In general, the symptoms abated about the same time with the external inflammations, when a stool was procured, and the patient obtained immediate ease. Sometimes, however, the attack was more severe, and continued upwards of 24 or even 48 hours. It was only in these attacks that the pulse was affected.

No immediate cause could be assigned for the first appearance of these complaints. In general, wet and cold increased the frequency of
of the attacks; and in the Summer she had them but seldom. Often, however, no cause whatever could be assigned. Her appetite was good, and general health nothing impaired: belly natural, and rather easy.

A variety of advice was taken, but to no purpose. Bark and vitriolic acid, cream of tartar, magnesia, a course of antimonial and mercurial medicines, sea-bathing, a vegetable and a nourishing diet, were all severally and long persevered in; when, on Thursday the 2d August 1792, she was attacked in the morning with the inflammation of her bowels. I was sent for soon after. The seat of the pain and obstruction seemed to be about the termination of the ilium in the colon. I could feel distinctly the spasm of the gut. Immediate recourse was had to the old means, but which were not attended with their usual good effect. The whole variety of purgatives in every form, together with glysters, warm-bathing, fomentations, blisters, &c. were persevered in till the 4th, when, in the evening, vomiting of excrementitious matter took place: the pain continued violent, the pulse
pulse beat 120, and feeble; and strength visibly much impaired.

Every common means failing, I was resolved to try some extraordinary ones. I gave her 5 ounces of crude mercury, continued the glysters in a more extensive form, and with a different view, both of tobacco smoke and liquids, by a machine properly contrived for the purpose. Suffice it to say, that by varying the exhibition of these means, together with the very frequent use of opium, as symptoms indicated, I at last obtained a thorough removal of the obstruction, on the evening of the 9th, without any evident mark of mortification having ensued. The symptoms put on a more favourable appearance; vomitings considerably abated; little or no pain; strength tolerable; pulse 100; and some inclination for food. Things did not continue in this situation longer than the 11th, when the vomiting again returned, attended with a diarrhoea, which put a period to the scene on the 14th.

The history of this case, both for its singularity and its obstinacy, merits our attention. For my part, I have never heard or read
read of such. It certainly somewhat approached to Erysipelas, but still differed in so many singular circumstances. Upon whatever principle it was treated, it was equally ineffectual, whether viewing it as a disease of the solids, or an acrimony of the fluids. Nor did any of the means employed either seem to lessen or to aggravate the symptoms.

In the treatment of the obstruction, there are several circumstances worthy of notice. Previous to the exhibition of the tobacco smoke, or liquid, by the machine, I gave her 5 ounces of mercury, at two different doses; six minutes interval between them. Before swallowing it, I made her incline to the right side, to humour the ready exit by the pylorus, which seemed to have a very good effect; for the patient, although young, was remarkably sensible and distinct: she described it as extremely difficult of deglutition; and, when over, as very cold and heavy. It did not remain a few seconds in the stomach, for she traced its windings through the whole intestinal canal with her finger; and observed, that it never remained at rest; for in less than six minutes it had reached the obstruction;
obstruction, which she knew, both from its weight and its remaining at rest at the part affected. The second dose followed exactly the same course, and arrived at the obstruction with equal rapidity. Upon the obstruction being removed, two thirds of the mercury came away with the first evacuation, and the whole by the third. The mercury was divided in general into very small particles; but a few exceeded a dram weight. The stool put on the appearance of imperfectly reduced mercurial ointment. From these circumstances, I think we have sufficient proof, that mercury will readily find its way through the intestinal canal, although impeded by a complete inversion of its peristaltic motion, and a most constant vomiting; also, that it will keep together in a body, so that it may have a very sensible influence in propelling any obstructing matter; and, at any rate, that it may be given with safety, and some probability of success.

After having exhibited the mercury, I was determined to try another uncommon means of relieving the patient, both with a view of its answering more effectually as a gly-
fter, and of trying the power and accuracy of the valve of the colon. For this purpose, I made use of a machine, which I had ordered to be made some time before, having the experiment in my view, as well as for answering several other purposes. Having filled a vessel with three pounds of milk and water, I threw up about 24 ounces, with considerable ease to the patient; but on persisting, she complained very much. I could feel distinctly the whole course of the colon very much enlarged, and the cæcum forming a distinct tumour. I persisted in throwing up the three pounds, although with considerable difficulty, both from the distress of the patient, as well as obstruction to the further ingress of the liquor from the vis a tergo. Having made trial of a liquid, at the interval of six hours, I had recourse to the smoke, and continued to throw it up, till the bowels were considerably distended; nor did this swelling seem to be so much confined to the course of the colon, as in the former one. The patient not finding much inconvenience, I persevered, till at last I was prevented going farther, by her crying,
ing, there was smoke coming from her mouth. The attendants and I saw it very distinctly; and its smell was very pungent. Here we have two experiments which in some degree contradict each other. That by the liquids, shews the accuracy of the valve with respect to these; the other, that smoke or vapour may pass it. They were repeated next day, and with the same effect. There is one circumstance to be observed of the smoke, that it had the effect of exciting more violent gripes, and produced small evacuations of faeces, more than could be procured by any other means.

Another particular still remains to be taken notice of, that is, the astonishing length of time to which the case was protracted. I am perfectly convinced it was entirely owing to the many intervals of case which were procured by opiates; and by that means I had frequent opportunities of supporting the patient’s strength, both with sleep and cordials, and of exhibiting laxative medicines as symptoms would allow.
XI.

Division of the Trachea neglected so long, that the Wound had become Callous, treated successfully by Ligatures through the substance of the Trachea. By Dr James Robertson, Physician, Inverness.

WOUNDS of the Trachea, whether from accident, or from design, have been already fully described, and their treatment is now well understood.

That the trachea may be superficially and partially wounded, with safety, the operation of Bronchotomy clearly proves: But when a division of this part becomes an object of medical investigation, it has in general been unfortunately occasioned by an attempt to suicide.

Authors on this subject allude to recent cases; but in that I mean to describe, the division, besides being almost complete, was neglected for so long a time, that the wound had become perfectly callous: A description
fcRIPTION of it, therefore, though containing nothing absolutely new in the treatment, may not perhaps be uninteresting.

A labourer, between 30 and 40 years of age, on the 1st of July last, deliberately cut the trachea with a knife. He committed this act amongst some brush wood, and was soon after discovered in a state of insensibility, though he had lost but little blood. No hope for his recovery being entertained, his friends did not deem medical aid necessary. Contrary, however, to their expectations, his senses were soon restored: he swallowed some drink; but he could not speak.

On the 15th of July, he was able to ride to Inverness, a distance of about 18 miles, without any means having been employed to reunite the parts; and it was then I first saw him. The wound was transverse, and confined almost solely to the trachea. No sweep seemed to have been given in the application of the instrument; for the teguments were scarcely divided half an inch on each side.

The trachea was divided betwixt two of the rings, immediately below the thyroid cartilage; and though the division was not complete,
complete, the connection was in its posterior part, and did not seem to exceed one-sixth of an inch in breadth. The wound was become perfectly callous; the skin had retracted below, down to the top of the sternum; and it had escaped above, over the notch formed by the thyroid cartilage. The parts exposed by this retraction were covered with soft spongy granulations. The trachea, or inferior part, was protruded; the larynx, or superior part, had receded inward and upward; so that, when the divided ends were brought into contact, by placing the chin down towards the breast, they did not fit. He had a teasing cough, attended with a very copious expectoration from the wound. He had not attempted to swallow solids; but he could drink freely. In expiration, no air was discharged through the mouth or nostrils; though, when the trachea is divided, the obstruction of these parts does not interrupt respiration. I expected, that, in the act of expiration, some portion of air would have escaped by them; and I imagine, that in cases where the division is less complete, this will happen.

The
The wound could be examined with freedom, and without pain. A finger was introduced into the trachea, without aggravating the cough;—it was done without exciting any. He could not articulate; but the attempt was attended with a disagreeable noise from the wound.

It is impossible to ascertain how long he might have existed under these circumstances; but Nature seemed wonderfully provident. Though he was emaciated and fallow, he had no symptom of fever, his pulse was good, the cough was less troublesome, and he was said to have improved in his strength and appearance during the last week.

The case being new to me, I was at a loss how to proceed. Ligatures through the trachea are deemed incompetent and dangerous, from the cough and irritation they are apt to excite. Had the case been recent, I would have had no difficulty in attempting a reunion, by passing ligatures through the soft parts; but the great retraction of the skin, and the divided end of the
the trachea not corresponding with that of the larynx, even when brought into contact, rendered this impracticable, and left me no alternative. I accordingly passed three ligatures through the trachea. The needles were pushed from within outward, and below they were made to embrace two of the rings. The callous edges were simply prick-ed with the point of a lancet; the ligatures were firmly tied upon lint; the parts were secured with straps of adhesive plaster; and a pledgit of dry lint was laid over the whole. The head was kept inclined towards the breast, by strong linen rollers connected to a night-cap, and tied round his chest. No cough was excited during the operation, except in pushing through the last needle: he was then seized with a severe fit, which was relieved by a plentiful discharge of mucus from the wound. When the whole was finished, he was able to articulate so as to be understood. He inspired through the mouth and nostrils; and soon after, on a fit of coughing, he expectorated largely by the mouth.
For the first day he continued free from much cough; but on the two succeeding days it became troublesome to an alarming degree, especially when in bed. His pulse, however, continued good; large doses of laudanum removed the complaint, and the ligatures were not altered.

On the first dressing, though there was evidently pus on the lint, there seemed to be also some mucus. In a few days the discharge was trifling; and in about two weeks from their infliction, the ligatures were removed without any inconvenience. The wound was afterwards completely cicatrized; the skin by degrees in a great measure recovered its place; and the cicatrix was less than could have been expected. Though he spoke easily, his voice was weak, and his articulation indistinct. Perhaps the recurrent nerve had been injured.

Besides the uncertain effect of ligatures through the trachea, the callous condition of the wound in this case was to me matter of much difficulty. I was doubtful as to the propriety of paring the edges, being afraid of the
the smallest discharge of blood into the trachea.

The suspicion that mucus constituted a part of the discharge, produced diffidence in my hopes of success; and it was this that inclined me to delay so long the removal of the ligatures. I was not a little surprised, that neither cough nor irritation seemed to be excited by the free examination of the trachea, nor by the passing of two of the ligatures. The trachea is certainly endowed with less irritability than the larynx. Whether in this case its natural irritability was diminished, I am at a loss to determine.

This unhappy man became impatient to leave me; and I dismissed him about a week after the ligatures had been withdrawn. He was occasionally incoherent before he left me; and at one time made an attempt to vary the mode of suicide, by suspension, which, though a melancholy proof of the state of his mind, was also a desperate test of the complete union of the larynx to the trachea.

No
No cause could be assigned for his disease. He has a family, and was believed to be happy; but, since the month of February, he was observed to indulge much in solitude. His friends having great faith in spiritual aid, I made no objection to his being removed to a priest, to cure his mental disorder.
XII.

Letter to Dr Duncan respecting a singular Case of Rabies Canina. By Dr James Tilton of Wilmington, State of Delaware.

In the Medical Commentaries, volume 6th, page 429., is published a singular case of Rabies Canina, upon the authority of James Tilton, M. D., &c. In confirmation of that extraordinary history, the author himself now transmits you a supplementary account of Mrs Knott’s case, which he submits to your consideration and disposal.

Although the expression, “the late James Tilton,” in the Commentaries, gave some of my distant friends, and all strangers, reason to suppose that I was dead, I have the satisfaction to inform you, that, although removed from Dover to Wilmington, I still live, and am the identical person on whose authority Mrs Knott’s case was given to you.

Mr
Mr Grisley must have obtained the history he gave you, from some of the Medical Professors of Philadelphia, to whom I had written on the subject. So far as his narrative goes, it is correctly true; but, in estimating the case, it ought to be known, that Mrs Knott was seized with the hydrophobia three times afterwards, twice but slightly, but, on the last occasion, with all the violence, and even with circumstances of greater severity, than any related in the Sixth Volume of the Commentaries.

I neither saw nor heard of her during the two slighter fits; but happening to be in the neighbourhood during the last and most violent attack, I visited her, and obtained the following history from her daughters, herself, and my own observation.

That during the more slight returns of her madness, though all the symptoms were less severe than in the first instance, she was so far disordered in her mind as to endeavour to leave the house; and they found it necessary to tie her in bed.

But that, during the last return of her malady, all the symptoms had appeared with the
the greatest violence. She left the house, and got into a swamp, before she could be taken; and it required force to bring her back, and confine her to bed. The hydrophobia, raving madness, foaming at the mouth, and every other symptom, recurred with equal violence as in the original attack.

It was about the eighth day after the attack that I saw her, when the disorder was much abated, though (I was informed by her helpless family) no kind of remedy had been provided for her; except that, on the preceding day, the most adjacent physician had visited her, and endeavoured to bleed her, but could not obtain more than two ounces of blood. Upon hearing this, I offered my service in opening a vein, recommending it as a mean of hastening her recovery. She without hesitation consented; and, though I found her pulse very small and languid, I opened a vein in her arm. I made a good orifice: it bled slowly, to the quantity of three or four ounces; during which time she frequently shook her head, and kept her eyes shut, with a full, even countenance; till at length she suddenly bade us all stand away,
away, and fell into a raving fit, in which she made a horrible noise, threw her arms about, clawed at the bed-clothes, foamed at the mouth, snapped, and barked; but was prevented, by her great weakness, from getting out of bed, though she was untied. I was now informed, that in sitting up, a short time before, while her bed was made, she had fainted, and had not been so well since, as for twenty-four hours preceding. After calming, I observed a convulsive sob; that she breathed quickly, with her mouth open, and discovered great anxiety.

It was suggested to me in the neighbourhood, that fresh troubles, in addition to former misfortunes might probably have had influence on her disordered mind. I therefore took occasion to inquire of her daughter, whether she suspected any thing of that sort. The daughter told me, her brother had lately married in a manner his mother thought very disreputable; that this had given her much affliction; but what influence it might have on her complaint, was uncertain.

Visiting
Visiting Mrs Knott some time afterwards, when quite free from her malady, I inquired of her, whether she found her ankle to be swelled and painful, previous to those latter attacks, as in the first instance? She answered, Her ankle had never swelled so much since, as in the first attack; but that there was always some degree of uneasiness in it more than in the other: and that a little before a return of her madness, she felt twitches (as she called them) that were very painful; that soon after these twitches, she found an insuperable weight and burden upon her mind and spirits, and an inexpressible anxiety, that rendered her unaccountably uneasy in all situations; and that this afflictive sensation increased constantly, until she fell into raving madness.

She farther remarked, as a circumstance of no small discouragement, that an abhorrence of water attended her, even in her best intervals of health; for that if she drank it, or only put the sincere or unmixed water to her lips, it occasioned a degree of horror and anguish very distressing; though, when mixed with milk, she could drink water freely. She added,
added, that immersing her arms in water, handling a wet rag, and even rain, caused a horror and trembling not to be described. I learned also from her friends, that the sight of a dog always impressed her with fear and terror.

It is to be regretted, that the notes I have preferred on this subject, are totally without date. According to the best of my recollection, however, the three attacks of madness now described, happened all in the Spring and Summer next succeeding that of the original attack.

It is remarked in the case which you have recorded in the sixth volume, that Mrs Knott bit the arm of one of her attendants. I saw this wound inflicted, so as to fetch blood; and am now assured, that no bad consequences ensued.

Mrs Knott lived after her last fit of madness above described not less than seven years; and I have reason to think she died, not of the hydrophobia, but of some other disease.

It is still matter of dispute, how far the canine poison might have effect or influence
in Mrs Knott’s cafe. I am not disposed to enter into the discussion of this question. It is enough for me to record the facts truly, as they came within my notice and information. Let every reader form his own conclusions.
XIII.

Cases of Suppuration after Erysipelas, of Hernia, and of Peripneumony, with peculiar Appearances. By Dr John Maharg.

A. B., aged 60, a gardener, had been affected with an erysipelatous inflammation eight days when I first saw him. His right hand and arm, to which emollient poultices had been applied, from the supposition of a common phlegmon, had then burst in three places, and appeared gangrenous, being covered with black spots, and small watery vesicles. An erysipelatous inflammation was at the same time just appearing on the face, attended with some degree of coma. The affection of the head deterred me from giving bark and wine, otherwise indicated for the gangrene; and the latter forbid venesection to relieve the head. I therefore ordered the arm to be fomented twice or thrice a day with a decoction of bark and some ardent spirits, and fer-
menting poultices to be applied; and, for the general affection, pediluvium, plenty of acidulated diluents, and such a quantity of cream of tartar as would keep the body gently open. On the third day after this, the coma and inflammation of the face began to recede; and on the fourth, the former was entirely, and the latter nearly gone. Bark and wine were then given; the fomentations and fermenting poultices continued to the gangrenous parts; and the rest of the arm which was inflamed, was covered with a liniment made of oil and lime water. The gangrene spread along the arm; while the parts first affected, where the poultices had been applied, began to assume a healthy red appearance. The fomentations and poultices were then applied along the whole arm, and continued for some days, till all the mortified parts sloughed off, and a clean ulcer remained, extending from the insertion of the deltoid muscle into the humerus, down to the first phalanx of the fingers, leaving only about an inch in breadth of the integuments, in some parts on the inner side of the arm, remaining. The whole ulcer was at first covered with
with the above liniment; but, after a few days, only the edges were dressed with it, and the rest with dry lint. This method was continued about ten days; when the discharge became so great, that, notwithstanding bark, wine, and generous diet (which were continued through the whole succeeding course of the cure), the patient's strength began to sink. The ulcer was then dressed twice a day, with lint dipped in ardent spirits, after being previously washed with lime water. At the same time, compresses and rollers were used, and the remaining integuments brought as far round the bone as possible. The muscles on the upper and outside of the arm seemed to be almost wholly destroyed, but the blood-vessels seemed to remain entire. Some large veins could be traced from the back of the hand up along the arm, appearing as if they had been beautifully injected. A cure was completed in about ten weeks.

"October, 1792. A. B., aged 23, had laboured under an Hernia Congenita since he was four years of age; had several times lately found great difficulty in reducing it.
On the 23d June, in the morning, he was seized with violent pain in his bowels; upon which, made several attempts to reduce the Hernia, but in vain. In a few hours, vomiting supervened, accompanied with tension of the abdomen. Late that night, or rather next morning, he vomited faces. On the day preceding, he had a natural stool. He passed the 24th and 25th much in the same way; had frequent hiccough. Several cathartic medicines had been given, but without effect. On the 25th, about one o'clock afternoon, I was called to see him, and found the abdomen remarkably tense; the scrotum livid; and, on grasping the tumour, it felt soft, not having the smallest degree of tension. I endeavoured to reduce it, but did not succeed. The pain of the abdomen at this time was by no means acute; his strength not at all exhausted; countenance good, and pulse strong and full. From these circumstances, I was induced to take some blood from him, and had him placed in an erect posture, in hopes that syncope would take place. He was put into the warm-bath, had stimulating clysters thrown up, the fumes of tobacco, &c.

About
About 10 at night, I saw him again. He did not seem to have lost ground: pulse still full; pain not severe; and no symptoms of death about him. On feeling the tumour in the scrotum, and making very gentle pressure, it began to subside; and by continuing for a few seconds, it entirely disappeared, with that rumbling noise of the bowels which generally happens on reduction. His pain instantly became excruciating; pulse funk; extremities became cold; and he died in less than two hours after the reduction. Clysters, purgatives, &c. were used from the moment, but no stool could be procured. Immediately after the reduction, a bran clyster was thrown up, which, he said, he felt entirely through his belly. The abdomen, about an hour before he died, was by no means so tense as before.

He had been a painter for about six months before, but had never ground colours; nor had he any symptoms of colica pictonum. Leave could not be obtained to dissect the body.”
The following was communicated to me by Dr W., June 18, 1792.

"We have had a very mortal disease of late in this neighbourhood. Few that were seized with it survived; and those to whom it proved fatal generally died in three or four days illness. Dr S. was called at first; and I believe not one of those he attended recovered. I was afterwards called, and was more fortunate; for, out of six, only one died. But I do not presume to claim merit to myself from my success. It was, perhaps, more owing to accidental circumstances than any thing else. I shall now lay before you, as far as I can, the history of this disease, and leave you to determine whether you would have followed the same methodus medendi.

It began with the symptoms of pyrexia in general, very great languor, succeeded by rigors more violent than usual, and, shortly after, a very acute pain of some part of the thorax, generally between the ribs. I am not certain but that, in some cases, the pain was prior to the rigors. Of this, however, I cannot be positive, as I did not see any of the patients immediately on the first attack; and
and you know how inaccurate country people in general are with respect to their complaints.

These symptoms were accompanied by a flight tickling cough, considerably aggravating the pain. The pulse was frequent and feeble, tongue foul, considerable thirst, no appetite. In general, for the first day of the disease, there was a considerable degree of coma;—all the other functions natural. Those who were attacked, were in general above the middle period of life. Most of them attributed their complaints to fatigue, as the occasional cause; but this was not universally the case, as several of them were females, who had not been liable to more fatigue than usual, and could not attribute it to any particular cause. Now, what would you call this disease? For my own part, I did not hesitate in my own mind to call it Peripneumonia; and I was disposed to place it among that variety called Notha. I was induced to form this opinion, from the advanced age of the patients, and from the smallness and feebleness of the pulse. I must confess, however, this opinion is attended

with
with some difficulty. In the first place, the disease appeared to be evidently contagious: This, so far as I have been able to learn, has never been the case in Peripneumonia. Again, why call it Peripneumonia Notha, when the pain was so acute, and the disease ushered in by so strong pyrexia? These are difficulties which I cannot get over. But as my intention was to state facts as they appeared to me, without straining them to serve a particular theory, I have therefore given you them as they really were; and shall leave you to form your theory, while I inform you what was my practice. I kept up a constant determination to the surface, by means of emetic tartar, joined with a very small quantity of an opiate; applied blisters to the pained part, and gave cool diluting drink ad libitum. This was the whole of the practice. I positively forbade bark, wine, and all other stimulating or tonic medicines. I was induced to follow this practice, for two reasons: 1/q From the theory I had formed of the disease; and, 2d, Because the former practice, viz. giving bark and wine, had failed in almost every instance.”

XIV.
XIV.

History of a Case of Anasarca, cured by the Infusion of Tobacco. By Mr William Dove, Surgeon at Thorne, Yorkshire.

June 22. Mr M——k of Thorne, 1792. in the county of York, gentleman, aged 45, is affected with considerable dropsical swellings of his feet and legs, which extend up to his thighs. These swellings are much increased by any fatiguing exercise. The other parts of his body are not much swelled; his urine is small in quantity, but of a natural colour; his body is rather loose; his stomach extremely irritable, and his appetite bad. He sleeps ill; and has used no medicines.

The dropsical symptoms first came on near five weeks ago; and seem to have been brought on by his indulging himself too much in the use of fermented liquors, not only of late, but for some years past.

As
As his stomach was at this time in a very relaxed state, I thought it most prudent to begin with small doses, lest the medicine should be totally rejected. I therefore directed him to take from six to twelve drops of the infusion of tobacco, in a little water, three times a day. The infusion was prepared in the proportion of an ounce of the herb to a pint of the menstruum, according to Dr Fowler's prescription, in his Medical Reports on the effects of tobacco in the cure of dropies.

June 24th. He began with six drops of the medicine, as directed. This agreeing with his stomach, he took twelve drops, three times, yesterday; which also agreed. I therefore advised him to take from twenty to twenty-five drops of the medicine, three times a day.

June 25th. He took twenty drops of the infusion three times to-day; which have caused him to make near four pints of urine within these last twenty-four hours, attended with a considerable lessening of his swellings.

He
He was now desired to take thirty drops, three times a day, to-morrow; and to increase the future doses, according to their effects.

June 27th. He has taken his medicine, but not regularly; for, of his own accord, he increased the dose, almost immediately, to an hundred drops; which made him sick; purged him three or four times; and proved considerably diuretic, with still further abatement of the swelling. He complains of dyspeptic symptoms, with four belchings. I directed him to take from ninety to a hundred drops of the infusion, in a dose of an antacid julep, twice a day.

July 20th. The infusion proved very considerably diuretic; for he made from five to six pints of urine every twenty-four hours, until all his swellings vanished. And he is now quite free from all his dropsical symptoms.

The infusion did not purge him after the first large dose, but only kept his body constantly open. His four belchings, and symptoms of indigestion, seemed to be relieved by the antacid julep. He has now continued several months in perfect health.

XV.
XV.

Case of an Ascites, of Six Months continuance; cured in a Month, by the exhibition of an Infusion of Tobacco. By Mr. Robert bishopric, Surgeon, York.

June 25. ANN BULMER, of Middlethorpe Grange, near York, aged 9 years and a half, about six months ago became afflicted with an ascites, in a very high degree; for the magnitude, tension, and fluctuation of the abdomen were so considerable, that she appeared as fit for the operation of the trocar, as any patient I ever saw in my life. There was no other dropsical swelling. She was emaciated, had a dry cough, and bad nights; body costive, and appetite impaired. Her urine was very high-coloured, and so scanty, that she only made about four ounces in twenty-four hours.

I was also informed by her aunt (under whose roof she then was), that she had been seized, near nine months ago, with an ague, which
which continued near three months, before it was removed by the use of medicines: That the swelling of the belly began to make its appearance soon after the attack of the ague, and that it continued increasing for four months. Her friends then became so much alarmed, that they applied to an experienced physician of this city for advice; and she continued under his care for two months. She took the medicines prescribed, in a regular manner, but with no apparent abatement of the disease; for the size of the abdomen continued nearly the same during the period of treatment. But, that the disease was checked for the time, was obvious; for, on her omitting the use of her medicines for about a fortnight before she applied to me, the swelling of her body began immediately to increase, and continued progressively so, until the disease was attended with the unpromising appearances already described.

From an attentive examination of the symptoms, I could not forbear considering the condition of the patient as a loft case. But having just then perused Dr Fowler’s pamphlet of Medical Reports on the effects
of Tobacco, in the cure of Droples, giving an account of some extraordinary cases of Anasarca and Afcites having been successfully treated, I was encouraged to make a trial of the medicine. I therefore ordered the patient to take from fifteen to twenty drops of the infusion of tobacco, prepared according to the Doctor’s directions in his Reports, every forenoon, and every evening, in two spoonfuls of an aqueous vehicle, for a week. I also ordered that she should be allowed as much nourishing food as she could take; and that the quantity of liquid drunk (drinking as little as possible), and the quantity of urine passed every 24 hours should be carefully noticed. At the same time, I took the dimensions of the circumference of the abdomen, across the umbilicus, with a tape.

At the end of the first week, I found (my directions being strictly observed), that the medicine had agreed with the stomach; that the urine began to be increased on the second day; that it continued increasing from that time; and also, that the size of the abdomen had been lessening for several days past.

The
The dose of the infusion was then ordered to be increased from 20 to 30 drops twice a day, with the same regimen, for a week longer.

At the end of the second week, I found that the effects of the infusion were still more conspicuous and successful; for the urine had gradually increased to four pints, wine measure, in 24 hours, although the liquids drunk in the same space of time did not exceed a pint; and that, on measuring her body in the same manner as at the first, it was reduced full eleven inches and a half in circumference. The medicine had kept the body gently open every day, and had excited a slight degree of nausea with the larger doses. The appetite and sleep were become more natural; and the patient began to recover strength. The body, however, although wonderfully lessened, was not yet reduced to its natural size. I therefore ordered the medicine and regimen to be continued in the same manner as before.

At the end of two weeks more, or a month from the commencement of its use, the swelling of the abdomen was still farther reduced (perhaps three or four inches, for I
did not happen to apply the measuring tape again), and it appeared quite of its natural size. The operation of the medicine, the dose of which was 30 drops twice a day, continued the same on the stomach and bowels as before; and also proved equally so by the kidneys, in proportion to the reduced collection of water in the abdomen. She had also made some progress in the recovery of her flesh and strength.

In short, this formidable disease, to the astonishment of all that saw it, was entirely removed by the use of the infusion of tobacco alone; for it answered every purpose so well, the patient had no other medicine given her during its administration. For fear, however, of an immediate relapse, I thought it prudent to direct both the medicine and the regimen to be continued for another fortnight; which was attended with the usual operative effects. And now (which is six weeks since she came under my care), having had no relapse of her dropsical symptoms, and her flesh and strength being much restored, she appears perfectly free from all her complaints.
XVI.

Case of a general Lympho-Crustaceous Eruption of the Body, of many years continuance, cured in Five Months, by a course of Alterative Pills, composed of Calomel, and Golden Sulphur of Antimony. By Mr John Bisopric, Surgeon, York.

A LADY of this city, aged 60, about six years ago, put herself under my care, for the cure of an ulcer in her leg. I found, on inquiring into her case, that she had scurvy eruptions, which considerably affected most parts of her body, but were by far the worst upon her legs. The eruptions were exceedingly troublesome, being sometimes in a dry, scurfy, itchy state; and, at other times, painful and hot, oozing out a sharp lymph, which in a short time would again become dry, scurfy, and itchy; and so on, by turns.

2 B 2

She
She said she had been afflicted with this cutaneous affection for many years; and that she had been under the care of the late Dr Askew of Newcastle, and afterwards of Dr Dealtry of York, for a long time; and, by the advice of the latter, had been many seasons at Harrowgate, for the benefit of its sulphur waters; but that she had received little or no advantage from all the means she had used.

On considering the case, I found I should have to attend her for some time, before I should be able to cure the fore leg. I also recollected, that I had given an alterative medicine, similar to Plummer’s pills, to many patients affected with like eruptions, and always with considerable relief. I therefore determined to embrace this opportunity of trying it; for, as the case had hitherto received little or no relief under the care of two of the first physicians in the north of England, I could lose no credit by the attempt. Accordingly, I ordered my patient to take one of the following pills three times a day, viz. at 11 o’clock in the morning, 4 o’clock in the afternoon, and 10 at night.

Take
Take of prepared Calomel, of Golden Sulphur of Antimony, of the London Dispensatory of 1746, each two drachms. Rub them well together in a marble mortar for two hours.

Take of this Mercurial Antimonial Powder, and of Mithridate, each two scruples; Liquorice powder, enough to form a mafs; to be divided into 40 pills.

She took these pills regularly, according to directions; and in the course of a few weeks, the eruptions began to mend. Encouraged by this favourable circumstance, she continued the medicine until she was quite free from the eruptions; which was about the end of the fifth month from the time she began its use; and she has continued quite well ever since.

The pills always operated as a gentle laxative, and never made the mouth the least sore.

I should have observed, that the ulcer of the leg was healed in about three months, by proper dressings, with the assistance of the preceding alterative medicine.
XVII.

History of a Case, in which singular Nervous Affections were Cured by an Incision in the Finger. By Dr Thomas Collingwood, Sunderland.

ISABEL YOUNG, aged 23, of a slender make, and sedentary employment, was subject, from the first catamenial flux, to Menorrhagia. About two years ago, at the conclusion of that discharge, from fatigue, wet feet, and other concurring circumstances, she was attacked with pyrexia, of that type which my old tutor (the late Dr Cullen) called Typhus. The exacerbations and remissions were irregular; the crisis not strongly marked; and it might be said, that she recovered strength slowly, while febrile symptoms still continued to recur, though at longer intervals. About the 21st day from the first accession, she was taken with a pain in the little finger of the left hand, so exquisit,
fite, that it portended fainting. But, as the pain ascended up the arm, to the neck, breast, and stomach, the disposition to faint subsided, and strong spasms of the part affected succeeded, which terminated in violent convulsive and hysterical fits, attended with a twisting of the arm and neck, and a spasmodic motion of the muscles of that side of the face, with foaming at the mouth. From the first accession to the final termination of the fit (which left yawning and general debility), was, at an average, 40 or 50 minutes; the fits returning sometimes twice or thrice a day, and, at other times, once in two or three weeks; the menorrhagia continuing as before the accession of the fever.

A physician of scientific knowledge and observation attended her in the fever, and for some weeks after. All the clases of anti-hysterics, antispasmodics, and corroborants, were exhibited, and regularly administered. None had any effect in lessening the number of fits, or abating their violence.

About six months from the termination of the fever, the girl learned, that by tying a piece
piece of twine, or other ligament, round the
finger, when pained, she prevented the af-
fection from ascending: but, although the
violence was lessened, the consequent lan-
guor and debility were much the same,

At this time she put herself under my
care. We have read much in medical books
of the disposition of the febrile matter on
parts noble and ignoble, and the dreadful
and multifarious effects accruing therefrom.
But, being sceptical to flimsy theory, and not
enthusiastically fond of vague assertions, I
went over the same ground with my prede-
cessor, to which I enjoined sea-bathing, with-
out sharing a better fate,

At last, vexed to be outdone, I ventured,
at a time when the pain was violent in the
finger, to make an incision to the bone round
it. By that mean, a copious discharge from
arteries and veins was procured. It was
healed as a common wound; small doses of
mercury and bark being administered during
the cure, accompanied with a generous diet,
exercise in the open air, bitters and corrobo-
rats, and lastly, sea-bathing. It is now 18
months,
months since the incision was made, and she has had no return of the disorder.

Clonic spasms have often proceeded from punctures, lacerations, or other lesions of the nerves, cold and moisture applied to the body when much heated, more especially the sudden vicissitudes of heat and cold. In this case, there was no laceration or puncture of the nerves. The cold applied to the body might have induced the first fit; but, how do we account for the subsequent ones? Dr Cullen observes, That tetanic affections are more peculiar to the male than to the female, the robust than the delicate. My patient was delicate, and the spasms confined to one side, as in the Tetanus Lateralis of Sauvages. We observe, in the Aura Epileptica of Cullen, a sensation of something moving in some part of the limbs, or trunk of the body, and from thence creeping up towards the head, and, when it arrives there, the person is immediately deprived of sense, and falls into an epileptic fit. It sometimes has the sensation of a cold vapour, and, at other times, of a fluid gliding along; and very often of a small insect creeping along the
the body. It has never been known to follow distinctly the course of any nerve; but passes, or seems to pass, along the teguments.

In the above case, the pain in the little finger was succeeded by muscular spasms of the arm, neck, breast, and face. She never complained of her head. The sense of suffocation proved hysterics prevalent; and, though she sometimes foamed at the mouth, she neither fell down suddenly, nor was deprived of her senses. Hence, we see, how difficult it is, in practice, to class diseases systematically; and how seldom we meet with an elementary disease at the patient’s bed-side. Hence also we see the futility of Nosology *, when applied to practice.

Opium, joined with musk and camphor, has been often administered in small doses without effect. Mercurial unction has not such evident good effects here, as in the West Indies. In two cases of Trismus Nascentium, the application of opium and aromatic fomentations along the region of the spine, performed a speedy and permanent cure.

XVIII.

* For it will appear, that the above disease was tetanic, hysterical, epileptic, assimilated, and combined.
XVIII.

A Case of Pulmonary Consumption, attended with Haemorrhage, speedily cured by a limited use of Liquids. By Mr William Davidson, Apothecary, London.

The patient, whose case I am about to relate, is a little man, of a dark complexion, sharp nose, high cheek-bones, and about 30 years of age.

May 5th 1793. He has had a severe cough for about six months, attended with considerable expectoration, short breathing, and pain in the side.

During the last three or four weeks, he has brought up a considerable quantity of blood, and yellow expectoration; and the spitting is now purulent and bloody. His countenance is ghastly and desponding, being impressed with an idea (not generally entertained by patients of this description), that he shall not recover. He has now a pain
pain in one side, violent night-sweats, a dry
furred tongue; is restless, and his pulse is
hard and frequent. He lives several miles
from London, where he has been attended
by his own apothecary, who has blooded and
blistered him repeatedly, and used other
means for his recovery, but without success.
He has been in the habit of drinking many
quarts of diluents every day. I ordered him
a light, cooling, vegetable diet, and the fol-
lowing medicines; enjoining him particularly
not to exceed a pint of liquid in the twenty-
four hours, including tea, &c.

& Extract. Cicut. 5 j. divide in Pil. xviiij.
quarum fumat ij. omni nocte.
Capiat etiam Hauft. Cath. e Magnes.
Vitriol. omni altero mane, non bi-
bendio inter operationem.

May 12th. He has taken his medicines
regularly, and observed the directions in re-
gard to liquids. His pills quieted the cough,
which is now greatly better. He has had no
night-sweats since he took his first draught,
and has seen no blood for four days past.
The expectoration is much diminished, and
is now mixed with a frothy phlegm or mucus.

He eats his vegetable diet with pleasure, and sleeps well; his tongue is moist, with scarcely any fur upon it, and he is not thirsty. His opening draughts generally operated about three or four times. The pulse is much softer, and less frequent; and the pain of the side is gone.

The medicines and regimen to be continued.

May 19th. He has now, to my great astonishment, scarcely any complaint. He has no expectoration, no fever, and no cough: he sleeps well, and is acquiring flesh and strength. He sometimes feels his breathing a little short; yet he takes a deep inspiration without pain or coughing.

Capiat pilulas, ut antea; et haustum Cath. bis in hebdomada tantum. I allowed him a little more freedom as to liquids, but still recommended moderation.

He was to return in a fortnight; but, being quite free from complaints, I only saw him about a month after, when he was in perfect health, and is so at this moment, without
without having had any return of his pulmonary complaints.

In the above case, it is evident that great pneumonic affection existed, and that the patient was marching, with hasty strides, towards the other world. The lungs were overwhelmed with disease, while they were at the same time oppressed by the quantity of drink taken by the patient. Their morbid affections were thereby increased, while their healthy efforts were either lessened or prevented. Every practitioner, who pays proper attention to the anatomy of the lungs, will perceive the benefits arising from a limited use of liquids in the treatment of their various diseases. In the two last volumes of Medical Facts and Observations*, I have


In the Third Volume of Medical Facts and Observations, Mr Davidson relates two cases of pulmonary consumption, from which he endeavours to demonstrate, that the proximate cause of active hemorrhage often consists in dilatation, and consequent increased action of the blood-vessels; and that abstinence from liquids is a principal mean of removing this dilatation. And in the Fourth Volume, another case is added, in farther confirmation of that doctrine.
I have taken the liberty of pointing out the advantages of this method of treating Hæmoptysis; and have there hazarded an assertion, "That, in all diseases of the lungs, "moderate drinking will be of service."

Since the observations there published were written, a variety of pulmonary complaints have come under my care, in all of which I have steadily adhered to this principle, and always with advantage.

Of these patients many have recovered, although they had suffered long and severe indisposition; and even those who were in the last stage of pulmonary consumption, acknowledged relief from adopting this regulation of their drink, as they found their breathing become thereby easier, and their hectic symptoms much diminished. Several asthmatic patients have been particularly relieved, and speedily restored, by attention to the same limitation.

In short, in the most desperate cases of diseases of the lungs, it will be found to afford more comfort to the patient than any other plan of cure now practised.

XIX.
XIX.

M. D. Fellow of the Royal College of Physicians, Edinburgh.

Although modern writers on the Practice of Midwifery, have explained very fully the causes which render human parturition, in civilized life, often difficult and dangerous to the mother, and fatal to the child, it has nevertheless been found impossible either to obviate the occurrence, or to counteract the effects of all of them. Uterine haemorrhagy, for example, cannot be prevented, where the placenta is attached over the os uteri; nor can the life of both mother and child be preserved, where the short diameter of the pelvis falls considerably below its natural dimension.
But the industry and ingenuity of modern practitioners, have provided means for the safe termination of certain cases of labour, in which, under the ancient practice, the unfortunate mother and her infant were either abandoned to hopeless despair, or the life of the mother was saved at the expense of much pain, and of the destruction of her child.

Such are cases where, notwithstanding that the head of the foetus, and the pelvis of the mother, are of the ordinary proportions, the process of delivery is protracted beyond the usual period, and the child cannot be expelled by the natural powers. They constitute the first order of Laborious Labours of authors.

Natural labour is accomplished by the exertion of certain powers, which propel the child's head and body through the pelvis, nicely accommodating the different parts of the former to the several apertures of the latter, and gradually overcoming those obstacles to delivery, which Nature, for the wisest purposes, has established.
When this beautiful process is interrupted, after a portion of the head of the infant has been forced into the passage, the long continued pressure on the delicate parts within the pelvis, must be productive of much danger to the mother; while the necessary compression of the cranium of the foetus, must expose its life to great hazard.

The circumstances which tend to interrupt this process, are numerous and various. Some of them may be obviated by proper care and attention, but others cannot be prevented by any means.

Their effect is to diminish, or totally to suspend, the action of the propelling powers concerned in parturition; and consequently, in such cases, the safety of the mother and child must depend on the employment of some mechanical expedient which shall supply the place of those powers.

The ancients possessed no expedient of that kind. In these cases, they invariably sacrificed the life of the child to that of the mother.

But modern practitioners employ three instruments for this purpose, viz. the Forceps,
ceps, the Lever of Roonhuyfen, and the Lever of Lowder.*

That many valuable lives have been saved by means of these instruments, is universally acknowledged; but it cannot be denied, that, on some occasions, accidents injurious both to the mother and child have followed their use. Many of these accidents must be attributed to the unskillfulness of the operator; and some of them certainly originate from the nature of the instrument.

In consequence of these accidents, the employment of mechanical expedients in the practice of midwifery has been much decried. The iron hands of cruel unfeeling man, have been the frequent topic of violent declamation. Yet no one has attempted to proscribe the practice of blood-letting, because an artery is sometimes pricked by an ignorant operator, and the operation is sometimes performed with a rusty lancet. The two cases are precisely similar. No operation ought to be performed, neither in Surgery nor in Midwifery, except by those who

2 C 2

* The use of the Fill.t, in laborious labours, is now entirely exploded:
are properly qualified to decide on its expediency, to select the best instrument for the purpose, and to perform it in the most unexceptionable manner. But, if every operation which may be unsuccessful, from the fault of the operator, or of the instrument, or of both, were to be exploded, there would be no such art as Surgery.

That neither of the three instruments employed in the first order of laborious labours, is applicable to every case comprehended under that order, is generally acknowledged by practitioners of Midwifery; and that dangerous accidents commonly follow the use of one of them, is demonstrated by reason and experience. My intentions in this Essay, therefore, are to contribute my efforts towards the total banishment, from practice, of one of those instruments, and to endeavour to ascertain the cases in which the other two may be employed with advantage.

The Forceps, rendered easily applicable without injuring the patient, accommodated to the shape of the pelvis, and formed to embrace the child's head by many points of contact,
contact, so as to secure a firm, and, at the same time, a safe hold, is a very valuable instrument, admirably calculated to accomplish the delivery, with perfect safety to the mother and child, in every case of the order of Laborious Labours under consideration, where the head of the foetus has entered completely the cavity of the pelvis *.

But in cases where the head has advanced only about one third into the pelvis, the ordinary Forceps are inapplicable. A long pair of Forceps has been recommended for these

* It is not consistent with my views in this Essay, to describe minutely the form of the Forceps. Those which I use, are nearly of the same shape as those of Dr Wallace Johnston. The length of the instrument is 11 inches; that of each handle 4 1/2 inches. If a straight line be drawn through the centre of the plane surface of one handle, and be produced to the extremity of the instrument (which forms the axis of the handles when both are joined), the convex edge of the blade, at the greatest distance from this line, is distant 1 1/8 inches; and the extreme distance of the point, on the opposite edge, is 1 1/8ths of an inch. When both blades are joined, their greatest width is 2 1/4 inches. The right-hand blade has a hinge between the handle and blade, by which it is easily introduced, while the patient lies on the left side.
these cases by many practitioners: but their application is difficult, and their operation dangerous. Were the former of these the only disadvantage attending the use of the long Forceps, it might be overcome, by practitioners exercising themselves carefully and frequently on the machine. But the latter disadvantage is so very great, that, even although the former did not exist, and the application of the instrument were exceedingly easy, it would form an insurmountable objection to their use.

In order to understand this, it is necessary to observe, that the centre of action of the Forceps is not, what many authors allege, the joint of the instrument. When either blade is made to act singly, then the fulcrum certainly is the joint; but when the whole instrument is moved (which it always is in operating with both blades), the parts of the mother in contact with the most diverging points of each blade, become ultimately the fulcra, in proportion as the Forceps are moved.

From this circumstance it follows, that if the Forceps were applied while a small part only
only of the head is within the pelvis, the bruises which the delicate parts in that cavity would necessarily suffer from the pressure of the instrument, must be productive of so much mischief to the patient, that no practitioner is warranted in employing them in such cases.

One late author has asserted, that, in the first order of Laborious Labours, it is never necessary to interfere, unless the child be in such a situation, that it can either be pushed back and turned, or that it is within reach of the common short Forceps. But the daily experience of every practitioner contradicts this assertion; for it is well known, that cases of uterine haemorrhage, and of convulsions, frequently occur, where turning cannot be accomplished with safety, and where the short Forceps are inapplicable.

In such cases, then, in order to save the life of the patient, it is necessary either to diminish the head of the child, by the operation of embryolcia, or to employ the Lever of Roonhuysen, or that of Lowder. The former of these expedients must be put entirely out of the question.

2 C 4
The Lever of Roonhuyfsen, recommended lately to the notice of British practitioners by Dr Bland *, consists of a piece of iron "† curved at each extremity, thirteen inches and an half long, one inch and an eighth in width, increasing to an inch and an half at that end which is commonly used, carefully smoothed and rounded at each extremity, in the manner the Forceps are usually finished, plain on its inner surface, but with its back convex, and of a sufficient thickness to prevent its bending during the operation of extraction. One extremity is made thinner and narrower than the other."

† This instrument, when employed according to the directions given by those who recommend it, is generally a lever of the first kind.

* Medical Communications, Vol. II. † Ibid. p. 447.

† For a particular account of the Lever of Roonhuyfsen, the reader is referred to the following works: Traité sur divers Accouchemens Laborieux, et sur les Polypes de la Matrice, par M. G. Herbiniaux à Bruxelles, 1782.—Baudeloque’s Midwifery, translated by Heath, Par. 1635 et seq.—Dr Bland’s Essay in the Medical Communications, Vol. II.—Dr Denman’s Essay on Difficult Labour, Part ii. p. 36.—And Dr Osborn’s Essays on the Practice of Midwifery.
kind, the resistance being at one extremity, the moving power at the other, and the fulcrum between.

In every point of view, the use of Roonhuyzen's Lever must be attended with much hazard to the patient. If the head be situated very high in the pelvis, the violent pressure of the instrument on the parts of the mother, which serve as the fulcrum, must be productive of great injury. Some have pretended to remove the fulcrum to the hand of the operator, by means of a fillet fixed in the middle of the stem, and of other contrivances; but wherever the head is not completely within the cavity of the pelvis, it is altogether impossible to remove the fulcrum as they propose. If, on the other hand, the head do occupy the cavity of the pelvis, as the instrument is directed to be applied with the extremity placed towards the base of the occiput, the head must be forced into a wrong direction by every successive action of the Lever, because the occiput is thereby prevented from rising under the arch of the pubis. In such a position of the head, the left hand of the operator may be made the fulcrum;
fulcrum; but, in that event, the perinaeum is
left unguarded. And as, from the head being
pressed back, that part is very much on the
stretch, it is scarcely possible to preserve it
from laceration, even by the application of
the hand; how little probability would there
be of avoiding that accident, if the hand
were withdrawn, to serve as a fulcrum to the
instrument?

Nature, it is true, often counteracts the
ill-directed efforts of the practitioner; for, in
many cases, very strong forcing pains are
excited, by the pressure of the Lever on the
soft parts; in consequence of which, the
delivery is accomplished before there be any
opportunity of doing mischief. But, that
these salutary efforts are not always exerted,
and hence are never to be depended on, is
too fatally evinced by the many instances of
incurable incontinence of urine, and lacerat-
ed perinaeum, in cases where that instrument
had been employed, which are occasionally
met with. It is unnecessary for me to say
anything more on the dangers which attend
the use of Roenhuysen’s Lever, in the hands
of even the most dexterous operators; for
they
they have been very fully and judiciously explained by Dr Osborn, in a late work *

With a view to avoid these dangers, several practitioners have been induced to alter the form of the instrument. The alteration which requires the principal notice, is that adopted by Dr Lowder of London; for it has changed entirely the nature of the instrument, as it consists of such an increase in the curve, as to deprive it of the property of a Lever, and to render it, to all intents and purposes, a blunt hook.

Mr Dease of Dublin has adopted, in some respect, a similar alteration; but as he has not made the arc of the curve sufficiently proportioned to the item of the instrument, his Extractor, as he calls it, would certainly be employed as a Lever, by a practitioner unaccustomed to its use; and hence, the depth of the curve would increase the danger which naturally attends the employment of Roonhuysen's lever. M. Baudeloque seems to entertain the same opinion, on this subject,

as Dr Lowder and Mr Deafe, though he has not expressed himself very explicitly.

Dr Lowder's instrument ought not to be called a Lever; for that name is apt to impart an erroneous idea of the principles on which it should be used in practice. Extractor, the term employed by Mr Deafe, is preferable.

The instrument consists of a blade and handle (between which there is a hinge, that renders it portable), measuring in length 11 ½ inches. Its length, before it be curved, is 12 ½ inches. The curve begins about half an inch from the hinge. It describes, reckoning an inch from its first curvature, as nearly as can be estimated, an arc of 87 degrees of a circle, the radius of which is four inches. The breadth of the blade, at the beginning of the curve, is half an inch, and is gradually increased, till within three quarters of an inch of the extremity, where it measures an inch and three fourths. Its extremity is semicircular. Within 2 ¼ inches of the extremity there is an oval opening, measuring 2 ¼ inches in length, and 1 ¾ at its greatest breadth. By this opening, the depth of the curve is considerably
fiderably increased, without rendering the instrument inconvenient in its introduction.

This instrument is employed, and recommended by Dr Lowder, in every case of the first order of Laborious Labours, where mechanical assistance is necessary, before the head be within reach of the forceps. But the Doctor has not yet publicly explained (in so far as I know), neither in his class, nor in any printed work, the particular manner in which it should be used, nor the general principles on which it acts.

As no person ought to perform any operation, unless he be qualified to decide on its expediency and propriety, I need not on this occasion describe the symptoms which distinguish the first order of Laborious from Lingering labour, or which, in other words, indicate the necessity of having recourse to mechanical expedients. Dr Osborn, in his late work, has some very valuable observations on that subject, which merit the attentive perusal of every practitioner.

I proceed, then, on the supposition that it is found necessary to use Lowder's Lever, when the head of the child has just begun to enter
enter the cavity of the pelvis. The patient is to be placed in the ordinary position, on the left side, in bed. The occiput of the child is to be carefully distinguished, and the curve of the instrument is to be applied, with all the necessary precautions *, over it. The extremity of the blade should be within a very little of the nape of the neck. To accomplish this part of the operation with facility, it is necessary that the operator be well acquainted with the shape of the pelvis, and that he have accustomed himself to apply the instrument over a round substance.

When the instrument is applied in this manner, the operator will find, that he can exert very considerable power in drawing down, without pressing on any other part than the occiput of the child. The mother cannot possibly feel the instrument; while, at the same time, the many points of the foetal cranium, on which it rests, prevent any injury whatever to the infant.

If

* As this Essay is addressed to practitioners, it would be a work of supererogation to enumerate minutely those precautions.
If there be any pains, however slight they may be, the operator should draw down only during the pain; in the intervals, a soft warm cloth should be wrapped round the handle. If there be no pains, he must draw down from time to time, imitating, as nearly as he can, the natural efforts. It is astonishing, of what use even the most trifling pains are, on such occasions. Without pains, a long time is required before the head be made to advance in a perceptible degree (though, after it has advanced a little, it soon yields entirely); while, with them, the progress is often rapid.

The operator should continue to draw down in the same manner, till the head be completely in the cavity of the pelvis. Should any circumstance, as, dangerous uterine haemorrhage, or convulsions, require that the delivery be expeditiously finished, after the head is brought into this position, the Forceps must be applied; for it is in the power of the operator, by means of them, to accomplish the extraction of the head within a very short space of time, or, at least, within a much shorter space than would be required,
were the use of Lowder's Lever to be continued.

But if there be no dangerous symptom, the operation may be completed by the first instrument, without any assistance from the Forceps.

For this purpose, the operator should continue to draw down, by pressing on the occiput, as already directed, until the face shall have turned into the hollow of the factrum. The direction of the instrument must be then changed. The reason of this is very obvious. After the face is in the hollow of the factrum, the occiput becomes engaged in the arch of the pubis, and rises under it, while, at the same time, the chin leaves the top of the breast, on which it had rested during the preceding process of labour, and describes a course equal to a full quarter of a circle, which is the consequence of the occiput describing a similar course under the arch of the pubis. Were the practitioner, then, to continue to press in the same direction as he did while the head was passing through the brim, he would counteract this natural process, and hence would retard delivery,
livery, and injure the parts against which he would necessarily press the child.

The instrument must, therefore, be withdrawn from the occiput, and applied with the proper precautions over the chin, when the operator is to imitate the process of nature, by disengaging the chin from the breast, and making the occiput rise under the arch of the pubis, while, with his left hand, he protects the perineum from injury.

From these observations it is obvious, that the instrument introduced into practice by Dr Lowder, affords exactly the assistance, in the first order of Laborious Labour, which is required; for it supplies the place of the propelling powers, or increases their efficacy, by acting on the body of the child, without injuring any part of the mother.

This property renders it of great use in certain cases of deformed pelvis, viz. where the short diameter of the brim is about three inches. In such cases, the long continued strong action of the uterus, often eventually forces the head into the pelvis; but the strength of the patient is in consequence so much reduced, that after it has proceeded
so far, the pains are entirely suspended, and the delivery must necessarily be finished by the use of mechanical expedients; but the child's life is commonly previously destroyed, by the compression of the brain.

If, in such cases, it be possible to increase with safety the vis à tergo, the child would then be forced through the brim of the pelvis before the woman's strength were exhausted, and before its life were endangered; consequently, many children, commonly doomed to inevitable destruction, would be preserved.

Lowder's Lever, I apprehend, possesseth this power. It may be calculated, that, by its use, the efficacy of the labour throes is at least doubled. Hence the child, in cases of slight deformity of the pelvis, is forced through the opposing part within one half of the time which would be otherwise required; and this is accomplished without injury either to the mother or infant; for the instrument presses on no part of the former; and it rests on such parts of the latter, that no harm can possibly be done.
It was in a case * of this kind that I first employed this instrument †; and although I had not the satisfaction of saving the child (for it was of a very large size), yet I experienced so completely the advantage of this expedient, as a substitute for the dreadful operation

* This case is detailed in “Letters to Dr William Osborn, on certain Doctrines contained in his Essays on the Practice of Midwifery. By Alexander Hamilton, M. D. &c.” p. 102.

† A pseudonymous author has thought fit to misrepresent this case in such a manner, as to accuse me of having destroyed the child, and irreparably injured the mother. A bruise on the parietal bone of the former, and incurable incontinence of urine of the latter, afforded him the grounds for this accusation. That the bruise on the parietal bone of the child was occasioned by the pressure of the bones of the pelvis, and not by the use of the instrument, is demonstrated by the same circumstance having occurred in another case (detailed in the same publication), where no instrument whatever was employed; and that the incontinence of urine of the patient had succeeded her former delivery, when another practitioner had performed the operation of Embryulcia, is expressly mentioned in the history of the case, and can be established by competent evidence. But the declamation of a pseudonymous author is below the notice of any man of character.
operation of Embryulcia, which is generally had recourse to on such occasions, that I have used and recommended it in those cases ever since.

In Face cases, too, where the interference of the practitioner is necessary (which, indeed, is a rare occurrence), this instrument may be employed with much advantage. The great aim should be, to draw down the occiput.

The only objection which can be urged with plausibility against the use of Lowder’s Lever is, that, from the facility and secrecy with which it may be employed, practitioners may be tempted to interfere in the management of Labours, unnecessarily and prematurely. This objection has been enforced very strongly by Dr Osborn against Roonhuyfsen’s Lever; but, I apprehend, that it is not equally applicable to the instrument under consideration: for, as the use of the former must be always productive of considerable injury, the more easily and secretly it can be employed, the more dangerous it undoubtedly is; but, as the latter can do no harm,
harm, these very circumstances are certainly greatly in its favour.

As no honest practitioner, possessed of an adequate share of professional knowledge, will ever have recourse to instruments unnecessarily or improperly, the facility or secrecy with which any mechanical expedient may be used, can form no reasonable objection to the employment of that expedient, by those who are properly qualified for the task.

But if dishonest or ignorant persons be entrusted with the important charge of delivering women, this objection to Lowder's Lever is so strong, that its use should be proscribed. If, however, objections founded on the possible abuse of means be admitted, it is obvious, that Physicians would be forced to confine their prescriptions within very narrow limits, and that Surgeons would be obliged to explode almost every operation.

As, therefore, it appears, that Lowder's Lever is applicable in many cases where the Forceps are inadmissible, and that its use is not productive of so much hazard to the mother as that of the Forceps, it might per-
haps be inferred, that the latter instrument may be banished from practice, as unnecessary and dangerous. Accordingly, many practitioners of Midwifery have adopted an opinion of this kind; and, indeed, there are very few who do not employ one or other of these instruments exclusively.

But however desirable it may be to lessen the number of mechanical expedients, and to simplify practice, I apprehend, that many lives would be lost if we possessed or employed no such instrument as the Forceps. As they have the property of a Lever, delivery can in many cases be accomplished much more expeditiously by them than by Dr Lowder's instrument. This seems to be the sole advantage which they possess over it; and that is counterbalanced by several great disadvantages. Many authors, indeed, have alleged, that the Forceps have exclusively the power of diminishing the size of the foetal cranium, by the pressure of their blades, and hence have attributed a degree of preeminence to them, which in fact is not their due; for as the size of the child's head is, in natural cases, diminished
as far as is necessary, by the contractions of
the uterus forcing it forward through the
bones of the pelvis, an increase of the vis à
tergo will of course increase that diminution,
if the shape of the passage require it. While
Lowder’s Lever, therefore, possesses the power
of compressing the cranium in common with
the Forceps, it has a decided superiority over
them in this, that it accomplishes that end
by similar means with nature.

The great disadvantages of the Forceps
are, that they are inapplicable when the
child’s head is situated high in the pelvis;
that their application is often difficult to the
operator, and painful to the patient; and
that, as their centre of action is on the parts
of the patient, they must injure her in propor-
tion to the resistance opposed to the de-
livery.

On the whole, then, in cases of the first
order of Laborious Labours, both instru-
ments must be occasionally had recourse to.
When the head is not completely within the
cavity of the pelvis, Lowder’s Lever must
be employed; and even when it is in that
position, the same means may be used, if
there be pains. But, when the labour throes are entirely suspended, or when any circumstance renders it necessary to terminate the delivery with expedition, the Forceps ought to be employed in preference to every other instrument, if the head of the child be within their reach.
SINCE the publication of our last Volume, very considerable progress has been made in building the New College at Edinburgh, and particularly in those parts of the building intended for the accommodation of the Faculty of Medicine. Not only the Anatomical Theatre, which, as we formerly mentioned, was opened at the commencement of last Winter Session, but all the other conveniences attached to the Anatomical Clasf. Preparation Rooms, Dissecting Rooms, Painting Rooms, &c. are now completely
completely fitted up. The Halls appropriated to the Institutions of Medicine, to the Practice, and to the Clinical Lectures, are also finished; and the lectures on these different branches of medicine are now delivered in them. Some progress has also been made in that part of the building which is intended for the Materia Medica, Midwifery, and Chemistry. If the intended plan can be executed, this latter branch, in particular, is to be furnished with many conveniences, not only for the accommodation of the Students of Chemistry, but to afford every proper convenience for the farther improvement of the science. The light which has of late been thrown, not only on Medicine, but on Arts and Sciences in general, by recent discoveries in Chemistry, is too well known, to require being mentioned. No one, however, can entertain a doubt, that much more still remains to be discovered and ascertained. A field is now opened, the farther investigation of which cannot fail to be of the highest utility to mankind; while proper conveniences, furnished to an eminent Professor, already distinguished by many
many important discoveries, and to numerous Pupils, animated by an ardent zeal for improvement, promises not a little to forward important investigations.

We are, however, sorry to add, that, without farther aid, the conveniences for these purposes, intended to be furnished in the New College of Edinburgh, will not be immediately obtained; for the money supplied to the Trustees, by the munificence of the King, and the liberality of other subscribers, is now expended. There is, however, good reason to hope, that while the generous aid of those who have already contributed to this undertaking has done so much, the assistance of many others will now be called forth, for finishing those essential parts already begun; especially as a few thousand pounds will now complete all the accommodations particularly allotted to the Faculty of Medicine; and in the improvement of Medical Science as taught at Edinburgh, not merely that city and its environs, but every part of the British dominions, may be considered as deeply interested. Of this no one can have any doubt,
who considers the numbers annually educated at Edinburgh, who are afterwards to practice the healing art even in the most remote corners of the British Empire. Every convenience and encouragement, then, afforded to them in the prosecution of their studies, must necessarily contribute to the public good.

From the grateful remembrance retained by many of those formerly educated at Edinburgh, of the instruction they acquired at that place, considerable aid has already been derived; and, to fulfil a promise which we have already repeatedly made to our readers, we now subjoin a List of the Medical Subscribers. From this it will appear, that neither distance of time nor place has been able to efface from the minds of many, a due recollection of the obligations which they owe to Edinburgh as a School of Medicine; while many others, who cannot call the College of Edinburgh their Alma Mater, have yet taken this opportunity of acknowledging obligations to her, in common with the whole Profession of Physic, and, on the present occasion, have cheerfully lent their assistance to
to an undertaking, calculated to promote the progress of Medical Science.

Although we have had free access to the best information, the General List of Subscribers kept by the Trustees, yet it is not improbable, that, in the annexed List, there are both errors and omissions; especially as different Medical Practitioners, with whom we have not the honour of being acquainted, may be marked under the general title of Esqr., or Mr, without any other designation. If, however, we can come to the knowledge of any inaccuracies, we shall be happy to correct them in a future Volume. And when we reflect on the number of Medical Practitioners, zealous for the improvement of their profession, and not altogether unconnected with Edinburgh, from whom no aid to this important undertaking has hitherto been received, we are not even without hopes, that, in no long period, we may be able to publish, with these corrections, an Additional List of Medical Contributors, not less numerous than the present. Even very small sums from a number of individuals, would now do a great deal towards
wards finishing important parts of this work already begun. And as there is often in children an hereditary predilection for the profession of a parent, some Subscribers, at least, may have the satisfaction of reflecting, that their own sons, in the prosecution of the study of Medicine, will derive more convenience and advantage from a small contribution given to complete this undertaking, than from the same sum applied to their instruction in many other ways; while those who have no children educated to the Medical profession, may still derive no inconsiderable pleasure from the recollection, that, from contributing towards rebuilding Medical Schools at Edinburgh, with conveniences not hitherto enjoyed, they have thereby done something both for facilitating the study of the Art, and for the improvement of the Science.

Dr
Dr J. Makitrick Adair, senior, Bath
Dr J. B. M. Adair, junior, Edinburgh
Dr —— Adam, Bengal
Dr John Aitken, Edinburgh
Dr Jo. Alexander, Bengal
Mr William Anderson, Bengal
Mr Thomas Anderson, Leith
Mr James Arrot, Edinburgh
Dr S. Athill, Antigua.

B

Sir George Baker, Bart., London
Dr Francis Balfour, Bengal
Mr Benjamin Bell, Edinburgh
Mr John Bell, Edinburgh
Mr John Bennet, Edinburgh
Dr Nicolas Bindon, Edinburgh
Dr Joseph Black, Edinburgh
Dr Gilbert Blane, London
Dr William Blane, Bengal
Mr Thomas Boog, Edinburgh
Mr G. Boyd, Bengal
Dr Richard Brocklesby, London
Dr F. R. Brodbelt, senior, Jamaica
Mr F. R. Brodbelt, junior, Jamaica
Mr James Brodie, Edinburgh

Dr
Dr Francis Brown, Antigua.
Mr Thomas Cairns, London
Mr William Cairns, Bengal
Dr D. Cameron, Jamaica
Dr Alexander Campbell, Bengal
Dr James Campbell, Bengal
Dr William Carter, junior, Canterbury
Mr T. Casement, Bengal
Dr George Cayley, Finland
Mr John Cheyne, Leith
Dr Thomas Clarke, Jamaica
Dr Thomas Clerk, London
Dr Thomas Cochrane, Doncaster
Mr P. Cochrane, Bengal
Mr Alexander Colvil, Bengal
Dr Charles Congalton, Edinburgh
Dr Andrew Coventry, Edinburgh
Dr Jo. Craigie, Bengal
Dr Alexander Crichton, London
Dr William Cullen, Edinburgh
Dr Henry Cullen, Edinburgh.

Mr Robert Dempster, Edinburgh
Mr Forrest Dewar, Edinburgh
Mr William Dick, Bengal

Dr
Dr Caleb Dickson, Jamaica
Mr —— Dods, Haflar
Dr Jo. Drummond, Jamaica
Dr John Drysdale, Jamaica
Dr Andrew Duncan, Edinburgh
Mr Andrew Duncan, Edinburgh
Dr D. Dundas, Richmond
Dr S. Dyer, Bengal.

E

F
Dr William Farquharson, Edinburgii
Dr —— Fergusson, East Indies
Mr Andrew Fife, Edinburgh
Dr William Fife, Jamaica
Dr William Flanagan, Jamaica
Dr John Fleming, Bengal
Mr Andrew Fletcher, Argyleshire
Dr Thomas Fowler, York
Dr W. M. Frazer, Bath
Dr Robert Freer, Edinburgh.

G
Dr Henry Galloway, Finland
Dr Andrew Gardner, Jamaica
Mr James Gardner, Edinburgh
Mr W. F. Gardner, Bengal
Dr Max. Garthsore, London
Dr Thomas Gibbons, Hadleigh
Mr Walter Gibson, Leith
Dr J. Gilchrist, Dumfries
Dr —— Gordon, Jamaica
Dr James Gordon, Jamaica
Mr John Graham, Canterbury
Dr Walter Graham, Vinto
Dr David Grant, Jamaica
Dr James Gregory, Edinburgh
Dr Robert Groat
Dr Mathew Guthrie, Petersburg.

H
Dr John Haliday, Petersburg
Dr William Halliday, Hourjk, Russia
Dr James Hamilton, senior, Edinburgh
Dr Alexander Hamilton, Edinburgh
Dr James Hamilton, junior, Edinburgh
Dr R. Hamilton, Lynn-Regis
Dr Robert Hamilton, Ipswich
Dr William Hamilton, Craiglaw
Dr James Hare, Bengal
Dr Jo. Harris, Jamaica
Dr James Hay, Edinburgh
Mr Thomas Hay, Edinburgh
Mr John Hay, Edinburgh
Mr Everard Home, London.
Dr Francis Home, Edinburgh
Dr William Horfeman, Madras
Dr Andrew Hunter, Bengal
Mr John Hunter, London
Dr —— Hunter, Bengal
Dr James Hutton, Edinburgh.
Mr William Inglis, Edinburgh
Mr William Inglis, Bengal
Dr Andrew Inglis, Edinburgh
Dr Robert Innes, Haddington
Dr William M. Jamieson, Jamaica
Dr E. Johnston, Birmingham
Dr William Johnston, Jamaica
Dr Charles Kerr, Bombay
Mr Robert Kerr, Edinburgh
Mr James Law, Edinburgh
Mr Colin Lauder, Edinburgh
Dr William Leckie, Jamaica
Dr J. C. Lettsom, London
Dr John Lind, Haflar
Mr —— Loftus, Canterbury
Dr Thomas Lungkaf, Jamaica

[Signature]
Mr Peter Lyon, Edinburgh.

M

Mr Kenneth M'Kenzie, Edinburgh
Dr —— M'Kinnen, Jamaica
Dr James Macneill, Leith
Mr Robert M'Lean, Oban
Mr Gilbert M'Leod, Bengal
Dr James M'Vicar, Jamaica
Dr Alexander Maitland, Jamaica
Mr Hugh Mair, Bengal
Dr —— Manners, London
Dr John Marshall, Lynn-Regis
Dr Thomas Meek, Portsmouth
Dr Archibald Menzies, Jamaica
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Dr William Moncrieffe, Bristol
Mr John Moncrieffe, Edinburgh
Mr William Rof Monro, Bengal
Dr Alexander Monro, Edinburgh
Dr —— Morley, Jamaica
Dr David Morton, Jamaica
Dr Patrick Murray, Jamaica
Mr Robert Mynors, Birmingham.

N

Dr James Naismyth, Jamaica
Dr Thomas Naismyth, Jamaica
Dr Thomas Neufville, Jamaica
Dr William Nisbet, Edinburgh.

Dr Robert Ochiltree, Inverary.

Mr J. Paterson, Jamaica
Dr George Pearson, London
Dr R. Pearson, Birmingham
Dr Robert Petrie, Lincoln.

Mr John Rae, Edinburgh
Mr William Rait, Dundee
Dr Edward Richards, Jamaica
Dr —— Robertson, Perth
Dr Joseph Robertson, Edinburgh
Dr J. S. Robertson, Bath
Dr William Robertson, the Hague
Dr William Robertson, Richmond
Dr John Rogerson, Peterburg
Dr Daniel Rutherford, Edinburgh
Mr Alexander Russel, Bengal
Mr James Russel, Edinburgh,

Dr William Saunders, London
Dr William Scott, Jamaica
Mr Robert Scott, Edinburgh

2 E 3
Dr James Shaw, Jamaica
Mr David Simpson, East Indies
Dr Jo. Skene, Jamaica
Mr Jo. Smith, Bengal
Dr Thomas Smith, Birmingham
Dr P. Spence, Kenfington
Dr Nathan Spens, Edinburgh
Dr Thomas Spens, Edinburgh
Dr William Spink, Bombay
Dr James Stark, Calcutta
Dr John Stedman, Edinburgh
Dr Alexander Stewart, Dunkeld
Dr Thomas Stewart, Sheffield
Dr John Storer, Nottingham
Dr Charles Stuart, Edinburgh.

T
Dr J. Taylor, Edinburgh
Dr William Thomson, Oxford
Mr Robert Thynne, Edinburgh
Dr Jo. Tod, Jamaica.

W
Dr James Walker, Jamaica
Dr Robert Walker, Edinburgh
Dr Martin Wall, Oxford
Dr Andrew Wardrop, Edinburgh
Dr Richard Warren, London

Mr
Mr Thomas Watt, Bengal
Dr Charles Webster, Edinburgh
Dr —— West, Jamaica
Dr S. White, Nottingham
Dr William Wightman, Dunbar
Dr Jo. Winterbottom, Newbury
Dr William Withering, Birmingham
Mr Alexander Wood, Edinburgh
Mr Andrew Wood, Edinburgh
Mr George Wood, Edinburgh
Dr James Wood, Perth
Mr Jo. Wood, Bengal
Mr Thomas Wood, Edinburgh
Dr William Wright, Edinburgh
Dr William Wright, Jamaica.

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In a former volume of this work, we mentioned, that a subscription had been set on foot among the pupils of Dr Cullen, for erecting some permanent monument of grateful respect to his memory in the New College of Edinburgh. We are happy in being able to inform our readers, that this intention will, in all probability, be soon carried into execution.
execution. A very ingenious young artist of Edinburgh, Mr William Gowans, who has lately given some admirable specimens of his abilities in the statuary line, particularly by cutting, from a block of the freestone of this country, a statue as large as the life, of the illustrious Newton, which has met with high approbation from some able judges, has been employed by the subscribers to cut a bust of Dr Cullen, from a block of statuary marble. He has already made considerable progress; and there is every reason to hope, that he will finish it in such a manner as to do great credit to himself. As soon as it is finished, the subscribers intend to make an application to the Patrons of the University, for permission to place it in a proper situation, in one of the teaching halls already fitted up in the New College; particularly either in the room appropriated to the Institutions, or in that appropriated to the Practice of Medicine; both which chairs in the University of Edinburgh, Dr Cullen filled with great reputation. There can be no doubt that the Patrons of the University, highly sensible of
Dr Cullen’s merits and services, will readily comply with this request.

* * * *

Dr Odier of Geneva, in a letter to Dr Duncan, gives the following account of the use of the Charcoal of Beech wood, in cases of Hæmorrhage.

"You may have seen in the French newspapers, for some time past, that one Dr Faynard had discovered a powder, by means of which he alleged hemorrhages might be stoppt, with more certainty, and greater safety, than by any other remedy. In amputations, for example, he advised a great quantity of this powder to be spread over, by handfuls at once, on the wound, and kept there for some hours, with a convenient bandage, without any ligature of the vessels; and it was asserted no hemorrhagie would ensue. In internal hemorrhagies, likewise, he advised a tea-spoonful of it to be swallowed three or four times a day; and this he boasted would cure, in three or four days, the most obstinate epistaxis, hæmoptysis, or menorrhagia."
menorrhagia. A friend of mine being at Paris some time ago, I had a fancy to have some of this powder, and to see what it would do. A box of it was accordingly brought to me. It weighed scarce half an ounce, and cost half a guinea. It struck me, on the very first inspection of it, that it was exceedingly like charcoal. I had it therefore analyzed comparatively with different kinds of charcoal; and I found that it perfectly agreed in all respects with that which is made of the common beech-tree wood. Hence I resolved to try this beech charcoal, finely levigated, in the first case of obstinate hæmorrhage I should meet with. A case of this kind soon presented itself. It was a passive menorrhagia, which had already resisted a great many remedies of the astringent kind. I gave a scruple of powdered charcoal to the patient four times a day, diluted in a little syrup and water. It succeeded very well, and very soon stopped the hemorrhage, without any inconvenience. From that time I have frequently employed it in that disease; and indeed I have found it as good a remedy, at least, as any other: not but that, like all others,
others, it sometimes fails; but yet it most generally succeeds. You may suppose it does not entirely cure the disease, in preventing its return; but it frequently stops the flow of blood at each relapse.

I have not employed it as yet in any other species of hemorrhage; but I think it might with safety be tried, because I never observed any bad effect from it. I have no manner of doubt that it is truly Dr Faynard’s powder; and I think it may be useful to have discovered it to be so cheap a remedy.”

* * * * *

Mr F. Hughes of Stafford, in a letter to a Medical friend at Edinburgh, gives the following account of the effects of the external application of Æther, in a case of Strangulated Hernia.

“In the morning of the 17th of November 1792, I was called to a man with strangulated hernia. The intestine reached the bottom of the scrotum. He was subjected to intense pain, but had not vomited. A common enema procured a copious evacua-
tion, but without relieving the pain; and every attempt to reduce the hernia increased this symptom. I then applied vitriolic æther, to the extent of about a dram at a time, on the scrotum and adjacent parts. It brought on a corrugation; and in little more than twenty minutes, by the use of about an ounce of æther, it was completely reduced. A gentle application of the hand was necessary, but not while the æther was on, as it then produced heat and pain.

"How far may æther, applied to the abdomen, be useful in cases where there occur inflammation and stricture of the intestines? I think it may with advantage be used in these and other cases, as well as in that mentioned above."

In our last volume, an account was given of a case of strangulated hernia, where æther, applied by the direction of Mr Hughes, was attended with similar success; and we shall be happy to learn that it has the same good effect in other instances. We are, however, sorry to say, that in one case, which lately occurred in the neighbourhood of Edinburgh, it was employed without benefit. There, however,
however, it was employed under very unfavourable circumstances, the patient being almost in articulo mortis before it was used.

* * * * *

Dr Humphreys of Virginia, in a letter to Dr Duncan, informs him, that the hunters in that part of America, in the cure of Rheumatism, a disease to which they are much subjected, employ with great success a tincture formed from the Magnolia acuminate. The seed capsules of this vegetable, grossly powdered, to the extent of two ounces, are digested for eight or ten days in a pound of the Spiritus vinofus tenuior. The tincture is then strained through paper, and given to the extent of an ounce every morning and evening.

* * * * *

Dr Jo. Reil of Halle, in Saxony, in a letter to Dr Duncan, gives him the following account of the result of some experiments which he has made respecting animal electricity.

“Cum
“Cum nuper experimenta in ranis de electricitate animali quæ Bononiæ Dr Galvani patefecit, repeterem, inveni eadem oriri phænomena in homine vivo, cui ab alio, in nervo haud procul in cute decurrente (e. g. nervo brachiali in cubito) stylos metallicus imponitur, et hinc ex conductore machineæ electricæ scintillæ proliferuntur. Suboriantur convulsiones in omnibus musculis, quibus a tacto trunco rami nervosi impertiuntur. Forsan in paralyti topica hoc invento uti licet.”

* * * *

Dr. Badeley of Chelmsford, in a letter to Dr. Duncan, gives him the following account of a case of uncommon sympathy between the skin and stomach, nearly amounting to disease.

“A gentleman about 30 years of age, remarkably athletic, who never had any indisposition that he recollects in his life, was troubled every morning, as soon as he got out of bed, with sickness, and vomiting of clear water. Putting on his breeches never failed to occasion it. This continued till his clothes
clothes were warm, and then returned no more. He never felt the least of it before rising. He ate, drank, and slept well, and had no other complaint whatever. His bowels were regular and natural, and his tongue clean.

"I ordered him to drink a glass of cold water immediately before rising. This effectually answered the purpose of preventing the sickness. If he took the water ten minutes before getting out of bed, the sickness returned as before, probably from the water having by that time become warm, and not properly balancing the cold applied to the surface. How will you account for such extreme sensibility subsisting, unattended with any other nervous complaint? Is it not wonderful, that it should neither be accompanied with, nor be productive of some other disease?"

* * * *

The following letter from Dr John Ferriar, physician in Manchester, addressed to the Committee for the Regulation of the Police in the Towns of Manchester and Salford,
ford, has been printed, and transmitted by him to different friends. As it contains many important regulations for the prevention of disease, applicable to every large town, we presume it will not be unacceptable to many of our readers.

"Among the objects which engage the attention of this Committee, there can be none more interesting, than the prevention of epidemic diseases among the Poor, as far as it can be accomplished by attending to the most hazardous circumstances of their situation. I hope I shall therefore be excused, for offering a few observations on the means of opposing the production and progress of infectious fevers, in cellars and lodging-houses, where they reduce great numbers of the industrious Poor to extreme distress, and often nearly destroy whole families. In doing this, I shall confine myself to the remarks which have occurred to me, in the discharge of my office of Physician to the Infirmary, as local observations only can be interesting to the Committee."
"1. In some parts of the town, cellars are so damp as to be unfit for habitations. Such places should be reported to the Commissioners, by whom proper representations may be made to the owners, that the cellars may be appropriated to other purposes. I have known several industrious families lost to the community, by a short residence in damp cellars.

"2. The Poor often suffer much, from the shattered state of cellar windows. This is a trifling circumstance in appearance, but the consequences to the inhabitants are of the most serious kind. Fevers are among the most usual effects; and I have often known consumptions which could be traced to this cause. Inveterate rheumatic complaints, which disable the sufferer from every kind of employment, are often produced in the same manner. This source of disease may be expected to admit of easy removal; for it cannot be the interest of the proprietor of a cellar to have his tenants constantly sick.

"I have seen large apertures in the walls of a lodging-house, in consequence of which, a patient of mine contracted a consumption.
The owner was applied to, in a cold, rainy season, to close the openings, so as to mitigate the patient’s sufferings from the severity of the weather; but in vain.

"3. I am persuaded, that mischief frequently arises, from a practice common in many narrow back streets, of leaving the vaults of the privies open. I have often observed, that fevers prevail most in houses exposed to the effluvia of dunghills in such situations.

"As an example of the injurious effects of these circumstances, I beg leave to point out one family, of the name of Turner, in a dark cellar behind Jackson’s Row. They have been almost constantly patients of the Infirmary for three years past, on account of disorders owing to their miserable dwelling. There are other instances of the same kind in Bootle-street. In one house of the latter street, most of the inhabitants are paralytic, in consequence of their situation in a blind alley, which excludes them from light and air. Consumptions, distortion, and idiocy are common in such recesses."
"4. In Blakeley-street, under No. 4., is a range of cellars, let out to lodgers, which threatens to become a nursery of diseases. They consist of four rooms, communicating with each other, of which the two centre rooms are completely dark; the fourth is very ill lighted, and chiefly ventilated through the others. They contain from four to five beds in each, and are already extremely dirty.

"5. The lodging-houses near the extremities of the town produce many fevers, not only by want of cleanliness and air, but by receiving the most offensive objects, into beds, which never seem to undergo any attempt towards cleaning them, from their first purchase till they rot under their tenants. The most fatal consequences have resulted from a nest of lodging-houses in Brooks's Entry, near the bottom of Long-mill-gate, a place which I beg leave to recommend to the serious attention of the Committee. In those houses, a very dangerous fever constantly subsists, and has subsisted for a considerable number of years. I have known nine patients confined in fevers at the same time, in
one of those houses, and crammed into three small, dirty rooms, without the regular attendance of any friend, or of a nurse. Four of these poor creatures died, absolutely from want of the common offices of humanity, and neglect in the administration of their medicines. In some other houses in the same nest, I have known a whole swarm of lodgers exposed to infection by the introductioin of a fever patient, yet so far infatuated, as to refuse to quit the house, till all of them have been seized with the disorder. It must be observed, that persons newly arrived from the country are most liable to suffer from these causes; and as they are often taken ill within a few days after entering an infected house, there arises a double injury to the town, from the loss of their labour, and the expense of supporting them in their illness. A great number of the home-patients of the Infirmary are of this description. The horror of those houses cannot easily be described. A lodger, fresh from the country, often lies down in a bed filled with infection by its last tenant, or from which the corpse of a victim to
to fever, has only been removed a few hours before.

"Another set of lodging-houses constantly infected, is known by the name of the Five Houses in Newton-street. The continuance of fevers among them seems to arise from their being over crowded, and very dirty.

"6. The best method, perhaps, of giving an effectual check to these evils, would be, to oblige all persons letting lodgings to take a licence, and to limit them in the number of their lodgers. By the terms of the licence, they might also be obliged to white-wash their houses twice a year, which is a powerful method of preventing infection. When a fever appears in a house full of lodgers, all who are uninfected should be immediately removed to a clean house, and their clothes should be washed and scoured. When the fever has ceased, the bed-clothes and curtains of the infected room ought to be scoured, or otherwise cleaned, and a fresh application of white-washing should be made. With proper care, indeed, the worst kind of fever may be confined to the patient's room, with-
out danger to the rest of the family; but no dependance can be placed on the conduct of the persons to whom I allude.

"When the sick are destitute of beds, they should be supplied by the town. It is obvious, that fevers, slight in their commencement, must be greatly aggravated, and must often become dangerous, when the patient lies on a few rags, in a cold garret, or damp cellar.

"7. This plan would require the appointment of Inspectors of Lodging-houses, whose business it would be to visit houses which should be reported to them as infected, either by the neighbours, or by any medical gentleman, under whose observation such places should fall. They should be empowered to take proper steps for checking infection wherever it appears; and occasional inquiries might be made, respecting the compliance of persons letting lodgings with the condition of their licences. This would answer a very desirable purpose respecting the police, independent of the advantages proposed regarding health. The keepers of the lodging-houses might be required,
quired, to give an account of the name and occupation of every lodger whom they receive, and to become responsible, to a certain degree, for the truth of these reports. By this means, a constant check might be maintained on houses, which at present are the refuge of the most profligate and dangerous part of society.

"8. There is a practice, very common in small new buildings, which ought to be discouraged; that of putting up fixed casements. Some part, if not the whole of the window, should always be moveable, especially where there is but a single window in the room. From the want of such a regulation, I have been often obliged to order several panes to be taken out of the window of a fever-room, to obtain a tolerable degree of ventilation.

"9. It is sometimes difficult to prevent the master of a lodging-house from turning a patient out of doors, in the height of a fever, when he apprehends that his other lodgers will desert him. Some interposition of authority should take place, in such cases, both for the sake of humanity, and to prevent the unfortunate
unfortunate patient from spreading the disease into a fresh house.

"10. When a house is infected in every room, a nurse should be provided, on whom dependance can be placed, to prevent unnecessary visits from neighbours and acquaintances. About two years ago, a fever of the worst kind was carried from a lodging-house in Salford, where it had attacked all the inhabitants, to another in Milk-street, near the Infirmary, where it seized several persons, in consequence of a thoughtless visit made by an acquaintance lodging in Milk-street. In this way, fevers are sometimes introduced among the servants in opulent families.

"11. The prevalence of fevers among persons employed in Cotton Mills, might be lessened by an attention on the part of the Overseers, to the following circumstances, besides a due regard to ventilation. Personal cleanliness should be strongly recommended and encouraged; and the parents of children so employed, should be enjoined to wash them every morning and evening, to keep their shoes and stockings in good condition, and, above all, never to send them to work early
early in the morning without giving them food.

"It is much to be wished, that the custom of working all night could be avoided. The continuance of such a practice cannot be consistent with health, and I am glad to find that it does not prevail universally.

"Great benefit would be derived in such situations from cold bathing, if the poor could be induced to use it once or twice a week during the whole year. It would counteract the bad consequences of the want of clothing, on the change of which, health is known so much to depend; and it would lessen the frequency of rheumatic complaints, by inuring those whose situations expose them the most, to the vicissitudes of the seasons, or sudden alterations of temperature. This would be best done, by furnishing public baths for their use.

"Many other circumstances might be pointed out, which are of great importance in preserving the health of the poor; but I am afraid of intruding too much on the patience of the Committee. As the circumstances to which I have adverted, have been impressed
impressed on my mind by repeated, actual observations, and as the evils they produce are of the most serious and alarming nature, I should have deemed myself wanting in my duty to the public, if I had omitted to lay these reflections before the Gentlemen of the Committee, at a time when they are occupied with plans of public utility. If their attention should be thus excited to a subject so important to the general good, my design will be fully answered."

* * * *

It is with pleasure we learn, that Dispensaries for the relief of Sick Poor, are gradually becoming more numerous in different parts of Scotland. One has for some time been established in the city of Aberdeen, the extensive utility of which has been fully demonstrated to the satisfaction of every contributor, upwards of fifteen hundred patients having received gratuitous advice and medicines at that Institution, during the year 1791.

A Dispensary has also been lately established at the town of Dunfermline, in Berwickshire,
shire, under the patronage of Mr Hay of
Drumelzier, and other gentlemen of the
first consequence in that neighbourhood.
There can be no doubt, that, from the be-
nevolent exertions of the Medical Practi-
tioners who have taken charge of it, innu-
merable benefits will accrue to the indigent
part of the community. And we would fain
hope, that this laudable example will be fol-
lowed in other places equally able to support
similar institutions.

* * * *

We have, in former volumes of this work,
given accounts of many laudable attempts
towards the improvement of Medical Science
in different parts of America. It is with
much satisfaction we learn, that these are
daily still farther extended.

A Medical Society in the State of Dela-
ware, first formed by voluntary assoication,
has been some time ago incorporated by a
legislative act of the General Assembly of
that State, with ample powers to frame a
constitution, and such regulations and by-
laws,
laws, as might be found necessary for the election of officers, the admission of members, and all other matters connected with the good government and usefulness of the Society.

The advantages of this institution have already been very apparent. Communications of a valuable kind have been received; and the attention of medical persons throughout the State has been more generally and zealously directed, than formerly, to professional improvements.

An annual oration is pronounced by some one of the Members, on a subject pertaining to Medicine, or Medical Philosophy.

The present Officers of this Society are, Dr James Tilton, President; Dr Eb. Aug. Smith, Vice-President; Drs Nicolas Way, George Monro, Joseph Hall, and Elijah Barrett, Censores; Dr Edward Miller, Secretary; and Dr James Sykes, Treasurer.

Among other means of improvement, the Delaware Society have published the following program respecting a prize question.

"Omnibus
Omnibus ad quos hæc pervenerint, Salutem:
Quantum medicinæ et humani generis interfit, morbos epidemicos, in regionibus calidis paludosis, æstatis et autumni tempore, graffantes eorumque causas adhuc usque obscuras, plenius explorare et detegere, fatis novit quisque in rebus medicis vel minimum versatus. Magna pars orbis terrarum, eæque praecipue regiones, quæ benignissimis Divini Numinis alloqui repleuntur muneribus, hac ex causa acerbissimis ærumnis et vaßtationibus miserrimis quotannis objiciuntur. Et tuto fortasse affirmari possit, ex omnibus morborum fontibus fere nullum esse, hoc longe lateque diffusiorem vel qui majora corpori humano infert mala.
Argumentum hocce, medicorum et philosophorum attentioni vaßtam et fertilissimam investigationis provinciam ostendit, Ubi tot magni nominis viri non fine laude semet excuerunt; fed ubi multum adhuc restat operis, multumque diu restabit; nec unquam fortasse aliquid indies adjiciendi præcluditur occasio. Difficultates quidem undique pre-
munt,
munt, et ad lucem rei adeo obscurae offundendam, multis, iisque accuratis observationibus et ratioicatione cauta admodum et sobria opus erit. Suus sic quidem cuique labor erit, fed et suae simul cuique constabunt bene meritae laudes, Nequaquam enim est fide dignum, naturam tam arcito limite ingenium humanum compescuisse, ut ad has quoque regiones, utcunque caecas atque occultas viam sibi nunquam patefaciat.

"His rebus perpenfis, simulque commodis magnis et plurimis, quae ex prae miis et honoribus publice propositis redundare solent, probe consideratis, Societas Medica Delavariensis, symbolam quoque suam ad scientiae acervum conferre cupiens, quaestionem frequentem proponere et auctorem dissertationis praestantissimae prae mio remunerare decrevit.

"Quanam est Potentia nocens, ejusque origo atque natura, unde in regionibus calidis, ii demque humidis, Intermittentes oriuntur Febres, Remittentes etiam variaque alia mala, quae aestatis et autumni tempore graffari solent? Qua ratione hoc caeli vitium corrigi possit? Quo pacto, quibusque auxiliis istiusmodi morbi arceri atque tractari debeant?

"Ex
"Ex iis qui præmium illud obtinere cupiunt, hoc potissimum et necessario exigitur, ut rationes atque auxilia sæduo explorent, quibus hoc ņeli vitium facillime corrigi possit.

"Hujus propositi hæ sunt conditiones.

"1. Dissertationem suam Anglice, Latine, Gallice aut Germanice conscriptam mittendam curabit auctor ad Societatis Præsidem in diem Martis secundam mensis Maii, anno 1795.

"2. Epistola insuper ab auctore mittenda est, nomen suum domiciliique locum indicans, eodemque sigillo, ac ipsa dissertatio munita, cum nota etiam qualibet, parti superaddita exteriori, quæ alteram dissertatiioni praefixam referat.

"3. Dissertatio antea evulgata, aut alibi præmio donata, hoc digna certamine non cenfebitur.

"4. Dissertationem præmio donatam, sub quacunque forma, jus evulgandi, penes Societatem esse, semper intelligendum.

"5. Nifi autem præstantissima et præmio dignissima dijudicata fuerit dissertatio, ad auctorem quocunque placuerit remitteretur,
tur, una cum epistola intacito sigillo. Vel si de hoc parum solumitus fuerit auctor, epistola comburetur et dissertatio penes Societatem manebit.

“6. Si ex dissertationibus Societati oblatis, nulla digna habebitur, quæ tali honore condecoretur, harum auctores certo sciant, præmium futurum esse nullum.

“7. Præmium ex Thaleris trecentis (Anglice Dollars) vel ex argento fusili ejusdem pretii prout auctori visum fuerit constabit, quod sibi ipsi vel cuivis amico ex ejus mandato, intra sex menses, dijudicatione facta memorabitur.

“Dabam hæc ex Societatis jussu, in lucem edita Doverii apud rempublicam Delavarienfem, die quarto Julii anno Domini 1792.

“EDWARDUS MILLER, M. D.
SocietatisSodalis, ejusdemque a Secretis.”

The few following remarks, with regard to the geography of the State of Delaware, may, perhaps, be of some use to those who mean to offer a solution of this question.

Delaware
Delaware is the smallest of the American States. It consists of three counties only, Newcastle, Kent, and Sussex. The county towns are, Newcastle, Dover, and Lewes. This small territory stretches from Cape Henlopen, up to the bay and river Delaware, about an hundred miles; and is about 20 or 30 miles wide upon an average. These narrow limits contain, perhaps, a greater variety of soil and climate than any other State in America. It has the endemical sickness of flat and marshy countries, the sturdy robustness of the mountains, and the healthfulness of situations perfectly insular.

* * * *

The Royal Medical Society of Edinburgh, solicitous to promote the investigation of the interesting phenomena lately discovered by Galvani, have resolved to give a prize of twenty-five guineas for an experimental essay containing the best answer to the following queries.

Are the phenomena discovered by Galvani referable to electricity, or to any of the hitherto known laws of nature?
If they are to be referred to a property peculiar to animals, what are the parts most concerned in their production, the means by which they can be rendered most obvious to our senses, and the general laws by which they seem to be regulated?

If to a property belonging to metallic or other inanimate substances, what are those substances, their comparative powers, and the circumstances which modify their action?

Can any similar phænomena be exhibited in the vegetable kingdom, particularly in those plants which have been supposed to be endued with irritability?

Essays may be written either in English, French, or Latin; and candidates are requested to transmit their respective essays to the Secretary of the Society before the 1st day of May 1794. Each essay must be accompanied with a sealed letter, containing the motto prefixed to the essay, and the name and abode of the author.

Drs
Drs Adair, Black, Duncan, Gregory, Hutton, Monro, and Rutherford, are appointed a Committee to examine the essays, and to adjudge the prize to that which they shall deem the most deserving. The other essays, on application being made to the Secretary, will be returned, with the letters accompanying them unopened.

* * * *

Dr Willan, physician in London, is engaged in preparing for the press a Treatise on Cutaneous Diseases. He proposes to arrange those diseases in proper orders and genera, and to represent all their varieties by coloured engravings. The work will be published in six different parts. The first part, containing the Papillous Diseases of the Skin, will appear in January 1794.

Another work, also on Cutaneous Diseases, is preparing for the press, by Dr Garnet of Harrogate. In a letter to Dr Duncan, he gives the following account of it.

2 G 2

“...
I am now engaged in a work on Herpetic complaints. Being frequently consulted by letter, concerning the propriety of the Harrogate Waters in certain cases, I have often found myself at a loss to ascertain, even from the descriptions of medical men, the species of cutaneous affections concerning which they wish to have my opinion. It is, in general, extremely difficult to distinguish them by verbal description; but it is absolutely necessary that they should be accurately distinguished in practice, as they require very different methods of cure. We have no book in which they are even attempted to be distinguished by verbal description, excepting Plenk’s treatise De Morbis Cutaneis, which every person will confess is very imperfect and inaccurate, many of his species not being distinguishable in practice. To lessen the difficulty, I am now preparing for publication a Treatise on Leprous and Herpetic Affections, which will include most of the chronic diseases of the skin, and in which each species will be illustrated by an engraving coloured from nature. The many opportunities which I have
of seeing these diseases at Harrogate, will, I hope, enable me, not only to point out accurately the species which are really and essentially different, but also to lay down methods of cure which have been found very successful. For want of this discrimination of Cutaneous Affections, the waters of this place have not been so extensively useful to mankind as they might have been; the same methods of using them having been advised in all Cutaneous complaints, which is evidently improper. The work is in considerable forwardness, but can scarcely be published before the close of the year 1794, on account of the time it will take to engrave the plates, and afterwards to colour the impressions, which must be done by the hand, and with the greatest exactness. I shall be very happy to receive communications from any Gentleman of the Faculty, which may be addressed to me at Harrogate.

* * * *

We mentioned in our last Volume, that Dr James Hamilton, junior, of Edinburgh, was engaged in preparing for the press a Translation
Translation of the valuable work of Morgagni, on the Seats and Causes of Disease, on an improved plan. Although different circumstances have occurred to retard this work, yet such progress is now made in it, that there is every reason to believe it will soon be put to the press.

* * * *

A Volume of the Transactions of the Royal Society of Edinburgh, which has been in the press for some time, is now completely printed off, and will probably be published in a few weeks.

* * * *

Dr Monro is at present engaged in preparing for publication, Experiments on the Nervous System with Opium and Metallic substances, made with the view chiefly of determining the effects and nature of Animal Electricity. This work is already in the press, and will probably be published in the space of a few weeks.
The following Deaths of distinguished Medical practitioners, have lately taken place.

1790. At Seringapatam, in the 28th year of his age, Pierre Rene Francis Willemet, M. D., Physician to Tippoo Saib. He was the son of M. Willemet, an ingenious and respectable apothecary at Nancy in Lorraine, who is advantageously known to the public by his writings.

1791. Near Wakefield, in Yorkshire, John Elliston, M. D., Fellow of the Royal College of Physicians of Edinburgh; a man of great humanity and worth.

February 11. At Dantzick, aged 80 years, Jo. Eilhard Reinick, M. D.; a man venerable by profound literature and amiable manners.


valuable work, De Fructibus et Seminibus Plantarum, published in 4to at Stuttgard.

1791. July 10. At Stockholm, Peter Jo. Bergius, M. D., Professor of Natural History, Soc. Reg. Lond. &c. Socius. He has bequeathed to the Royal Academy of Sciences at Stockholm, of which he was a distinguished Member, an adequate fund for the establishment of a Professorship of Horticulture, and for the maintenance of a garden attached to it. Dr Bergius has long been favourably known to the medical world by his treatise on the Materia Medica, and other valuable publications.

——— At Vienna, of gout, Ignatius à Born, Knight of the Holy Roman Empire, and Member of many learned Societies. He was a distinguished natural historian, and has published several interesting works on that subject.


——— At Frankfort, on the Oder, where he was Professor of the Practice of Medicine, Peter Emanuel Hartman, M. D. He was an eminent teacher; the author of many medical dissertations; and died in his 64th year.

1791.
1793. COMMENTARIES. 473

1791. At Erlang, where he was Senior Member, and President of the Academy, in his 72d year, H. F. Delius, M. D., Physician to the Margrave of Anspach.

1792. March 11. At Lund, in Sweden, K. Stobæus, M. D., Professor of Midwifery.

—— At Rochester, George Hicks, M. D. of St James’s Place, London, Member of the Royal College of Physicians, and Physician to the Asylum, and Westminster Infirmary.

April 24. At Leipsc, Jo. M. Barth, M. D., in the 69th year of his age. He was formerly Professor of Dietetics in the University of Leipsc, and afterwards Physician to the Prince Czarterinský, in Poland. But this appointment he resigned about twelve years before his death, and again returned to Leipsc.

May 19. At Paris, of hydrothorax, Anthony Louis, Secretary to the Academy of Surgery of that city, and a celebrated Practitioner in Surgery. His father was Chief Surgeon of the Hotel Dieu at Metz, and he was born there on the 13th of February 1722.
1792. July 12. At Bombay, Dr Alexander Grant Clugston, Surgeon-General to the Army on that establishment.

— At Jever, in the 83d year of his age, Paul Hen. Ger. Mochring, M. D., Physician to the Prince of Anhalt Zerbst, Member of several learned Societies, and celebrated by some important publications, particularly his Historiae Medicinales.

—— Kannegiesserus, M. D. et P. State Physician to the King of Denmark, and Senior Member of the Academy at Keil, in Holstein.

— At Anspach, in his 75th year, Caf. Chr. Schmiedel, M. D., President of the College of Physicians at Anspach, and formerly Professor of Physic at Erlang.

— At Hanover, in his 58th year, Jo. Chr. Bruns, M. D., State Physician to the King of Great Britain as Elector, and Demonstrator in Anatomy and Midwifery. He collected, with much industry, and at great expense, a very valuable library, which he bequeathed to the public, for the use of physicians.
1792. December 12. At Berlin, of an apoplexy, Jo. Ph. Hagen, M. D., State Physician to the King of Prussia, and Professor of Midwifery.

1793. January 15. At Heidelberg, Francis Von Oberkamp, M.D., Professor of Physiology and Pathology.


February 23. At Edinburgh, during the course of his studies, Mr James Percival, Student of Medicine, and son to Dr Percival of Manchester. His amiable and engaging manners endeared him to all who had the happiness of his acquaintance; and his extraordinary attainments in literature, and the knowledge of his profession, may leave the world to regret, that it was prematurely deprived of a man capable of becoming one of its brightest ornaments. To an unusual fund of acquired knowledge, he added uncommon vigour
vigour of intellect, benevolence of disposition, and urbanity of manners. In the attainment of knowledge, he tempered the ar-dour of youth with the wisdom of maturer years. His learning was comprehensive in extent, and exact in detail. What he read, heard, or saw, he admitted, not with servile or indiscriminate approbation; but the flores of a tenacious memory were submitted to a sceptical and rigorous examination, before they were received as maxims of speculative truth, or adopted as rules of practical application. While there is just ground for lamentation, that his life was not spared to perpetuate his talents, yet he has left to posterity a brilliant example of the scientific knowledge which may be obtained, even at an early period of life, by the united efforts of industry and genius.

1793. March 26. At Plymouth, in the 71st year of his age, John Mudge, M. D., F. R. S., eminently distinguished both for his medical abilities and his mechanical genius, which he successfully applied both to medicine and to other arts, as was abundantly demonstrated by his improvement on the
the formation of reflecting telescopes, and by his invention of the machine commonly known by the name of Mudge's Inhaler, which is successfully employed in different affections of the breast.

1793. April 17. At Grenada, Dr Joseph Gahagan, Physician in that Island. The following character of this most amiable young man, is given in the Grenada newspaper published the day after his death.

"The few who were intimately acquainted with him, are ill fitted, by their present feelings, to do justice to his character; and from those who had not that advantage, an accurate account cannot be expected, of such various merit and attainment as, in so young a man, might seem more imaginary than real. At a period of life when study often only begins, he had qualified himself, in an uncommon degree, for the exercise of his profession: And while the correctness of his judgment showed his understanding, his observation, and his knowledge; his manner displayed that modesty and mild diffidence which usually accompanies genius. As a man of talents, and an amiable member of society,
society, his death is a public loss. To his friends and relations it is a source of heartfelt affliction, which arises from the premature fate of a beloved individual, possessed of the most valuable qualities, both of the head and the heart.

Dr Gahagan's studies were conducted, first in Dublin, his native city, and afterwards at Edinburgh, where he obtained the degree of Doctor of Medicine in June 1791, after writing and defending a very ingenious dissertation, *De somniis et quibusdam aliis mentis alienationibus*. During his residence in Edinburgh, he lived in the house of Dr Duncan, to whose care he was particularly recommended by an older brother, Dr Mathias Gahagan, who has long been an eminent practitioner in the island of Grenada.

It has fallen to the lot of very few young men, during the course of their studies, to obtain in a higher degree the love and esteem of the companions of their studies, or the regard and affection of their teachers. With those amiable manners of a gentleman, best calculated to win the hearts of others, he united that love of science which must ever captivate
captivate the understanding. With the talents of an excellent classical scholar, and considerable merit in painting, poetry, music, and other polite arts, he conjoined a degree of medical knowledge, founded both on study and observation, rarely to be met with at an early period of life.

His intimate friends often regretted, that his brother's plan, of introducing him into the practice of medicine in the West Indies, would remove him from the seats of the Muses and of Literature, where his singular abilities and acquirements could hardly have failed to have shone with conspicuous lustre. They flattered themselves, however, with the hope, that his genius and industry would throw light upon Science, in whatever situation he happened to be placed. But to his thirst after knowledge, there is reason to fear that he fell a victim: for, during a very dangerous epidemic which lately prevailed in the island of Grenada, he was desirous of determining how far any important viscus was particularly affected. He was himself attacked with the disorder, immediately after being engaged in the dissection of a patient who
who died of it; and on the fourth day from its commencement it proved fatal to him. Thus it is probable, that he fell a martyr to professional zeal and humanity.


—— At London, William Austine, M. D., of Cecil-street, in the Strand, one of the Physicians to St Bartholomew’s Hospital; distinguished as a practitioner, as an author, and as a man of an amiable and respectable character.

May 1. At York, James Crowther, M. D., formerly a Practitioner of eminence at Leeds, and Physician to the General Infirmary there.

June 4. At Litchfield, in the 78th year of his age, deservedly lamented, Mr Greene, Surgeon and Apothecary, and one of the Aldermen of that city. He was proprietor of a Museum, which attracted and merited the notice of the curious of every denomination, and which was always open to inspection, free from expense.

July 30. At Beverley, in the 62d year of his age, George Motherby, M. D., author
of a very extensive work, published in 1778, under the title of A New Medical Dictionary.

1793. October 16. John Hunter, Esquire, F. R. S., &c. Surgeon Extraordinary to the King, Surgeon General of his Majesty’s Forces, and Inspector General of the Regimental Hospitals. In a future Volume, we hope to be able to present our readers with some account of the life and writings of this truly meritorious practitioner, by whose indefatigable industry, and extensive original genius, philosophy in general, but, in a more especial manner, the philosophy of the animal system, has been so happily illustrated in many particulars. At present we shall only observe, that while his successful exertions entitle him to the gratitude of posterity, as well as of the present age, they, at the same time, furnish to both an example which claims imitation.

—— At Cambridge, Ruffel Plumptre, M. D. Regius Professor of Medicine in that University, which office he had filled for 52 years. He was one of the oldest Fellows of the Royal College of Physicians in London,
and held in high estimation as a judicious practitioner.

* * * *

**John Gunning, Esq.** has been appointed Surgeon General of his Majesty's Forces, and **T. Keate, Esq.** Inspector General of the Regimental Hospitals, both in the room of the late **John Hunter, Esq.**

* * * *

In consequence of the death of Dr **Alexander Stevenson**, First Physician to his Royal Highness the Prince of Wales for Scotland, the following new arrangement has taken place in the medical department of his Royal Highness's household for that kingdom.

Dr **And. Duncan, Edinburgh,** ¹ Physicins in Dr **Ja. Jaffrey, Glasgow,** ¹ Ordinary.  
Dr **Ro. Freer, Edinburgh,** ¹ Physicians Dr **Thomas Hope, Glasgow,** ¹ Extraordinary.

* * * *

During the year **1793**, Dr **Andrew Young of Newcastle**, and **Dr James B. Makitrick Adair**
Adair of Edinburgh, have been admitted Fellows of the Royal College of Physicians. Mr William Brown, and Mr John Thomson, have been admitted Fellows of the Royal College of Surgeons of Edinburgh.

* * * *

During the course of the same year, Don Antonio Gimbernat, First Surgeon to the King of Spain, Dr Richard Pultney of Blandford, Mr John Lindsay of Jamaica, Dr Sam. L. Mitchell of New York, Mr J. Mackay of Aberdeen, Thomas Wallace, Esq; of Carleton-Hall, Cumberland, and Thomas Newte, Esq; have been admitted Non-Resident Members of the Royal Society of Edinburgh. And Alexander Muir M'Kenzie, Esq; has been admitted a Resident Member of the same Society.
State of the Thermometer, Barometer, and Rain, during the year 1792, according to observations made about a mile from the city of Edinburgh.

<table>
<thead>
<tr>
<th>Month</th>
<th>Thermometer (High, Low, Med.)</th>
<th>Barometer (Highest, Lowest, Medium)</th>
<th>Rain (Inches &amp; Decimals)</th>
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<tbody>
<tr>
<td>Jan.</td>
<td>42 22 35</td>
<td>30.20 29.60 29.62</td>
<td>1.725</td>
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<tr>
<td>Feb.</td>
<td>59 28 43</td>
<td>30.47 29.27 29.88</td>
<td>1.470</td>
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<tr>
<td>Mar.</td>
<td>53 26 45</td>
<td>30.20 28.95 29.55</td>
<td>2.885</td>
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<tr>
<td>Apr.</td>
<td>54 35 48</td>
<td>30.05 28.97 29.71</td>
<td>1.570</td>
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<tr>
<td>May</td>
<td>65 33 55</td>
<td>30.27 28.92 29.75</td>
<td>3.205</td>
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<tr>
<td>June</td>
<td>69 41 59</td>
<td>30.28 29.20 29.79</td>
<td>4.660</td>
</tr>
<tr>
<td>July</td>
<td>70 48 62</td>
<td>29.95 29.25 29.63</td>
<td>4.555</td>
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<tr>
<td>Aug.</td>
<td>77 50 63</td>
<td>30.16 28.97 29.57</td>
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<tr>
<td>Sept.</td>
<td>66 36 55</td>
<td>30.00 28.90 29.62</td>
<td>3.290</td>
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<tr>
<td>Oct.</td>
<td>56 32 50</td>
<td>30.41 28.90 29.61</td>
<td>4.335</td>
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<tr>
<td>Nov.</td>
<td>61 30 46</td>
<td>30.20 29.25 29.75</td>
<td>2.500</td>
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<tr>
<td>Dec.</td>
<td>49 25 39</td>
<td>30.07 28.55 29.61</td>
<td>4.135</td>
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Whole Year | 77 22 49 | 30.47 28.55 29.67 37.330 |

State
State of the Thermometer, Barometer, and Rain, during the year 1792, according to observations made at the apartments of the Royal Society of London.

<table>
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<tr>
<th>MONTH</th>
<th>THERMOMETER</th>
<th>B A R O T E R</th>
<th>R A I N</th>
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<td>High: Deg.</td>
<td>Low: Deg.</td>
<td>Med.</td>
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<td>53</td>
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<td>Feb.</td>
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<td>Mar.</td>
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<td>26</td>
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<td>July</td>
<td>76</td>
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<td>Aug.</td>
<td>84</td>
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<td>Sept.</td>
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<td>Dec.</td>
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<td>41</td>
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<tr>
<td>Whole Year</td>
<td>84</td>
<td>16</td>
<td>50</td>
</tr>
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2 H S ECT.
S E C T. IV.

LIST OF NEW BOOKS.


The anatomy of the Bones, Muscles, and Joints. By John Bell, surgeon. 8vo, Edinburgh.


The Clinical Guide; or a concise view of the leading facts on the history, nature, and cure
cure of diseases. To which is subjoined, a Practical Pharmacopoeia, in three parts, viz. the Materia Medica, Classificiation, and extemporaneous Prescription, intended as a memorandum-book for young practitioners, particularly the students of medicine in their first attendance at the Hospital. By William Nisbet, M. D., Fellow of the Royal College of Surgeons, Edinburgh. 12mo, Edinburgh.


Experiments and observations relative to the influence lately discovered by M. Galvani, and commonly called Animal Electricity.

Sketches of facts and opinions respecting the Venereal disease. By William Houltton, Member of the Corporation of Surgeons, and of the Medical Society of London, &c. 8vo, London.

Transactions of a Society for promoting medical and chirurgical knowledge. 8vo, London.

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