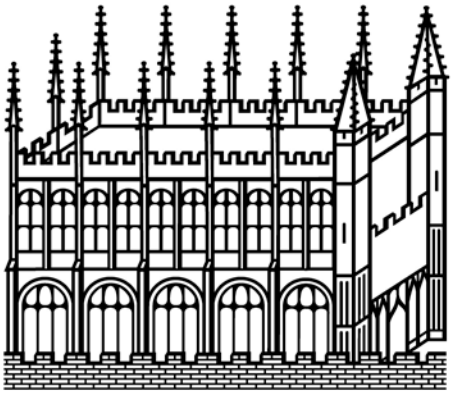


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# MEDICAL COMMENTARIES

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.SS.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 SECOND.

VOL. VIII.

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M.DCC.XCIV.


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TO

DR AUGUSTUS GOTTLIEB RICHTER,

*PROFESSOR OF MEDICINE*

In the UNIVERSITY of GOTTINGEN, &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 multiplices, abditaſque rerum cauſas, ſive ad interiores tui pectoris receſſus penetrare animus ſit; et videre quo ſpiritu perennis vitæ focus, ceu fomite ac flabello accenditur aliturque; in variis hujuſce opuſculi exercitationibus, ni fallar, invenies, quæ ſubciſivas ſaltem aliquot horas contemplatione nec inutili, nec injucunda excipiant.*

MAYOW.

# PREFACE.

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 Trot-

ter and Beddoes, reſpecting the patho-logy of many common and obſtinate affections, are ſupported by ſuch inge-nuity, 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 con-firmation, the reader will find, in the preſent volume, many important prac-tices recommended on the ſolid baſis of extenſive experience, which have not, perhaps, been hitherto adopted ſo ge-nerally 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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MEDI-

# MEDICAL COMMENTARIES,

## FOR THE YEAR 1793.

VOL. VIII. DECADE II.

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## SECT. I.

*Account of New Books.*

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### 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 Valli 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 œconomy; 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 convulſion. The Profeſſor was aſtoniſhed at the phænomenon, 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 phænomena 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 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 vertebræ 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 ſciſſars 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, ſtupified.

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 ſciſſars, 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

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,

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

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

3*d*, 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 movements. 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 incommoded; 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 deſertion 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

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 beautiful 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 therefore 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 quietly, and exhibited no marks of any remains of vital principle, although examined immediately 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 caſes,

on

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 phænomena attributed to native animal electricity.

The

The circulation of the electricity of metals being ſuppoſed, this author founds his ſubſequent reaſoning on the following poſitions:

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

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

3*d*, 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 Valli 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 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 phænomena 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," 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 ab-

ſence 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 phænomenon, 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:

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

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

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

4*th*, Their movements are likewiſe different.

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

6*th*, 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*

## *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 ſinciput, 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 phænomenon, 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, puſhes againſt the poſterior paries of the right ſinus, in conſequence of which is raiſed up an iſle or dam, which advances ſo as to to occupy the paſſage which might remain between

between the two cavæ, 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 chaſed 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 favour 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 excitement 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 dif-

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 ſubtilty 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.

## II.

*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 univerſal 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 queſtion:

* From the liſt of Inaugural Diſſertations in this volume, our readers will obſerve, that he obtained the degree of Doctor of Medicine on the 12th of September 1793.

ſtion: "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 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-

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 phænomena 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 phænomena 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 electri-

cal

cal phænomenon 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

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 phænomena 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 controul 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 fœtus, 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

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

the electrical ſpark, or even a full ſtream of the aura paſſed into the artery, produced them.

An attempt to inveſtigate the ſource from which the reſpective powers of nerves and of 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 phænomena 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

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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.

III.

*Obſervations on the Nature and Cure of Calculus, Sea Scurvy, Conſumption, Catarrh and Fever; together with Conjectures upon ſeveral other Subjects of Phyſiology and Pathology. By* Thomas Beddoes, *M. D.* 8vo, London.

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 chryſtals, 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,

1*ſt*, Whether the blood undergoes any determinate change?

2*d*, Whether the urine becomes habitually alkaline?

3*d*, 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 œco-

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

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 Laplanders, who ſeldom taſte the products of vegetation, are alſo unacquainted with this diſeaſe. The Oſtiack 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

* Obſervationes Anatomico-Pathologicæ. Lugd. Batav. 1777.

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: 1*ſt*, 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, 2*dly*, That oxygen is neceſſary to the due action of the muſcles. The phænomena of this caſe ſerve alſo to explain the peculiar laſſitude 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 ſcorbutic ſymptoms in M. Condamine, upon the ſummit of Pinchina: for the experiments of M. Sauſſure 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 acidulous 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 meſs 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, ſhow, 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 phæno-

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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 œconomy 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 decompound 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 ſuet of the croton ſebiferum, the butter of the phœnix dactylifera, 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 country,

try, would many of them be gained to the cultivation of corn, the immediate food of man. And how many millions of inhabitants 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 after lamenting the obſcurity which prevails throughout the whole of this diſeaſe, he remarks, that the only circumſtance from which we can at preſent hope to reaſon, is the occaſional effect of pregnancy in ſuſpending 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 placenta. During pregnancy, there ſeems to be no proviſion for the reception of an unuſual quantity of oxygen. On the contrary, in conſequence of the impeded action of the diaphragm, leſs and leſs ſhould be continually 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 perſons? 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 women; but appeals to the obſervation of accoucheurs, to determine, whether it manifeſt itſelf in the colour of the blood, bleeding of the gums, dark coloured ſpots, vibices, or any other ſcorbutic 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 indulge without prejudice."

Our author next proceeds to inquire, whether phthiſical perſons ſhow any ſigns of a redundance 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 ſteams of an effervеſcing 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 ſurpriſed," 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, what rank it holds among the other deviations from a ſtate of health obſervable in this diſeaſe. Here two poſitions occur: 1*ſt*, 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, 2*d*, 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 ſlower, 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.

## IV.

*Some Obſervations on Ulcers. By* Everard Home, *Eſq; F. R. S. Aſſiſtant Surgeon to St George's Hoſpital.* Vide *Tranſactions of a Society for the Improvement of Medical and Chirurgical Knowledge.* 8vo, London.

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.

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 ſores much.

Lapis calaminaris 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 pledgit 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 pledgit 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

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 ſores 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 ſore 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 ſore. 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 ſore; 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 ſores 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.

## V.

*Facts, tending to ſhew the Connection 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 reſiſting 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 hæmorrhage, 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, aſſimulation in the lymphatic, ſanguiferous 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 Sedative; 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 ſooth, diminiſh, or teaſe it; ſpecific ones produce ſpecific ſtates in it, and in different parts of

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 aſſimulating 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 muſcles 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 eſurient ſtate, he obſerves, is removed; the ſtomach feels comfortable; the muſcles 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, laſſitude, 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

Moſt cathartics, Dr Webſter obſerves, are, like other matters, decompoſed before they paſs the pylorus; and thoſe which ſeemingly 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.

Diurétics, 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 weakneſs, palſy, tremors, ſpaſm, fever, inflammation, ulcer, gangrene, hæmorrhage, 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

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

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 hæmorrhages.

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,

mach. 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 queſtion-

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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.

## VI.

*Tractatus de Roborantium in Rheumatiſmo Arthritico neceſſitate. Auctore* Rudolpho Buchhave, *M. D.* Vide *Acta Regiæ Societatis Medicæ Haunienſis. Vol. II.* 8vo, 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

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in the country. This he aſcribes to luxury among the rich, and moiſt habitations among the lower claſs. 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 method of cure which he has found moſt ſucceſsful; 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 viſcera. It appears, he tells us, not only under the form of excruciating pains, neceſſarily occaſioning changes both in the ſolids and fluids, particularly after the pain has ceaſed, laxity of the fibres, tremor, inſenſibility, ſtupor, and the like; but alſo under the form of tranſitory tumours on different parts, of cramps, convulſions, vertigo, tinnitus aurum, gaſtrodynia, vomiting, fainting, and even convulſions. Theſe internal affections

fections 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: 1*ſt*, 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, 2*dly*, 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 matter

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 coſtiveneſs. 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-

ſulted in this ſituation, directed emetics, laxatives, anodynes, bliſters, Guaiac, and other antarthritics, 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 ſtrengthening medicine, and to attempt to reſtore the menſes 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 toothach 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 hyſteric 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 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 retropulſion 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

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, 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 intervening period ſhe had enjoyed perfect health.

The laſt caſe here related, is that of a ſervant maid, in the 30th year of her age, who had never menſtruated properly. She applied to Dr Buchhave on the 2d of May 1783, and informed him, that for the ſpace of twenty months before, ſhe had been attacked, every eight or ten days, with an epileptic 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 affected alſo with a quotidian fever. For this Dr Buchhave firſt preſcribed digeſtive and laxative medicines, and it was afterwards removed 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 termination 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.

*Obſervatio de Diarrhœa, cum Obſtructione Alvi, haud infrequenti connubio. Auctore* H. Calliſen, *M. D. & Prof. Chirurg.* Vide *Acta Societatis Regiæ Medicæ Haunienſis. Vol. II.* 8vo, Hauniæ.

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 diarrhœa: 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 diarrhœæ: But no writer, Dr Calliſen 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 fæces 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 diarrhœa, 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 Calliſen 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 teneſmus. She was at the ſame time affected with troubleſome hæmorrhoidal tumours, and frequent bloody dejections. To counteract theſe ſymptoms, Dr Calliſen directed leeches to be applied to the anus, emollient and oily injections, anodynes, and the gummy extract of aloes. But notwithſtanding theſe, the teneſmus ſo far increaſed, that the patient, under the violence of this complaint, frequently fainted. A ſlow 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 Calliſen, 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 fœtid 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 ſcyballa were ſpontaneouſly evacuated by the anus. After this, the natural conſiſtence of the excrements returned, the cholic pains, anorexia, and hæmorrhoidal 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 Calliſen has no doubt that this excrementitious 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, diarrhœa 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 Calliſen 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 diarrhœa 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 diarrhœa and dyſentery, we not unfrequently diſcover, he obſerves, at the end of ſeveral weeks, numerous hard ſcyballa 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 diarrhœa. 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 fæces. And, on the baſis of extenſive experience, he ventures to affirm, that, in putrid diſeaſes, particularly in the beginning, although either ſpontaneous diarrhœa, 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.

## VIII.

*Experimenta circa radicem Atropæ Belladonnæ in Tuſſi Convulſiva, et aliis quibuſdam Morbis. Auctore* Rudolpho Buchhave, *M. D.* Vide *Acta Regiæ Societatis Medicæ Haunienſis. Vol. II.* 8vo, Hauniæ.

IT was long ſince an obſervation of the illuſtrious Linnæus, "Eſculenta conſervant, venena reſtituunt ſanitatem." 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,

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 epilepſia; 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 ſpaſ-

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

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 niſus 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, 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

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 diſeaſe

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.

## IX.

*Virtus Opii in Syphilide confirmata. Auctore* Jo. Hen. Schonheyder. Vide *Acta Societatis Regiæ Medicæ Haunienſis. Vol. II.* 8vo, Hauniæ.

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 aſſafœtida againſt ill-conditioned venereal ulcers, with great advantage; not indeed giving up the uſe of mercurials. Being

ing already acquainted with the powers of the aſſafœtida, 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 aſſafœtida 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 tibiæ 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 aſſafœtida 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. L., in the 36th year of his age, had for ſix years been affected with different ſyphilitic ſymptoms. Upon his admiſſion into the

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, diarrhœa was ſoon added. Upon this, relinquiſhing the pills, he took rhubarb with magneſia. On the 8th of December, the diarrhœa 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 aſſafœtida. 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.

*Obſervations Nouvelles ſur la Reſpiration, & la Chaleur Animale; extraitées d'un Memoire de* M. Seguin. Vide *La Medecine Eclairée par les Sciences Phyſiques, ou Journal des Decouvertes relatives aux differentes parties de l'Art de Guérir; redigé par* M. Fourcroy. *Tome I.* 8vo, Paris.

IN a Memoir read before the Medical Society of Paris, M. Seguin, 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. Seguin

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, 1*ſt*, 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.

2*d*, That the hydrogen, when abſtracted from the animal matters, holds in ſolution a

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

the caloric diſengaged 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

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 lets looſe 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*,

2*d*, The increaſed heat, which ſucceeds the cold fit, is owing to the accelerated circulation and reſpiration.

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

4*th*, 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 phænomena 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.

## XI.

*Examen Chimique de la Séroſité, produite par les Remedes Véſicans.* *Par* M. Margueron. Vide *Annales de Chimie.* *Tome XIV.* 8vo, Paris.

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

ſibly 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 phoſphat 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

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 fœtid 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.

| | Serum. | Seroſity. | Synovia. |
|---|---|---|---|
| Albumen - | 40 | 36 | 33. |
| Muriat of ſoda | 4 | 4 | 3.5 |
| Carbonat of ſoda | 3 | 2 | 1.3 |
| Phoſphat of lime | 2 | 2 | 1.2 |
| Water - | 151 | 156 | 161. |
| | 200 | 200 | 200 |

XII.

## XII.

Bernhardi Nathanaelis Gottlob Schregeri, *Medic. et Philoſ. 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 Linnæus, 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, auſtere, and ſomewhat acrid, without any remarkable odour.

Four

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 ſix 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 conſiſtence 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-

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. Sulphat 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-

ſtringent 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, hæmorrhages, 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.

## XIII.

*A Treatiſe on the Gonorrhœa 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 Gonorrhœa 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 Gonorrhœa, 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,

*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 proſtate 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

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 perinæum. 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

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 Gleets, 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 Hydrargyrus muriatus corroſivus in common

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 ærugo æris, 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 mode-

rate

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 Gonorrhœa, 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 perinæum, the remedies which Mr Bell has found of greateſt ſervice are, bougies of a large ſize, and bliſters applied to the perinæum.

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

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 ſcrophulous 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 Gonorrhœa, 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 diſcuſs 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 abſceſs 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 æther, 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 reſina 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

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 Gonorrhœa, 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, hyoſciamus, 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 perinæum, and a free exhibition of the Cinchona bark, taken internally.

When ſwelling of the teſticle occurs as a conſequence of Gonorrhœa, 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 Gonorrhœa.

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 diſcuſſed, by the uſe of ſaturnine 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 Gonorrhœa, 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

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 ſciſſars, 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, Hydrargyrus muriatus corroſivus, and Hydrargyrus nitratus, 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 Veratrum, than from any remedies in a liquid form.

Mr Bell concludes this volume on Gonorrhœa, with ſome obſervations on the Gonorrhœa 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 Gonorrhœa 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 Gonorrhœa virulenta.

We have thus endeavoured to give a conciſe view of Mr Bell's treatiſe on Gonorrhœa 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 Gonorrhœa, 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.

## 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 diverſicolores, plerumque liveſcentes; deficiente ſimul vegetabili materie recente, eundemque vehemente ingerendi 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 phænomena.

Of

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 obſerves, 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 cauſe 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, *1ſt*, 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 cauſe 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 œconomy 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 prediſponent 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 counteracting 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 ſour-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 ſour-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 perſons 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 proceſs, although it may join itſelf with other ſubſtances before it paſſes through the body.

After thus ſtating 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 adviſes, 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-krout, 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 with the ſour-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, is, 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 adviſes, 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.

*A Paper on the Prevention and Treatment of the Diſorders of Seamen and Soldiers in Bengal. Preſented to the Honourable Court of Eaſt India Directors, in the Year* 1791. *By* John Peter Wade, *M. D.* 8vo, London.

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 phænomena 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 following precautions to be attended to, in endeavouring 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 immediately 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 proportion to the quantity of water with which they are mixed. In all ſituations, pure water has a decided ſuperiority over every other beverage. This article may in general be procured of a good quality, and is eaſily cleared from muddineſs, by ſprinkling into the jar or caſk a ſmall quantity of powdered alum, and allowing it to remain at reſt a day or two. Cleanlineſs in all its branches muſt be particularly attended to.

The

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

quently 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 Dyſentery 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 putreſcency 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.

Veneſection 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 groſſer 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 groſſer matters be evacuated. At other times they are inadmiſſible, 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 ſave, 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 groſſer 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, vitiation, 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

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 diſſection 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.

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 ſymptomes 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 diarrhœa, 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 moſt, 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 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 phænomena 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. Veneſection 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 abſceſs in the liver as very ambiguous, and as he is unacquainted with the evils ariſing from the uſe of mercury in caſes of real abſceſs. Mercury may be advantageouſly combined with antimonials 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 mo-

ment, and continued without intermiſſion, 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.

## 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,

cuation, 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, Albucaſis, and other ancients. And although caſes have been recorded by Hildanus, Dodonæus, Wiſeman, Cheſſelden, 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 integu-

ments

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 Cauliaco, 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 intention.

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 ſeton.

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

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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.

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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 unpliable, 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 ſeton 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 truſs, 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

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 poſſeſſes 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 ſlight 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 preſs, 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.

## XVII.

*An Account of the remarkable Effects of a Shipwreck on the Mariners: With Experiments and Obſervations on the Influence of Immerſion in Freſh and Salt Water, hot and cold, on the Powers of the living Body.* By James Currie *of Liverpool, M. D., Fellow of the Royal College of Phyſicians at Edinburgh.* Vide *Philoſophical Tranſactions of the Royal Society of London for the Year* 1792. *Part II.*

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 loſt 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 ſat 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 ſat, although generally out of the ſea, was frequently overwhelmed by the ſurge, and at other times expoſed to heavy ſhowers of ſleet 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 expoſed 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 ſleet 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

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 ſlower 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 proceſs 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 proceſs 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 beau-

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 phænomenon, 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-eaſt 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 poſſeſſes), 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."

SECT.

## SECT. II.

### *Medical Obſervations.*

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#### 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 Linnæus, 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 con-

ſulted 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 Pharmacopœia. It cannot therefore ſuperſede what is

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 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 Eſſequebo 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 naufeating 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.

## 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

ſiable 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 viſcera, 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 heavineſs. 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 increaſe 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, headach, &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 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 towards

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, headach, 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

roxyſm 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 leſs tendency to intermit. It is ſingular, however, that although no doubt remains, from the diſſections, that hepatic inflammation was one principal cauſe of the fever, no ſymptom of that diſeaſe could ever be perceived, 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 excruciating 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 Dughton, ſomething like criſis took place.

In

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, 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 furfuraceous 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 præcordia whilſt the extremities were cold and clammy,

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 intermittents, 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 fortreſs has

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 embar-

raſſed

raſſed 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 deobſtruents, 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 apendicula 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 ſound. 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 ſound; 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 viſcera 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

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 ptyaliſm; 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 ſizy, 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.

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 ſhow 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, 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 depoſites 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 putreſcence 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 ſoreneſs 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 ſoreneſs 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 diſcoloura-

tion.

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 which 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 ſore, 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 ſore 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.

## 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

eluded 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

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 ſtriæ 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 ſuture. 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.

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 inſinuated. 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 ſuture. 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 hæmorrhagy 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



* 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 ſound, 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 awanting; 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, bloodletting 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 fœtid, 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 ſound, 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 headach; 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

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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 apace, 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.

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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.

V.

## V.

*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.

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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

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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 ſunk 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 vitæ 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.

## 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, Iſabel 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 fœtus. 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 about half way between the brim and bottom; but, to my great ſurpriſe, 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 diarrhœa. 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.

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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 Noſology, 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 coſtive, 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 co-

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 ſo remarkable a caſe, 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 fæces 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 depoſited

ſited 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 wonderful 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 order, 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 extraordinary, and worthy of being recorded; eſpecially as no ſimilar caſe is to be found in the valuable collection of the great Morgagni.

VIII.

## VIII.

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

*June* 26. 1792. A MAN, thirty-two years of age, 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 conſtantly

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 ipecacuanhæ 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 Sarſaparilla 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 rheumatiſm is not always, or invariably, the effect of cold, we farther learn from Sir John Pringle, who ſays, "The chronic rheumatiſm I found one of the more obſtinate diſeaſes 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 commended; 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 adminiſtered 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 Sarſaparilla, 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 adverting 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 Sarſaparilla 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 Sarſaparilla? 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 Sarſaparilla 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 Sarſaparilla *, I ſhould look upon it, like ſago, 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 Sarſaparilla, 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



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

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 Sarſaparilla, 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 Sarſa-

parilla

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 Pharmacopœia, 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 ʒ ſs. to ʒ 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 ʒ ij. to ʒ iij. 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,

* Neque aqua, neque alcohol, totam ejus virtutem extrahunt. Webſter's Medicinæ Praxeos Syſtema, Vol. I. p. 337.

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 received the blow, I could only obſerve a ſmall wound, little larger than a pin head; no tumour: but, upon preſſing with the finger, the teguments gave that feel, as if there were no bone beneath, with ſome faint fluctuation. Upon enlarging the wound with a lancet, I was much ſurpriſed with the appearance of a quantity of brain, mixed with blood. Introducing my finger, I felt the cranium much broke and beat in, a conſiderable 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 exceeded half an inch. The aſſiſtance of the trepan was not neceſſary; and I readily extracted 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, 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 ſutures, 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 tinctura 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 hiccough 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 ſtupidity.

From the whole hiſtory of this caſe, I think we may draw the following concluſions.

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 conſequences. 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 compreſſion.

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 compreſſion.

## X.

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

J. S. 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 ſomewhat

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 perſiſted 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 diarrhœa, 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 pyloris, 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-

ſter, 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 fæces, 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 eaſe 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

ſcription 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, 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 teazing 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 sallow, 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 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 pricked 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 reſpired through the mouth and noſtrils; and ſoon after, on a fit of coughing, he expectorated largely by the mouth.

For

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 inſertion, 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 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.

## 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 ſullen 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 theſe 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 preſerved 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 caſe. 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.

## 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 fæces. 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 ſunk; 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 ſlight 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*ſt*, From the theory I had formed of the diſeaſe; and, 2*d*, 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. 1792. MR M———k of Thorne, 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 dropſies.

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 sour belchings. I directed him to take from ninety to a hundred drops of the infusion, in a dose of an antiacid 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 sour belchings, and symptoms of indigestion, seemed to be relieved by the antiacid 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. 1785. 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 loſt caſe. But having juſt then peruſed Dr Fowler's pamphlet of Medical Reports on the effects

of

of Tobacco, in the cure of Dropſies, giving an account of ſome extraordinary caſes of Anaſarca and Aſcites 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 table 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 kidnies, 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.

## 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 Biſhopric, *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 ſcurfy 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.

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 ſore 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 maſs; 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 ſhew, 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 exquiſite,

ſite, 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 hyſteric 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 claſs of antihyſterics, 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 of twine, or other ligament, round the finger, when pained, ſhe prevented the affection from aſcending: but, although the violence was leſſened, the conſequent languor 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 predeceſſor, to which I enjoined ſea-bathing, without 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 corroborants, 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, hyſteric, epileptic, aſſimulated, and combined.

## XVIII.

*A Caſe of Pulmonary Conſumption, attended with Hæmorrhage, 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 following medicines; enjoining him particularly not to exceed a pint of liquid in the twenty-four hours, including tea, &c.

℞ Extract. Cicut. ʒ j. divide in Pil. xviij. quarum ſumat ij. omni nocte.

Capiat etiam Hauſt. Cath. e Magnef. Vitriol. omni altero mane, non bibendo inter operationem.

May 12th. He has taken his medicines regularly, and obſerved the directions in regard 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

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

* Vol. III. p. 68. Vol. IV. p. 129.

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 hæmorrhage often conſiſts in diſtenſion, and conſequent increaſed action of the blood-veſſels; and that abſtinence from liquids is a principal mean of removing this diſtenſion. 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.

*Obſervations on the Inſtrument employed in the Practice of Midwifery, commonly called Lowder's Lever.* By James Hamilton, *jun. 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 hæmorrhagy, 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

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 expence of much pain, and of the deſtruction of her child.

Such are caſes where, notwithſtanding that the head of the fœtus, 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 fœtus, 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 Roonhuyſen, 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 unſkilfulneſs 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



* The uſe of the Fillet, 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 fœtus 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



* 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 $4\frac{1}{2}$ 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 $1\frac{3}{8}$ inches; and the extreme diſtance of the point, on the oppoſite edge, is $\frac{13}{16}$ths of an inch. When both blades are joined, their greateſt width is $2\frac{3}{4}$ 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 unſurmountable 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 hæmorrhagy, 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 embryulcia, or to employ the Lever of Roonhuyſen, or that of Lowder. The former of theſe expedients muſt be put entirely out of the queſtion.

The Lever of Roonhuyſen, 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 Roonhuyſen, 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 Roonhuyſen'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 perinæum 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 lacerated perinæum, in caſes where that inſtrument had been employed, which are occaſionally met with. It is unneceſſary for me to ſay any thing more on the dangers which attend the uſe of Roonhuyſen'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 ſtem 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

* Eſſays on the Practice of Midwifery, Eſſay iv. ſection 2.

as Dr Lowder and Mr Deaſe, 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 Deaſe, is preferable.

The inſtrument conſiſts of a blade and handle (between which there is a hinge, that renders it portable), meaſuring in length 11½ inches. Its length, before it be curved, is 12½ 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 2½ inches of the extremity there is an oval opening, meaſuring 2¼ inches in length, and 1¼ at its greateſt breadth. By this opening, the depth of the curve is conſiderably

ſiderably 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 fœtal 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 hæmorrhagy, 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

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 ſacrum. 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 ſacrum, 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 perinæum 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, poſſeſſes 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



* 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 Roonhuyſen'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 fœtal 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

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 proportion to the reſiſtance oppoſed to the delivery.

On the whole, then, in caſes of the firſt order of Laborious Labours, both inſtruments 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.

SECT.

## SECT. III.

### MEDICAL NEWS.

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 Claſs, 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

who conſiders the numbers annually educated at Edinburgh, who are afterwards to practiſe 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

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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 Francis Brown, Antigua.

C

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.

D

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

Dr

Dr Caleb Dickſon, Jamaica
Mr —— Dods, Haſlar
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

Dr Jo. Hen. Englehart, Sweden.

F

Dr William Farquharſon, Edinburgh
Dr —— Fergusſon, Eaſt Indies
Mr Andrew Fife, Edinburgh
Dr William Fife, Jamaica
Dr William Flanagen, Jamaica
Dr John Fleming, Bengal
Mr Andrew Fletcher, Argyleſhire
Dr Thomas Fowler, York
Dr W. M. Fraſer, 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. Garthſhore, 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, Hourſk, 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

Dr Francis Home, Edinburgh
Dr William Horſeman, Madras
Dr Andrew Hunter, Bengal
Mr John Hunter, London
Dr —— Hunter, Bengal
Dr James Hutton, Edinburgh.

I

Mr William Inglis, Edinburgh
Mr William Inglis, Bengal
Dr Andrew Inglis, Edinburgh
Dr Robert Innes, Haddington.

J

Dr William M. Jamieſon, Jamaica
Dr E. Johnſton, Birmingham
Dr William Johnſton, Jamaica.

K

Dr Charles Kerr, Bombay
Mr Robert Kerr, Edinburgh.

L

Mr James Law, Edinburgh
Mr Colin Lauder, Edinburgh.
Dr William Leckie, Jamaica
Dr J. C. Lettſom, London
Dr John Lind, Haſlar
Mr —— Loftus, Canterbury
Dr Thomas Lunglaſs, Jamaica

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
Mr Robert Menzies, Dunkeld
Dr William Moncrieffe, Briſtol
Mr John Moncrieffe, Edinburgh
Mr William Roſs Monro, Bengal
Dr Alexander Monro, Edinburgh
Dr —— Morley, Jamaica
Dr David Morton, Jamaica
Dr Patrick Murray, Jamaica
Mr Robert Mynors, Birmingham.

N

Dr James Naſmyth, Jamaica
Dr Thomas Naſmyth, Jamaica

Dr

Dr Thomas Neufville, Jamaica
Dr William Niſbet, Edinburgh.

O

Dr Robert Ochiltree, Inverary.

P

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

R

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, Peterſburg
Dr Daniel Rutherford, Edinburgh
Mr Alexander Ruſſel, Bengal
Mr James Ruſſel, Edinburgh.

S

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

Dr James Shaw, Jamaica
Mr David Simpſon, Eaſt Indies
Dr Jo. Skene, Jamaica
Mr Jo. Smith, Bengal
Dr Thomas Smith, Birmingham
Dr P. Spence, Kenſington
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.

* * * *

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. 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

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 hemorrhagies might be ſtopt, 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 hemorrhagy 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 evacuation,

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 acuminata. 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 vinoſus 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) ſtylus metallicus imponitur, et hinc ex conductore machinæ electricæ ſcintillæ proliciuntur. Suboriuntur convulſiones in omnibus muſculis, quibus a tacto trunco rami nervoſi impertiuntur. Forſan in paralyſi 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.

" 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.

" 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 introduction 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 expence 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 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 Dunſe, 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 benevolent exertions of the Medical Practitioners who have taken charge of it, innumerable benefits will accrue to the indigent part of the community. And we would fain hope, that this laudable example will be followed in other places equally able to ſupport ſimilar inſtitutions.

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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 Delaware, firſt formed by voluntary aſſociation, 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 Barret, Cenſors; 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 interſit, morbos epidemicos, in regionibus calidis paludoſis, æſtatis et autumni tempore, graſſantes eorumque cauſas adhuc uſque obſcuras, plenius explorare et detegere, ſatis novit quiſque in rebus medicis vel minimum verſatus. Magna pars orbis terrarum, eæque præcipue regiones, quæ benigniſſimis Divini Numinis alioqui replentur muneribus, hac ex cauſa acerbiſſimis ærumnis et vaſtationibus 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 vaſtam et fertiliſſimam inveſtigationis provinciam oſtendit, Ubi tot magni nominis viri non ſine laude ſemet exercuerunt ; ſed ubi multum adhuc reſtat operis, multumque diu reſtabit ; nec unquam fortaſſe aliquid indies adjiciendi præcluditur occaſio. Difficultates quidem undique premunt,

munt, et ad lucem rei adeo obſcuræ offundendam, multis, iiſque accuratis obſervationibus et ratiocinatione cauta admodum et ſobria opus erit. Suus ſic quidem cuique labor erit, ſed et ſuæ ſimul cuique conſtabunt bene meritæ laudes, Nequaquam enim eſt fide dignum, naturam tam arcto limite ingenium humanum compeſcuiſſe, ut ad has quoque regiones, utcunque cæcas atque occultas viam ſibi nunquam patefaciat.

" His rebus perpenſis, ſimulque commodis magnis et plurimis, quæ ex præmiis et honoribus publice propoſitis redundare ſolent, probe conſideratis, Societas Medica Delavarienſis, ſymbolam quoque ſuam ad ſcientiæ acervum conferre cupiens, quæſtionem ſequentem proponere et auctorem diſſertationis præſtantiſſimæ præmio remunerare decrevit.

" *Quænam eſt Potentia nocens, ejuſque origo atque natura, unde in regionibus calidis, iiſdemque humidis, Intermittentes oriuntur Febres, Remittentes etiam variaque alia mala, quæ æſtatis et autumni tempore graſſari ſolent? Qua ratione hoc cœli 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 ſedulo explorent, quibus hoc cœli 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 diſſertationi præfixam referat.

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

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

" 5. Niſi autem præſtantiſſima et præmio digniſſima dijudicata fuerit diſſertatio, ad auctorem quocunque placuerit remittere-

tur,

tur, una cum epiſtola intacto ſigillo. Vel ſi de hoc parum ſolicitus 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 Delavarienſem, die quarto Julii anno Domini 1792.

" EDVARDUS MILLER, M. D.
Societatis Sodalis, 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 Hentopen, 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 phænomena 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 phænomena 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.

" 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

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 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.

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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

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The following Deaths of diſtinguiſhed Medical practitioners, have lately taken place.

1790. At Seringapatam, in the 28th year of his age, Pierre Reme 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 Elliſon, 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.

May 12. At Peſt, in Hungary, Wenceſlaus Trnka de Krzowitz, Med. et Anat. Prof., Knight of the Holy Roman Empire, and author of ſeveral valuable publications.

June 14. At Calben, near Magdeburg, in the 59th year of his age, of a fever, Joſeph Gaertner, M. D., Soc. Reg. Lond. et Imp. Petrop. &c. Socius; author of a great and

valuable work, De Fructibus et Seminibus Plantarum, publiſhed in 4to at Stutgard.

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.

November 3. At Spires, of an apoplexy, Jo. Jac. Lud. Neydock, Phil. et Med. D., Phyſician to the Elector of Treves.

—— 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. 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 Leipſic, Jo. M. Barth, M. D., in the 69th year of his age. He was formerly Profeſſor of Dietetics in the Univerſity of Leipſic, and afterwards Phyſician to the Prince Czarterinſky, in Poland. But this appointment he reſigned about twelve years before his death, and again returned to Leipſic.

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, particulary his Hiſtoriæ 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, Caſ. 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 expence, 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 Heidelburg, Francis Von Oberkamp, M. D., Profeſſor of Phyſiology and Pathology.

February 23. At Erlang, in his 67th year, Jaſ. Fred. Iſenflamm, M. D., Profeſſor of Phyſic and Anatomy, author of ſeveral medical works, and editor of a much enlarged and improved edition of Step. Blancardi Lexicon Medicum, which he publiſhed at Leipſic, in 1777, in 2 vols 8vo.

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 ardour 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 ſtores 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 heart-felt 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 regreted, 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.

1793. April 26. At Leipſic, Char. Chriſt. Krauſe, M. D., Profeſſor Extraordinary of Anatomy and Surgery.

—— 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 expence.

July 30. At Beverley, in the 62d year of his age, George Motherby, M. D., author

of

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, Ruſſel 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.

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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;

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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, } Phyſicians in
Dr Ja. Jaffrey, Glaſgow, } Ordinary.

Dr Ro. Freer, Edinburgh, } Phyſicians
Dr Thomas Hope, Glaſgow, } Extraordinary.

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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.

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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.

| MONTH. | THERMOMETER. | | | BAROMETER. | | | RAIN. |
|---|---|---|---|---|---|---|---|
| | High. Deg. | Low. Deg. | Med. Deg. | Higheſt. Inches. | Loweſt. Inches | Medium Inches. | Inches & Decimals. |
| Jan. | 42 | 22 | 35 | 30.20 | 28.60 | 29.62 | 1.725 |
| Feb. | 59 | 28 | 43 | 30.47 | 29.27 | 29.88 | 1.470 |
| Mar. | 53 | 26 | 45 | 30.20 | 28.95 | 29.55 | 2.885 |
| Apr. | 64 | 35 | 48 | 30.05 | 28.97 | 29.71 | 1.570 |
| May | 65 | 33 | 55 | 30.27 | 28.92 | 29.75 | 3.205 |
| June | 69 | 41 | 59 | 30.28 | 29.20 | 29.79 | 4.660 |
| July | 70 | 48 | 62 | 29.95 | 29.25 | 29.63 | 4.555 |
| Aug. | 77 | 50 | 63 | 30.16 | 28.97 | 29.57 | 3.000 |
| Sept. | 66 | 36 | 55 | 30 00 | 28.90 | 29.62 | 3.290 |
| Oct. | 56 | 32 | 50 | 30.41 | 28.90 | 29 61 | 4.335 |
| Nov. | 61 | 30 | 46 | 30.20 | 29.25 | 29.75 | 2.500 |
| Dec. | 49 | 25 | 39 | 30.07 | 28.55 | 29.61 | 4.135 |
| 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.

| Month. | Thermometer. | | | Barometer. | | | Rain. |
|---|---|---|---|---|---|---|---|
| | High. Deg. | Low. Deg. | Med. Deg. | Higheſt. Inches. | Loweſt Inches. | Medium nches. | Inches & Decimals. |
| Jan. | 53 | 19 | 37 | 30.47 | 28.94 | 29.66 | 1.810 |
| Feb. | 56 | 16 | 40 | 30.40 | 29.53 | 29.89 | 0.712 |
| Mar. | 56 | 26 | 44 | 30.51 | 29.07 | 29.77 | 1.791 |
| Apr. | 66 | 38 | 52 | 30.32 | 29.12 | 29.90 | 1.550 |
| May | 67 | 42 | 53 | 30.39 | 29.32 | 29.97 | 1.624 |
| June | 79 | 49 | 58 | 30.27 | 29.41 | 29.93 | 1.624 |
| July | 76 | 53 | 61 | 30.19 | 29.52 | 29.88 | 2.299 |
| Aug. | 84 | 54 | 65 | 30.30 | 29.40 | 29.93 | 2.065 |
| Sept. | 69 | 42 | 55 | 30.34 | 29.09 | 29.79 | 1.910 |
| Oct. | 63 | 39 | 51 | 30.42 | 29.26 | 29.79 | 1.884 |
| Nov. | 58 | 35 | 45 | 30.44 | 29.32 | 30.02 | 0.454 |
| Dec. | 53 | 31 | 41 | 30.35 | 29.00 | 29.85 | 1.766 |
| Whole Year. | 84 | 16 | 50 | 30.51 | 28.94 | 29.87 | 19.489 |

## SECT. IV.

### List of New Books.

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TRANSACTIONS of the Royal Society of Edinburgh. Vol. III. 4to, Edinburgh.

The anatomy of the Bones, Muſcles, and Joints. By John Bell, ſurgeon. 8vo, Edinburgh.

A practical ſyſtem of Surgery. By James Latta, ſurgeon in Edinburgh. Illuſtrated with caſes on many of the ſubjects. In three volumes. Vol. I. 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 Pharmacopœia, in three parts, viz. the Materia Medica, Claſſification, 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.

Elements of Chemiſtry, in a new ſyſtematic order, containing all the modern diſcoveries. Illuſtrated with thirteen copperplates. By M. Lavoiſier, Member of the Academies and Societies of Paris, London, Orleans, Bologna, Baſil, Philadelphia, Haerlem, Mancheſter, &c. Tranſlated from the French, by Robert Kerr, F. R. & A. SS. Ed. Member of the Royal College of Surgeons, of the Royal Phyſical Society, and Surgeon to the Orphan Hoſpital, Edinburgh. The ſecond edition, with notes, tables, and conſiderable additions. 8vo, Edinburgh.

Experiments and obſervations relative to the influence lately diſcovered by M. Galvani, and commonly called Animal Electri-

city. By Richard Fowler, M. D. 8vo, Edinburgh.

Sketches of facts and opinions reſpecting the Venereal diſeaſe. By William Houlſton, 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.

Outlines of the doctrines in Natural Hiſtory, Chemiſtry, and Economics, which, under the patronage of the State, are now delivering in the College of New York. By Samuel Latham Mitchill, M. D. Chem. Phyſ. & Agric. in Acad. Colum. Prof. Soc. Phil. Americ. Soc. &c. 8vo, New York.

Catalogue of Plants exotic and indigenous, in the Botanical Garden, Jamaica. By Thomas Dancer, M. D. 4to, St Jago de la Vega.

General and particular principles of animal electricity and magnetiſm; in which are found Dr Bell's ſecrets and practice, as delivered to his pupils in Paris, London, Dublin, &c. By Monſieur le Docteur Bell, Member

ber of the Philoſophical Harmonic Society at Paris. 8vo, London.

The plan adopted by the Governors of the Middleſex Hoſpital, for the relief of perſons afflicted with Cancer. By John Howard, Surgeon. 8vo, London.

Obſervations on the nature and method of cure of the Phthiſis Pulmonalis, or conſumption of the lungs, from materials left by the late William White, M. D., F. A. S., and now publiſhed by A. Hunter, M. D., F. R. SS. Lond. & Edin.

A view of the diſeaſes of the army in Great Britain, America, and the Weſt Indies, and on board of King's ſhips and tranſports. By Thomas Dickſon Reide, Surgeon to the Firſt Battalion of the Firſt Regiment of Foot. 8vo, London.

An eſſay on the changes produced in the body by operations of the mind. By the late Dr Corp of Bath. 8vo, London.

A conciſe hiſtory of the Human Muſcles, carefully compared with the ſubject, collated with the Hiſtoria Muſculorum of Albinus, and with the works of ſeveral other modern anatomiſts. By Thomas Wright, Licentiate

of

of the Royal College of Surgeons, Dublin, and Superintendant of the Diſſecting Pupils. 12mo, Dublin.

An analyſis of the Mineral Waters of Tunbridge-Wells. 8vo, London.

An eſſay philoſophical and medical concerning modern Clothing. By Walter Vaughan, M. D., Phyſician at Rocheſter, Kent. 8vo, London.

Medical hiſtories and reflections. By John Ferriar, M. D., Phyſician to the Mancheſter Infirmary, and Lunatic Hoſpital. 8vo, London.

A treatiſe on the Dorſal Spaſm. By the Rev. Richard Worthington, M. D. 8vo, London.

A treatiſe on the Gout; wherein is delivered a new idea of the proximate cauſe, and conſequent means of relief. Written with a view to excite farther reſearches into the nature, and to leſſen preſent reſerve in the treatment of that diſeaſe. By Thomas Jeans, M. D. 8vo, London.

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Member of the Medical Societies of Edinburgh and London. 8vo, London.

Obſervations on Maniacal diſorders. By William Pargeter, M. D. 8vo, London.

Philoſophical Tranſactions of the Royal Society of London, for the year 1793. 4to, London.

A ſketch of a plan to exterminate the caſual Small-pox from Great Britain, and to introduce general inoculation. To which is added, a correſpondence on the nature of Variolous Contagion, with Mr Dawſon, Dr Aikin, Profeſſor Irvine, &c. By John Haygarth, M. B., F. R. S. Lond. F. R. S. & R. M. S. Ed. 8vo, London.

A treatiſe on the ſtructure, œconomy, and diſeaſes of the Liver; together with an inquiry into the properties and component parts of the bile and biliary concretions; being the ſubſtance of the Gulſtonian lectures read at the College of Phyſicians in the year 1792. By William Saunders, M. D. Fellow of the College of Phyſicians of the Royal Societies of London and Edinburgh, and Senior Phyſician to Guy's Hoſpital. 8vo, London.

Medical

Medical facts and obſervations. Volume the Fourth. 8vo, London.

Dermato-pathologia, or practical obſervations from ſome new thoughts on the pathology and proximate cauſe of the diſeaſes of the true ſkin, and its emanations the rete mucoſum and cuticle. By Seguin Henry Jackſon, M. D., Member of the Royal Medical Society of Edinburgh, Phyſician to the Weſtminſter General Diſpenſary, and to the Infirmary of St George's, Hanover-ſquare. 8vo, London.

Advice to the female ſex in general, particularly thoſe in a ſtate of pregnancy and lying-in. By John Gregg, Practitioner in Midwifery, and Surgeon to the Pauper Charity in Bath. 8vo, Bath.

Hortus Eaſtenſis, or a catalogue of exotic plants in the garden of Hinton Eaſt, Eſq; in the mountains of Linguanea, in the iſland of Jamaica, at the time of his deceaſe. 4to, Kingſton.

Surgical and phyſiological eſſays. By J. Abernethy, Profeſſor of Anatomy to the Corporation of Surgeons, Aſſiſtant-Surgeon to St Bartholemew's Hoſpital, and Lecturer in Anatomy and Surgery. 8vo, London.

Nature

Nature and effects of emetics, purgatives, mercurials, and low diet, in diſorders of Bengal and ſimilar latitudes. By John Peter Wade, M. D. of the Honourable Eaſt India Company's Bengal eſtabliſhment. 8vo, London.

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Botanical Society of Ratiſbon. 8vo, Erlangen.

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Dissertationes Medicæ Inaugurales, quas ex auctoritate Reverendi admodum viri Gulielmi Robertſon, SS. T. P. Academiæ Edinburgenæ Præfecti, nec non ampliſſimi Senatus Academicæ conſenſu et nobiliſſimæ Facultatis Medicæ decreto, pro gradu Doctoris, ſummiſque in Medicina honoribus rite et legitime conſequendis, Eruditorum examini ſubjecerunt, ad diem 24tum Junii 1793.

Carter Berkeley, Virginienſis, *De Corpore Humano.*

Joannes Begg, Jamaicenſis, *De Dyſenteria.*

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DISSERTATIONES MEDICÆ EDINBURGENÆ, ad diem 12mum Septembris 1793.

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Joannes Gamble, Hibernus, *De Rheumatiſmo.*

Carolus Alexander Graham, Scotus, *De Calorico.*

Robertus Rogers Lowry, Hibernus, *De Aſcite.*

Joannes Maharg, Hibernus, *De Dyſpepſia.*

Joannes Maculloch, ex Inſula Guernſey, *De Igne Electreo.*

Daniel Mills, A. B., Hibernus, *De Ictero.*

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Gerardus Reumont, Aquiſgranenſis, *De Aſcite.*

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Joannes Irvine Troup, Marylandinenſis, *De Lumbricis.*

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