Surgeon's Royal 1819

MEDICAL COMMENTARIES,

FOR THE YEARS 1783-84.

EXHIBITING

A CONCISE VIEW OF THE LATEST AND MOST IMPORTANT DISCOVERIES IN MEDICINE AND MEDICAL PHILOSOPHY.

COLLECTED AND PUBLISHED

BY

ANDREW DUNCAN, M. D. F. R. & A. S. Ed.

PHYSICIAN TO HIS ROYAL HIGHNESS THE PRINCE OF WALES FOR SCOTLAND,
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH, AND MEMBER OF THE ROYAL SOCIETIES OF MEDICINE OF PARIS, COPENHAGEN, EDINBURGH, *&c.*

Neglecta reducit, ſparſa colligit, utilia ſelegit, neceſſaria oſtendit, ſic utile. BAGLIVIUS.

VOLUME NINTH.

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M,DCC,LXXXV.

TO HIS ROYAL HIGHNESS

GEORGE AUGUSTUS FREDERIC

PRINCE OF GREAT BRITAIN AND WALES,

PRINCE AND STEWARD OF SCOTLAND,

&c. &c. &c.

This Volume is with reſpectful humility inſcribed,

As a firſt public acknowledgement,

Although inadequate expreſſion of gratitude,

For the high honour derived

From the rank held in his R. Highneſs's houſehold,

By his faithful

And devoted ſervant,

ANDREW DUNCAN.

PREFACE.

WHEN I preſent to the public this ninth volume of Medical Commentaries, it may not be improper to mention, that I have already made conſiderable progreſs in the collection of materials for the tenth. I hope, therefore, that I may be able to publiſh it by the beginning of the enſuing year. As this, however, will not altogether depend upon myſelf, I cannot omit the preſent opportunity of ſoliciting farther aſſiſtance. I am perſuaded, that there are few intelligent obſervers, to whom, during the courſe of extenſive practice, facts do not frequently occur which afford uſeful inſtruction to themſelves. Have they not therefore reaſon to believe, that they may be alſo inſtructive to others? And, upon ſerious reflection, will they not be diſpoſed to conſider themſelves as in ſome degree to blame, if, either from indolence, or even from ſome leſs culpable motive, ſuch facts are with-held from the public?

I am far from pretending to be an advocate for the excellence of every thing contained in this

this publication; and I well know, that my readers are not unanimous in their judgment upon the comparative merit of different articles. Even the moſt rigid critic, therefore, will, I truſt, excuſe me, if I have here given a place to what may not merit any high degree of his approbation, ſince a very different opinion may be formed of it by others. And to thoſe whoſe communications I have withheld from the public, I hope it will be a ſufficient apology, that the ſuppreſſion of them has not proceeded from partial or improper motives.

Excluſive of that information which they who have not leiſure for extenſive reading, or ready acceſs to public libraries, may derive from the analyſis of new books, I am convinced, that no candid reader can peruſe the original obſervations which the preſent volume contains, without receiving an ample reward for his labour. While I can lay claim only to the humble merit of being inſtrumental in bringing theſe important obſervations to light, he muſt conſider himſelf as indebted for the inſtruction which he receives, to thoſe who have favoured me with ſuch communications. It is by ſimilar aſſiſtance alone that ſucceeding volumes can be rendered

dered valuable. And I muſt alſo beg leave to add, that they who may hereafter favour me with important obſervations, will not only do an eſſential ſervice to the public, but alſo confer a ſingular obligation

On their moſt obedient ſervant,

ANDREW DUNCAN.

EDINBURGH,
Jan. 1. 1785.

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MEDI-

MEDICAL COMMENTARIES.

SECT. I.

Account of New Books.

I.

Obſervations on the Structure and Functions of the Nervous Syſtem, illuſtrated with Tables. By Alexander Monro, *M. D. Preſident of the Royal College of Phyſicians, and Profeſſor of Phyſic, Anatomy, and Surgery, in the Univerſity of Edinburgh. Folio,* Edinburgh.

A Great part of the elaborate work now before us, conſiſts of tables, and the explanation of theſe. Any analyſis, therefore, which we can here give, muſt convey to our readers but

an imperfect idea of its contents; and, for the information to be obtained from the different figures, we must refer them entirely to the work itself. We shall here content ourselves with giving a short account of the principal observations which Dr Monro has offered, and particularly of those opinions which are peculiar to himself.

In a short introduction, he mentions the importance of an exact knowledge of the structure and functions of the nervous system, both to the philosopher and the physician, and he observes, that this system consists of the brain, cerebellum, medulla oblongata, medulla spinalis, and the nerves with their ganglia. Of each of these parts he proposes to treat in order.

He sets out with offering some observations on the circulation of the blood within the head. After taking notice of the different causes mentioned by authors, tending to diminish the force of the blood sent to the brain and cerebellum, he observes, that this intention of nature appears most evidently in the ruminating animals. For he finds that a substance connected with the internal carotid artery, called by Galen the *rete mirabile*, and which has since been named, by other anatomists, *plexus vasorum et fibrarum usus incogniti*,

incogniti, conſiſts entirely of a diviſion of the artery into ſmall ſerpentine branches, which are afterwards collected into a trunk, and divided nearly as in the human ſubject.

The quantity of blood which circulates in the brain, does not, he thinks, ſo far exceed the quantity circulated in other parts, as was ſuppoſed by Dr Haller. On a juſt compariſon, not above one tenth of the whole maſs is circulated within the head; which, however, is nearly four times more than, in general, is circulated in the reſt of the aortic ſyſtem. Notwithſtanding the ſize of the lateral ſinuſes, and their continuation in the internal jugular veins, he thinks, that the venous trunks within the head are not much, if at all larger, than veins are with reſpect to correſponding arteries in other bowels, as the kidneys, ſpleen, *&c.*

After pointing out the primary uſes of the ſinuſes, and the ſtructure connected with theſe, as tending to ſecure regular circulation within the brain, and to prevent rupture, he obſerves, that, as the ſubſtance of the brain, like that of moſt other ſolids of our body, is nearly incompreſſible, the quantity of blood within the head muſt be the ſame, or very nearly the ſame, at all

times, whether in health or diſeaſe, in life, or after death, thoſe caſes only excepted in which water, or other matter, is effuſed or ſecreted from the blood-veſſels; for in theſe, he obſerves, that a quantity of blood, equal in bulk to the effuſed matter, will be preſſed out of the cranium. From this, however, he obſerves, it does not follow, that every individual veſſel within the head is conſtantly of the ſame ſize, or that, at all times, it contains the ſame quantity of blood; nor does it follow, that opening the arteries and veins on the outſide of the head can be of no ſervice in the cure of inflammation, apoplexy, or other diſeaſes of the brain. On the contrary, he thinks that the leſs compreſſible we ſuppoſe the ſubſtance of the brain to be, the more readily we underſtand how the whole of it may be affected by a plethora, or increaſed momentum of the blood, or how a particular part of it may be injured by inflammation or extravaſation of the blood, or by any other cauſe of preſſure on its ſubſtance.

In animals, however, killed by hanging, death, he obſerves, is not owing chiefly to the preſſure on the veſſels of the brain, but depends on the ſtoppage of reſpiration. This he thinks is proved

by

by the following experiment: He cut a large hole in the trachea of a living dog, and then ſuſpended him for three quarters of an hour by a rope fixed about his neck, above that hole. This neither killed him, nor deprived him either of ſenſe or motion. He afterwards ſuſpended him, for a quarter of an hour, by a rope fixed under the hole. From this he became inſenſible, and did not recover.

After ſome obſervations on the membranes of the brain and cerebellum in general, and on the communication of the ventricles with each other, as deſcribed by other authors, he next proceeds to give an account of the communication of the ventricles as obſerved by himſelf. But a mere deſcription of theſe communications, without the aid of plates, would be almoſt, if not altogether, unintelligible. It is ſufficient, therefore, here to obſerve, that he gives a clear demonſtration, that, contrary to the opinion of moſt anatomiſts, the four ventricles do communicate with each other, and that they do not communicate with the cavity of the ſpinal marrow, as Dr Haller had ſuppoſed.

Without pretending to have yet been able to demonſtrate valvular lymphatic abſorbent veſſels

in the brain of men or quadrupeds, yet, from various reaſons which he mentions, particularly from his having diſcovered them in the brain of fiſhes, he has no heſitation in concluding, that abſorption within the head, is in all animals performed, as elſewhere, by the lymphatic ſyſtem. And he is of opinion, that the proof of this will be fully eſtabliſhed, by accurate attention to thoſe diſeaſes in which acrid matter is collected within the cranium, or by proper experiments made on living quadrupeds, with colouring or ſtrong ſcented ſubſtances, poured into the cavity of the cranium.

Contrary to the opinion of ſeveral eminent authors, Dr Monro is fully convinced, that the infundibulum is not a ſolid imperforated body, but is a hollow membranous tube, painted with many veſſels; and, from conſidering that it is a hollow tube connecting the ventricles of the brain to the glandula pituitaria, that this gland reſembles very much, in conſiſtence and colour, the lymphatic glands; and, finally, that lymphatic veſſels, when they reach their proper glands, divide within them into exceedingly minute branches, there ſeems to be reaſon for ſuppoſing, that the

glandula

glandula pituitaria performs an office ſimilar to that of a conglobate gland.

The cineritious ſubſtance of the brain, Dr Monro obſerves, is not merely cortical. For, as we conſtantly obſerve, that ſuch parts as are cineritious without, are medullary within, ſo Dr Monro thinks we may invert the propoſition, and remark, that, if any tubercle is medullary on the outer ſide, we ſhall, for certain, find cineritious matter within it; and, by a good injection with vermilion, this deep ſeated cineritious matter may be made as red as the cortical; but the moſt ſucceſsful injection is far from ſhewing that it is entirely compoſed of veſſels. Dr Monro, however, admits, that he has not, in any animal, been able to obſerve in it regularly ſhaped bodies, which might be ſuppoſed glandular.

From ſeveral obſervations on the origin and formation of the nerves, on the ſtructure of the ſpinal marrow, on the pia mater, and on the colour and texture of the nerves, Dr Monro is led to conclude, that a ſmall portion only of the brain, eſpecially of the human, is elongated in order to form the nerves and ſpinal marrow; that the reſt of it, as a medium between the li-

ving principle and other parts of the body, performs offices which are proper to it; that the oppoſite ſides of the encephalon are joined by bundles of fibres, which is probably the cauſe of the general ſympathy of nerves; that the right and left ſides of the ſpinal marrow are leſs intimately connected than is commonly imagined, which is probably the cauſe why one ſide of the body is often much palſied, whilſt the other preſerves its powers unimpaired; and, laſtly, that our nerves, independently of the encephalon, poſſeſs an energy which they derive from their proper pia mater and its veſſels; a circumſtance which, in palſy, and other nervous diſeaſes, ſhould lead us not to confine our attention entirely to the ſtate of the encephalon, the ſuppoſed ſole origin of the nerves, but to attend to the ſtate of circulation in the limbs affected.

Having conſidered the general texture of the brain, cerebellum and ſpinal marrow, and endeavoured to ſhew, that the nerves are not only covered with the pia mater, but that it furniſhes to them, in their whole progreſs, a cineritious ſubſtance, and nervous energy; and further, that the pia mater is not laid aſide, in the retina, or within the cochlea, nor at the extremities

mities of the nerves in general, as has been univerſally ſuppoſed by authors, Dr Monro next proceeds to give a particular deſcription of the appearance of the nerves in their courſe, of the nature of their plexuſes, of the ſtructure of nervous ganglia, and of certain ſpheroidal bodies connected with the brain and nerves of ſome animals.

It has been the common opinion of authors, that the nerves are the continuation of the medullary ſubſtance of the brain, cerebellum, or ſpinal marrow, collected into cords, which conſiſt of longitudinal fibres, laid parallel to each other. But Dr Monro aſſerts, that when, in any of the four claſſes of large animals, we view the nerves carefully with the naked eye, or with a common magnifying glaſs, they appear to conſiſt of a ſemipellucid ſubſtance, in which a more white, and opaque fibrous looking matter, ſeems to be diſpoſed, in tranſverſe and ſerpentine lines. When the nerve is fully relaxed, theſe ſerpentine tranſverſe lines are beſt ſeen. When it is moderately ſtretched, they are leſs evident. But when it is greatly ſtraitened, it appears uniform in its colour and conſiſtence. Theſe lines, he thinks, are therefore to be conſidered as folds

or

or joints in the nerve, ſerving to accommodate it to the different ſtates of flexion; and they ſeem alſo intended to increaſe the ſurface of the nerves, and the extent of their pia mater.

From accurate examination of the plexuſes of nerves, Dr Monro has found, that in theſe, the different trunks were intermixed, and that every nerve under the plexus conſiſted of fibres of all the nerves which were tied together above its origin, from the plexus. He has alſo found, that ſmall branches, which come off beyond the union of two larger nerves, conſiſt of fibres from both; and even that in the whole extent of the nervous ſyſtem, the ſubordinate cords, of which particular nerves conſiſt, form, within their proper ſheaths, a ſucceſſion of plexuſes, in which their fibrils are intermixed and combined.

When we cut a ganglion, Dr Monro obſerves, that we are ſo far from finding the courſe of the nerves to be interrupted within it, or its ſubſtance to be totally different from the nerves that enter it, that we are able to trace, in every part of the ganglion, nerves diſtinguiſhable by ſuch folds or joints, as are ſeen in them in all other places; and ſince the nerves, which iſſue from

from a ganglion, are more bulky than the nerves which enter it, there is juſt reaſon to ſuppoſe, that nervous matter is furniſhed by the ganglia. He is therefore, upon the whole, of opinion, that the nerves which iſſue from ganglia, are formed by a combination of threads, from many ſources, and that the nerves, in their courſe through a ganglion, receive new nervous energy from the vaſcular matter of the ganglion.

After theſe obſervations on ganglia, Dr Monro gives an accurate deſcription of certain ſpheroidal bodies, which, in ſome animals, make a part of the nervous ſyſtem: theſe are found in fiſhes of the genus of gadus, particularly in the cod, the whiting, and the haddock. Dr Monro at firſt ſuppoſed, that they might ſupply the place of ganglia, which he found wanting at the roots of their ſpinal nerves. But to this, he conſiders it as an objection, that in other fiſhes there is a ſimilar defect of ſuch ganglia. He has no doubt, however, that they muſt ſerve ſome office of high importance; and he thinks, that an accurate compariſon with other kinds of fiſhes, and with other animals, may ſerve to throw light on the nature of the nervous energy.

In

In the ſucceeding chapter, Dr Monro deſcribes and delineates ſeveral principal nerves which had not been properly traced by authors; particularly, the termination of the olfactory nerves in the noſe, and of the portio molis on the membrane of the cochlea and ſemicircular canals of the ear, where it forms a moſt elegant plexus, hitherto unknown to anatomiſts. He next makes ſome remarks on the appearance of the nerves, viewed with the microſcope. For this purpoſe, he employed a compound microſcope, which increaſed the diameter of objects 146 times; and he illuminated the object by the light of the ſun, reflected from a plain or concave mirror. He was much ſurpriſed to obſerve, that by the aid of this inſtrument, the ultimate fibres of nerves appeared to be ſerpentine and convoluted, very much reſembling the winding of the ſeminal ducts, in the teſticle or epidydimis; and when he applied the microſcope to the medullary ſubſtance of the brain, nay to the bones, the teguments, and even the hairs of the body, he was aſtoniſhed to find in all a ſimilar appearance. Of theſe appearances he delivered a particular account in his lectures, and illuſtrated this account by numerous drawings.

It

It was but natural to ſuppoſe, from the great number of pupils who attended his lectures, that his obſervations, with reſpect to theſe appearances, would ſoon become a general topic of converſation. To gratify, therefore, the curioſity of the public, thus excited, as well as to contradict very erroneous and ridiculous repreſentations of this matter, which were circulated, we thought it might not be improper to give a ſhort account in the Medical Commentaries, of the appearances which he had deſcribed. And although this was drawn up, without any requeſt on the part of Dr Monro, yet he was ſo obliging as to peruſe the manuſcript, and to correct it before it went to the preſs. The account which is there given, may then be conſidered as no unfair repreſentation of his ſentiments on this ſubject in the year 1779. And in the work before us, Dr Monro mentions a variety of circumſtances which led him to conclude, that it was real. But to theſe he has now added ſeveral particulars, which ſoon after this led him to ſuſpect, and at laſt to conclude, that it was entirely an optical deception. He has, however, given ſeveral tables, each containing a variety of figures, repreſenting what he now takes to be optical deceptions;

ceptions; and the reaſons which he aſſigns for doing ſo are, that theſe appearances produced by the microſcope, are ſo extremely regular and diſtinct, as to be very apt to miſlead; that they have eſcaped the obſervation of authors, and that the conſideration of the cauſes of them may tend to throw ſome light on the ſcience of optics.

In treating of the nature of the nervous energy, Dr Monro offers ſome obſervations on the opinion which ſuppoſes, that it is ſimilar to the electrical fluid. He concludes with obſerving, that we are far from poſſeſſing poſitive arguments that the nerves operate by this medium. And to ſay, he adds, that the offices of the nerves are not performed by a ſecreted fluid, merely becauſe we cannot comprehend how any part of the blood, or any humour prepared from it, could render the mind ſenſible of an injury, or throw a muſcle into action, is ſaying a great deal too much. For in the generation of animals, effects more incomprehenſible and aſtoniſhing ſeem to depend on the ſecretion and mixture of the fluids of the teſtes, and ovaria; the brain, the nerves, the nervous energy, and the complex

plex fabric of other organs being thereby produced.

It is almoſt univerſally allowed, that by the medium of the nerves, we feel, and are enabled to perform motion. But, beſides this, it has alſo been ſuppoſed, that they contain the matter by which the body grows, and is nouriſhed. After entering at conſiderable length into the conſideration of this hypotheſis, after attempting to refute the arguments which have been urged in ſupport of it, and to eſtabliſh a contrary hypotheſis, Dr Monro concludes, with obſerving, that, in his opinion, few points in phyſiology are ſo clear, as that the arteries prepare and directly ſecrete the nouriſhment, in all our organs; and that the nerves do neither contain, nor conduct nouriſhment, though by enabling the arteries to act properly, they contribute indirectly to nutrition.

Although it be very evident, that ſenſation, when accompanied with conſciouſneſs, takes place only while there remains a free connection between the part injured and the ſenſorium, by the intervention of the nerves, yet in conſequence of wounds to muſcular organs, ſoon after they are amputated, effects follow, which

Dr

Dr Monro thinks cannot be accounted for on mechanical principles. Thus, a ſlight puncture of the heart of a frog, ſeparated from its body, throws all the fibres of that heart into violent motion. This cauſe, he thinks, is ſo diſproportionate to its effects, as to lead us to ſuppoſe, that ſome living principle has been influenced; and he is inclined to conjecture, that there may be two kinds of feeling, one with, and another without conſciouſneſs; the latter perhaps reſembling that kind of feeling which we muſt ſuppoſe inherent in vegetables, and in conſequence of which, their veſſels are ſo actuated, as to produce ſtill more numerous and wonderful changes on the fluids they convey and ſecrete, than are obſerved even in the animal kingdom.

It is the opinion of ſome eminent phyſiologiſts, that muſcular fibres are the continuation of nerves, or are formed by them. Thus, they have of late been called *the moving extremities of the nerves*. But, from ſeveral circumſtances, Dr Monro concludes, the muſcles, or muſcular fibres, are organs ſui generis, not produced by nerves, but merely influenced by the energy they convey. This, however, he obſerves, ſhould, in no degree, lead us to adopt the idea

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of Dr Haller, that muſcles, beſides being thrown into action by the vis nervea, do alſo act by a vis inſita, differing from, and unconnected with this vis nervea. On the contrary, our author relates ſeveral experiments, from which it appears, that the ſuppoſed vis inſita is deſtroyed and excited, by the ſame means as the vis nervea; from which it ſeems clearly to follow, that there is no juſt ground for ſuppoſing, that any other principle, excepting the vis nervea, is concerned in producing the contraction of a muſcle.

In the laſt chapter of the work before us, Dr Monro conſiders the manner and cauſes of the actions of muſcles. On this ſubject, he gives a brief enumeration of the chief ſpontaneous motions of animals; and he proves by many arguments, that we are not to explain, from connection of nerves, the regular motions of our different organs, produced by gentle and uſual ſtimuli, ſuch as the action of the iris, alimentary canal, heart, *&c.* Upon the whole, he thinks it appears, that theſe actions are not to be accounted for, on the yet known principles of mechaniſm; that the muſcular fibre varies its operation, according to the purpoſe to be ſerved; and that the more we conſider the various ſpon-

taneous operations, the more fully ſhall we be convinced, that they are the beſt calculated for the preſervation and well-being of the animal. When we throw into the ſcale, the various effects of what has commonly been called the inſtinct of animals, does it not, ſays he, appear, that the moſt juſt, as well as moſt becoming concluſion we can draw, is, that the power which created all things, which gave life to animals, and motion to the heavenly bodies, continues to act upon, and to maintain all, by the unceaſing influence of a living principle, pervading the univerſe, the nature of which, our faculties are incapable of duly comprehending.

II.

II.

First Lines of the Practice of Physic. By William Cullen, *M. D. Professor of the Practice of Physic in the University of Edinburgh, first Physician to his Majesty for Scotland, Fellow of the Royal College of Physicians of Edinburgh, and of the Royal Societies of London, Edinburgh,* &c. *Vols. 3d and 4th.* 8*vo.* Edinburgh.

IN former parts of our work, we have given a pretty full analysis of the first and second volumes of Dr Cullen's First Lines. We now proceed to give some account of the principal doctrines contained in the third and fourth volumes, which have lately been published. Having, in the two former volumes, treated of these affections which he refers to the general class of pyrexiæ, or febrile diseases, Dr Cullen proceeds in the third volume, to treat of his second class, the neuroses or nervous diseases. In a certain view, he observes, all diseases might be termed nervous. But, under this title, he

here comprehends thoſe preternatural affections of ſenſe or motion which are without pyrexia, as a part of the primary diſeaſe, and all thoſe which do not depend upon a topical affection of the organs, but upon a more general affection of the nervous ſyſtem, and of thoſe powers on which ſenſe and motion more eſpecially depend. This claſs he divides into four orders, under the titles of comata, or ſoporoſe diſeaſes; adynamiæ, or diſeaſes conſiſting in a weakneſs or loſs of motion in either the vital or natural functions; ſpaſmi, or ſpaſmodic affections; and veſaniæ, or diſorders of the intellectual functions. And he treats in order of different genera referred to each of theſe.

The firſt diſeaſe which he conſiders under the comata, is apoplexy. In this diſeaſe, he obſerves all the external and internal ſenſes, and all the voluntary motions, are in ſome degree altered, while reſpiration and the action of the heart continue. By the affection of all the powers of ſenſe, he thinks it may be diſtinguiſhed from palſy, and by the continuance of reſpiration from ſyncope. He holds the proximate cauſe of this diſeaſe to be, in general, whatever interrupts the motion of the nervous power,

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from the brain to the muſcles of voluntary motion, or from the ſentient extremities of the nerves to the brain. And this, he thinks, may be occaſioned either by ſome compreſſion of the origin of the nerves, or by ſomething deſtroying the mobility of the nervous power. The chief cauſes of compreſſion are, according to our author, blood accumulated in the veſſels of the brain, or fluids effuſed within the cranium. And, he thinks, that there is ſome foundation for the common diſtinction of this diſeaſe into the ſanguine and ſerous, though it cannot be uſefully applied in practice, as both kinds often depend on a venous plethora, and therefore require very nearly the ſame method of cure. Among the cauſes exciting apoplexy, by deſtroying the mobility of the nervous power, he enumerates mephitic air, metallic fumes, opium, alcohol, and many other narcotic poiſons.

Apoplexy, he thinks, may often be prevented, by avoiding the remote and exciting cauſes, but more eſpecially by obviating the prediſponent cauſe, which, in moſt caſes, is, he imagines, a plethoric ſtate of the blood-veſſels of the brain. Beſides moderate exerciſe, low diet, gentle laxatives and occaſional blood-letting, where

there are manifeſt ſigns of a plethoric ſtate in the veſſels of the head, he recommends a ſeton, or pea-iſſue, near the head. When the diſeaſe has taken place, the patient muſt be kept as much as poſſible in an erect poſture, and in cool air. Where there are marks of plethora, blood-letting is to be immediately, and very largely employed, purging is to be attempted by acrid glyſters, and bliſters are to be applied to the head, which our author ſuppoſes to be chiefly uſeful, from taking off the hæmorrhagic diſpoſition ſo often prevailing there. Vomiting, which is recommended by ſome practitioners, our author has never employed; and notwithſtanding the almoſt univerſal uſe of ſtimulants, he is diſpoſed to think them generally hurtful, at leaſt wherever the fulneſs of the veſſels, and the impetus of the blood in them, requires to be diminiſhed. He allows, however, that when evacuations have been made by blood-letting and purging, ſtimulants may be employed with more probability of ſucceſs and ſafety, in apoplexy ariſing from thoſe cauſes which directly deſtroy the mobility of the nervous power; and he recommends, as one of the moſt effectual means of rouſing apoplectics of this kind, the throw-

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ing cold water on different parts, and waſhing the body all over with it.

In the ſecond chapter, Dr Cullen treats of palſy; a diſeaſe which he conſiders as conſiſting in the loſs of the power of voluntary motion, and as diſtinguiſhable from apoplexy, by its affecting certain parts of the body only. He views all proper palſy as depending on interrupted influx of the nervous power. This he thinks may ariſe from an affection of the nerves, either at their origin, or in ſome part of their courſe; and compreſſion giving interrupted influx may ariſe from tumour, over-diſtenſion or effuſion.

In the treatment of palſy, Dr Cullen conſiders it as an object of great conſequence, to determine whether ſtimulants ought to be employed or not. He is of opinion, that they are dangerous in all caſes ſucceeding a paroxyſm of complete apoplexy, in all caſes where it affects patients of large heads, ſhort necks, and corpulent habits, and in all caſes which come on with apoplectic ſymptoms. On the contrary, they are chiefly uſeful, where the diſeaſe has ſubſiſted for ſome time, when ſymptoms giving ſuſpicion of compreſſion are removed, and when it

is known that narcotic powers have been applied. Where ſtimulants are not to be employed, the cure of palſy, particularly in the beginning, is very nearly the ſame with that of apoplexy.

Where ſtimulants are proper, they have been employed both externally and internally; and the external ſtimulants may be uſed either to affect the part to which they are particularly applied, or the whole ſyſtem. Of the firſt kind are concentrated acids of vitriol and nitre, or volatile alkaline ſpirits, involved in oily or unctuous ſubſtances, ſtrong ſolutions of ſea ſalt, eſſential oils of aromatic plants, eſſential oils of turpentine, or other reſinous ſubſtances, diſtilled oils of amber, or other bituminous foſſils, rectified empyreumatic oils, various vegetable acrids, particularly muſtard, and acrid matter found in ſome inſects, as cantharides. As ſuch, may alſo be enumerated ſtinging with nettles, and mechanical friction. The external ſtimulants affecting the whole ſyſtem, are the powers of heat, of cold, and of electricity. The internal ſtimulants chiefly employed in palſy, are the volatile alkaline ſalts, acrid vegetables, particularly thoſe of the claſs of tetradynamia, various aromatics,

aromatics, reſinous and terebinthinate ſubſtances, fœtid antiſpaſmodic medicines, bitters and the Peruvian bark. From the three laſt, however, he remarks, that he has never been able to obſerve any good effects. And indeed, with reſpect to the whole internal ſtimulants, he is of opinion, that they ſeldom prove very powerful, that they are often ambiguous, and may readily do harm.

After apoplexy and palſy, Dr Cullen next proceeds to treat of his ſecond order of the neuroſes, which he ſtyles Adynamiæ, or diſeaſes conſiſting in a weakneſs or loſs of motion, in either the vital or natural functions. Under this order he conſiders three genera, ſyncope or fainting, dyſpepſia or indigeſtion, and hypochondriaſis or low ſpirits.

In ſyncope, the pulſe and reſpiration become conſiderably weaker than uſual, or for a certain time theſe functions altogether ceaſe. He thinks all the remote cauſes of this diſeaſe may be referred to two general heads. 1*ſt*, Thoſe exiſting and acting in the brain, or in parts of the body remote from the heart, but acting upon it by the intervention of the brain; and, 2*dly*, Thoſe exiſting in the heart itſelf, or in parts very

very immediately connected with it, and thereby acting more directly in producing this diſeaſe. When the diſeaſe depends on an organic affection of the heart, or large veſſels, Dr Cullen conſiders it as being in general incurable. In other caſes, ſyncope, he obſerves, may in general be cured, by avoiding the occaſional cauſes, and by correcting debility and mobility of the ſyſtem, which he conſiders as being the circumſtance principally giving prediſpoſition to this diſeaſe.

After ſyncope, Dr Cullen next treats of dyſpepſia, an affection well known in common language under the title of ſtomach complaints. Though the ſymptoms of this diſeaſe are numerous, and conſiderably diverſified, yet, when they occur as an idiopathic affection, he conſiders the proximate cauſe to be an imbecillity, loſs of tone, and weaker action in the muſcular fibres of the ſtomach. He admits, however, that a change in the quantity or quality of the fluids employed in digeſtion, may produce a conſiderable difference in the phænomena of that function. In this diſeaſe, the preſervative cure depends on avoiding the remote cauſes which tend to induce it, the palliative, in removing

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thoſe ſymptoms which eſpecially contribute to aggravate the diſeaſe, and the curative, in reſtoring the tone of the ſtomach. After pointing out the means of obviating crudities of the ſtomach, indicated by the eructation of imperfectly digeſted matters, acidity, and coſtiveneſs, which he conſiders as the three moſt diſtreſſing ſymptoms, he next proceeds to conſider the means of reſtoring the tone of the ſtomach. There are ſome medicines, he obſerves, which as affecting this, act directly and chiefly on the ſtomach itſelf; there are others, which, operating on the whole ſyſtem, have their tonic effects thereby communicated to the ſtomach. The medicines operating in the former way, are ſtimulants, either ſaline or aromatic, and tonics, as various bitters, aſtringents, and chalybeates. The remedies again which chiefly ſtrengthen the ſtomach, by being applied to the whole body, are exerciſe and cold. And, from the advantage which reſults from the combination of theſe two, no exerciſes within doors are ſo uſeful as thoſe in the open air.

In the ſucceeding chapter, our author treats of the hypochondriac affection, commonly called vapours or low ſpirits. Where vapours and ſtomach

mach complaints occur in the ſanguine temperament. Dr Cullen thinks that it ſhould ſtill have the appellation of dyſpepſia; but, to the combination of dyſpepſia and vapours, in melancholic temperaments, he is of opinion that the appellation of hypochondriaſis is to be ſtrictly applied. But, as a ſtill further means of diſtinguiſhing theſe diſeaſes, he obſerves, that dyſpepſia often appears early in life, while hypochondriaſis is uſually in more advanced years only; that, in the former, the affection of the mind is often abſent, perhaps always ſlight; in the latter it is more conſtant and ſevere, while the affections of the ſtomach are often abſent; and, laſtly, that dyſpepſia is a frequent, hypochondriaſis a much more rare diſeaſe.

From theſe differences between dyſpepſia and hypochondriaſis, notwithſtanding the ſimilarity of the ſtomach ailments, the practice, Dr Cullen thinks, muſt be conſiderably different. And accordingly, while in dyſpepſia the chief remedies are tonic, theſe, he thinks, are neither ſafe nor neceſſary in hypochondriaſis. For, in this, there is not a loſs of tone, but a want of activity, to be remedied. He admits, however, that chalybeate mineral waters, and cold bathing,

ing, have often been employed in hypochondriaſis, ſeemingly with ſucceſs. But he adds, that warm bathing, hurtful to the dyſpeptic, is often extremely uſeful to the hypochondriac, which is alſo the caſe, he obſerves, with the drinking tea and coffee.

Exerciſe, as it excites the activity of the ſtomach, proves a powerful remedy in hypochondriaſis. But it is here ſtill more uſeful by its operation on the mind; and the treatment of the mind, in hypochondriaſis, he conſiders as an object of the utmoſt importance. Hypochondriacal patients are neither, he obſerves, to be treated by raillery nor reaſoning, but the cure chiefly depends on the interruption of their attention, or upon its being diverted to other objects than their own feelings. Buſineſs ſuitable to their circumſtances, if neither attended with emotion, anxiety, nor fatigue, is to be enjoined; and where this cannot be accompliſhed, various kinds of ſports, as hunting, and all amuſements in the open air, joined with moderate exerciſe, are generally of uſe. Within doors, company which engages attention, and play, in which ſkill is required, may often be employed with advantage. Where other amuſe-

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ments are rejected, mechanical means of interrupting thought are to be ſought for. This is chiefly to be obtained, by riding on horſeback, by ſailing in an open boat, by driving quickly in a carriage on rough roads, and the like. And exerciſe of all kinds will be moſt effectually employed, he obſerves, in the purſuit of a journey.

The third order of nervous diſeaſes in Dr Cullen's ſyſtem are the ſpaſmodic affections. To this head he has referred a conſiderable number of different genera, which has led him to divide them into ſpaſmodic affections of the animal, the vital, and natural functions. Under the firſt he treats of tetanus, epilepſy, and chorea: Under the ſecond he conſiders palpitation of the heart, dyſpnœa, aſthma, and hooping-cough; and, under the third, pyroſis, colic, cholera, diarrhœa, diabetes, hyſteria, and canine madneſs. Without endeavouring to detail what he has ſaid reſpecting each, we ſhall attempt to give ſome view of his ſentiments reſpecting the principal of theſe affections.

He conſiders epilepſy as conſiſting in convulſions of the greater part of the muſcles of voluntary motion, attended with a loſs of ſenſe, and

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ending in a ſtate of inſenſibility, and ſeeming ſleep. With reſpect to the proximate cauſe of this diſeaſe, he thinks he might ſay, that it is an affection of the energy of the brain, which, ordinarily under the direction of the will, is here, without any concurrence of it, impelled by preternatural cauſes. But he obſerves, that he can go no farther. The occaſional cauſes of the diſeaſe, may, however, he thinks, be referred to two general heads, thoſe which act by ſtimulating and exciting the energy of the brain, and thoſe which act by weakening it. The firſt may either act immediately and directly on the brain itſelf, or be communicated to the brain when applied to other parts of the body. Of the former kind are mechanical ſtimulants, chemical ſtimulants, mental ſtimulants, and the peculiar ſtimulus of over-diſtenſion. Of the latter kind are all impreſſions on remote parts, exciting an exquiſite degree either of pleaſure or pain. Among the cauſes which induce epilepſy, by weakening the energy of the brain, Dr Cullen enumerates hæmorrhagy, terror, horror, the influence of certain odours, and the operation of particular poiſons. As an occaſional cauſe of epilepſy, different from all theſe, he mentions, in the laſt place,

place, that peculiar one, whoſe operation is accompanied with what is called the aura epileptica. It is natural, he thinks, to imagine, that this peculiar ſenſation, beginning at a particular part, is an evidence of ſome irritation, or direct ſtimulus, acting in that part, and from thence communicated to the brain; but the remarkable difference which occurs, in ſeemingly like cauſes producing tetanus, gives ſome doubt on the ſubject.

As theſe occaſional cauſes, while they induce the diſeaſe with ſome, have no influence on others, it is evident that, in order to their action, a certain prediſpoſition is required. And this prediſpoſition, our author thinks, conſiſts in a certain degree of mobility. But, beſides this, a diſpoſition to the diſeaſe ſeems to be given by ſleep. For, in many perſons, the fits happen only in the time of ſleep, or immediately on coming out of it.

In the treatment of this diſeaſe, our author obſerves, that the ſympathic and idiopathic require a ſeparate conſideration. In the firſt of theſe caſes, when the diſeaſe depends on acidity or worms in the alimentary canal, teething, or ſimilar cauſes, the primary affection muſt be removed.

moved. But, in the caſe of the aura epileptica, as the nature of the affection is not obvious, general directions only can be given. And, on this ſubject, our author obſerves, that, when the part can with ſafety be entirely deſtroyed, we ſhould endeavour to do ſo, by cutting it out, or by the application of an actual or potential cautery. When it cannot be properly deſtroyed, we ſhould endeavour to correct the morbid affection in it, by bliſtering, or by eſtabliſhing an iſſue upon the part. When theſe meaſures cannot be executed, or do not ſucceed, if the diſeaſe ſeems to proceed from the extremity of a particular nerve, which we can eaſily come at in its courſe, we muſt cut through the nerve. And, laſtly, when it cannot be perceived that the aura ariſes from any preciſe point, a ligature muſt be applied upon the limb, above the part from whence the aura ariſes. This he recommends as always proper, both becauſe the preventing of a fit breaks the habit of the diſeaſe, and becauſe frequent compreſſion, has the effect, he thinks, of rendering the nerves leſs fit to propagate the aura.

In the cure of idiopathic epilepſy, two general indications are, he thinks, to be formed. The

firſt is, to avoid occaſional cauſes, and the ſecond, to remove or correct the prediſponent. For the moſt part, the occaſional cauſes, as far as they are in our power, need only to be known in order to be avoided. But, in general, a radical cure is to be obtained only by removing or correcting the prediſponent cauſe. This, as conſiſting in a certain mobility of the ſenſorium, and depending either upon a plethoric ſtate of the ſyſtem, or upon a certain ſtate of debility in it, is to be combated in different ways. The plethoric ſtate is chiefly to be corrected by a proper management of exerciſe and diet. An abſtemious courſe, he obſerves, has frequently been found to be the moſt certain means of curing epilepſy. And the utility of iſſues in this diſeaſe, is, he thinks, to be attributed to their obviating a plethoric ſtate of the ſyſtem; though he admits, that they may alſo operate by preventing occaſional turgeſcences from acting on the brain. Blood-letting, though the moſt effectual means of correcting the plethoric ſtate of the ſyſtem, yet, as it often favours the return of plethora, is not a remedy adviſable in every circumſtance of epilepſy. But, when there is an occaſional or periodical recurrence of the

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fulneſs or turgeſcence of the ſanguiferous ſyſtem, giving occaſion to a recurrence of the diſeaſe, its effects are to be obviated by the only certain means of doing ſo, a large blood-letting.

Where debility giving mobility is owing to original conformation, it is perhaps not poſſible to cure it. Where it can be corrected, it is chiefly, Dr Cullen thinks, to be accompliſhed by being much in cool air, by the frequent uſe of cold bathing, by exerciſe adapted to the ſtrength and habits of the patient, and by the uſe of aſtringent and tonic medicines. But when debility proceeds from inanition, the ſtrength may be reſtored by a nouriſhing diet.

Among the tonics, he enumerates fear, or ſome degree of terror; and thus he accounts for the operation of ſeveral ſeemingly ſuperſtitious remedies, the influence of which, if they have ever been ſucceſsful, is, he thinks, to be attributed to the horror they had inſpired. As vegetable aſtringents, bitters, and tonics, the articles which he chiefly mentions, are the viſcus quercinus, the orange-tree leaves, and the Peruvian bark. But all theſe, he obſerves, often fail, and the metallics ſeem to be more powerful. As ſuch, he obſerves, recourſe has been had to arſenic, to pre-

parations of tin, of iron, and of zinc. But he ſeems inclined to give the preference to the preparations of copper, particularly to the cuprum ammoniacum, which, he obſerves, has of late been frequently found ſucceſsful. He remarks, however, that where the diſeaſe depends either upon a conſtant, or even occaſional plethoric ſtate of the ſyſtem, all theſe remedies are not only likely to be ineffectual, but, if ſufficient evacuations be not made at the ſame time, to be very hurtful.

The effects of great mobility in the ſyſtem, Dr Cullen obſerves, may be obviated by antiſpaſmodics. As ſuch, he mentions valerian, muſk, oleum animale, hyoſcyamus, and opium. He conſiders the laſt of theſe articles as being the moſt powerful, where the diſeaſe depends on irritation or increaſed irritability, but thinks it will prove hurtful where there is a plethoric ſtate. Antiſpaſmodics, in general, he conſiders as perhaps only uſeful when employed in the time of epileptic fits, or very near their acceſſion. And he concludes with obſerving, that, as the diſeaſe is often continued by the power of habit, a conſiderable change of climate, diet,

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and other circumſtances in the manner of life, has not unfrequently proved a cure.

Hooping-cough, which Dr Cullen ranks among the ſpaſmodic affections of the vital functions, is a diſeaſe, he obſerves, commonly epidemic, and manifeſtly contagious. And he admits, that it proceeds from a contagion of a ſingular and ſpecific quality. With reſpect, therefore, to its cauſe, it has little analogy to the other diſeaſes which he has referred to the ſame order. Its attack, he obſerves, is in general with the ordinary ſymptoms of catarrh; and, in ſome inſtances, it puts on no other form. But much more frequently, in the ſecond or third week, it acquires its peculiar and characteriſtic ſymptom, the convulſive cough, ſucceeded by hooping, and, in many caſes, terminating by expectoration or vomiting. When the diſeaſe has taken this proper form, in moſt inſtances it continues for a conſiderable time, generally from one to three months, ſometimes much longer, and attended on different occaſions with various circumſtances, which we reckon it unneceſſary to detail.

With regard to the event of this diſeaſe, our author obſerves, that the youngeſt children are

in the greateſt danger, particularly thoſe of phthiſical and aſthmatic parents; that expectoration either very ſcanty or very copious, is attended with danger, particularly if there be, at the ſame time, great difficulty of breathing; and that, in general, the danger of the diſeaſe is in proportion to the dyſpnœa and fever which attend it.

When the contagion of this diſeaſe is recent, Dr Cullen obſerves, that we neither know how to correct nor expel it; the affection, therefore, muſt neceſſarily continue for ſome time. But he thinks it probable, that the contagion at length ceaſes, though the convulſive affections continue by the power of habit. The remedies, therefore, at firſt to be employed, are ſuch as may obviate the violent effects, and fatal tendency of the diſeaſe. But, after it has continued for ſome time, the only remedies required are thoſe which may interrupt its courſe, and put an entire ſtop to it ſooner than it would have ſpontaneouſly ceaſed.

For anſwering the firſt indication, he conſiders blood-letting as being, in plethoric ſubjects, a neceſſary remedy. It is requiſite to remove coſtiveneſs by laxatives; and, for obviating inflammatory

flammatory determination to the lungs, bliſtering is often uſeful. But, of all remedies, he conſiders emetics as moſt uſeful, both by interrupting the return of ſpaſmodic affections, and by determining very powerfully to the ſurface of the body, and thereby taking off determination to the lungs. With theſe intentions, he recommends that full vomiting ſhould be frequently employed, and that nauſeating doſes of antimonial emetics ſhould be given during the intervals.

For anſwering the ſecond indication, interrupting, *viz.* the courſe of the diſeaſe after the contagion has ceaſed to act, he obſerves, that terror may poſſibly be a powerful remedy, and has frequently produced an immediate cure. But, as a high degree of it is dangerous, he thinks it is not to be employed. The remedies, therefore, which he recommends as ſuited to this indication, are antiſpaſmodics and tonics. As referable to the firſt of theſe claſſes, he mentions the uſe of caſtor, muſk, and cicuta; but he conſiders opium as being the moſt powerful. As referable to the tonics, he takes notice of the cupmoſs, and the miſsletoe, but he conſiders the Peruvian bark as the moſt certain

means of curing the diſeaſe in this ſtage. And although he admits that he has ſeen good effects from change of air, yet he obſerves, that he has never found them to be durable, or ſufficient for putting an entire ſtop to the diſeaſe.

Under the ſpaſmodic affections of the natural functions, Dr Cullen, as we have already obſerved, ranks diabetes. This diſeaſe, however, conſiſts, he allows, in voiding an unuſually large quantity of urine, which, although the thirſt be exceſſive, often exceeds the whole quantity both of liquids and ſolids taken in. Diabetic urine is always clear, but often tinged with a yellowiſh green. Examined by the taſte, it is commonly found more or leſs ſweet; and it has, by experiment, been found to contain a conſiderable proportion of ſaccharine matter, very exactly of the nature of common ſugar. And the preſence of this ſaccharine matter, Dr Cullen conſiders as the principal circumſtance in idiopathic diabetes.

With regard to the proximate cauſe, he obſerves, that ſome have ſuppoſed it to proceed from a relaxed ſtate of the ſecretory veſſels of the kidneys, and he admits, that ſuch a ſtate has been found on diſſection; but he thinks, that it

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is rather to be conſidered as the effect than as the cauſe of the diſeaſe. That a fault in aſſimulation is rather to be blamed, he concludes, from obſerving that even the ſolid food which is taken increaſes both the quantity of urine voided, and the ſaccharine matter which it contains. But this theory, he allows, is embarraſſed with many difficulties. And, as the proximate cauſe is ſo little aſcertained, he cannot propoſe any rational method of cure. On this ſubject, he the rather thinks it prudent to ſuſpend his opinion, as in all the inſtances which he has had occaſion to treat, no cure has been made, although moſt of the remedies recommended by practical writers were diligently employed.

After the ſpaſmodic affections, the next order of nervous diſeaſes which Dr Cullen proceeds to conſider, are the veſaniæ, or diſorders of the intellectual functions. He introduces this ſubject, by ſome obſervations on theſe affections in general. He limits this claſs entirely to leſions of our judging faculties; and theſe, he thinks, may be diſtinguiſhed as they affect perſons, when awake or when aſleep. Thoſe which take place in the firſt ſituation, may again be viewed, either as conſiſting in erroneous judgment, to which

which he gives the appellation of *delirium*, or in weakneſs and imperfection of judgment, which he terms *fatuity*.

Delirium, he thinks, may be defined in a perſon awake, a falſe judgment, ariſing from perceptions of imagination, or from falſe recollection, and commonly producing diſproportionate emotions. This delirium is of two kinds, either as being combined with pyrexia and comatoſe affections, or as being entirely without any ſuch combination. This latter caſe is named *inſanity*; and as it is of this affection that Dr Cullen here means to treat, he next attempts an inveſtigation of its cauſe in general. He takes it for granted, that theſe affections of mind muſt be conſidered as depending on a certain ſtate of the corporeal part of the ſyſtem, and that the part of the ſyſtem more immediately connected with mind, is the brain. But he admits, that it is a very difficult matter to diſcover thoſe ſtates of the brain which give occaſion to various ſtates of the intellectual functions. He allows, that the motion of the blood, in the veſſels of the brain, has ſome ſhare in affecting the operations of the intellect. But he thinks it is probable, that the ſtate of its functions depends chiefly on the condition

dition of the nervous power. He thinks it evident, that the nervous power in the whole, as well as in the ſeveral parts of the ſyſtem, and particularly in the brain, is at different times in different degrees of mobility and force. Where theſe are increaſed, he gives it the name of *excitement*, and where they are diminiſhed, of *collapſe*. Theſe ſtates of excitement and collapſe, he thinks, can take place, not only in different degrees, but in different parts of the brain. And from ſeveral circumſtances, he endeavours to ſhow, that delirium may be, and frequently is occaſioned by an inequality in the excitement of the brain; and he thinks it is ſufficiently evident, that the brain may be at one and the ſame time in different conditions with reſpect to the ſeveral animal, vital and natural functions.

After this explanation of the general cauſe of delirium, he proceeds next to the conſideration of that modification of it which he has termed *inſanity*. And here he obſerves, that upon diſſection, after death, it has been found, that peculiar circumſtances had taken place in the condition of the brain. While in ſome caſes it has been obſerved to be of a drier, harder and firmer

firmer conſiſtence than uſual, in others it has been in a more humid, ſoft and flaccid ſtate; and in a third ſet, conſiderably changed in its ſpecific gravity. And in ſeveral inſtances, it appears, that theſe ſtates were different in different parts of the brain, which he thinks affords a confirmation of his general doctrine. He looks upon it as probable, that ſuch organic affections may have produced different degrees of excitement in the free and affected parts of the brain, and muſt have interrupted, in ſome meaſure, the free communication between the ſeveral parts of the brain, and in either way occaſioned inſanity. But although ſo many inſtances of organic leſion in the brain have occurred in diſeaſes of this kind, that ſome phyſicians have been diſpoſed to ſuſpect they exiſt in every caſe; yet our author imagines, that this is probably a miſtake, as there are many examples of complete reconvaleſcence. He thinks it therefore probable, that without any organic affection, a ſtate of excitement, changeable by various cauſes, may alſo produce inſanity.

After theſe general obſervations, Dr Cullen next proceeds to treat of the different ſtates of

inſanity;

inſanity; and theſe he conſiders under the two heads of mania and melancholia.

The whole circumſtances and ſymptoms of mania appear to Dr Cullen to point out a conſiderable and unuſual exceſs in the excitement of the brain, eſpecially with reſpect to the animal functions; and this excitement, he thinks, at the ſame time, appears to be unequal, as it very often takes place with regard to the animal functions alone, while the vital and natural are little changed from their ordinary ſtate. This idea of the diſeaſe, Dr Cullen thinks, clearly explains the operation of thoſe remedies which have proved moſt ſucceſsful; and to ſome remarks on theſe he next proceeds. For reſtraining their anger and violence, he recommends the ſtrait waiſtcoat; and when it is neceſſary to confine them, it ſhould be in a place which preſents as few objects as poſſible, either of ſight or hearing. Fear being a paſſion that diminiſhes excitement, may, he thinks, be oppoſed to the exceſs of it; and he recommends, in general, at leaſt, a diet both low and ſpare.

With reſpect to medicines, though no unuſual fulneſs of the body be preſent, it may be of advantage to diminiſh even its ordinary fulneſs, by

different

different evacuations. Blood-letting he conſiders as of ſervice in all recent caſes of mania; but he has ſeldom found it uſeful, when the diſeaſe has ſubſiſted for ſome time. Although he has ſometimes obſerved benefit from draſtic purgatives, yet he thinks, that more advantage may be derived from thoſe of the cooling kind, particularly from the ſoluble tartar. Reſpecting the effects of vomiting, which has frequently been employed in mania, he is doubtful; and he has not, he tells us, had ſufficient experience to determine, whether it may do harm, by impelling the blood too forcibly to the veſſels of the brain, or do good, by removing the inequality of excitement, from the general agitation of the whole ſyſtem. While ſome benefit may be derived from ſhaving the head, ſtill more, he thinks, is to be reaped from bliſtering, at leaſt in recent caſes. But when the diſeaſe has been of long ſtanding, he has found no benefit either from bliſters, or any form of iſſue.

As heat is the principal means of firſt exciting the nervous ſyſtem, the application of cold might naturally be ſuppoſed to be a proper remedy in mania. But he thinks, that the general application of cold has probably no great influence,

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ſince there are many inſtances of maniacs being expoſed to it for a great length of time, without any relief of their ſymptoms. It is, however, he obſerves, certain, that they have ſometimes been entirely cured by the uſe of cold bathing. To conjoin the effects of fear with cold, he adviſes, that they ſhould be thrown ſuddenly into the water, by ſurpriſe; and while the body is immerſed, he recommends, that water ſhould be poured frequently upon the head. Warm bathing, which has been recommended by ſome, he has found, in the common mode of applying it, to be rather hurtful to maniacs.

In ſome maniacal caſes, Dr Cullen has employed large doſes of opium; and where it had the effect of inducing ſleep, it was manifeſtly with advantage. He has made ſeveral trials with camphor, even in large doſes, but has found no benefit from it. Some inſtances, he remarks, are to be found on record, where maniacs have been cured, by being compelled to conſtant, and even hard labour. And he concludes his obſervations on the remedies, with obſerving, that he has known a complete cure take place in the courſe of a journey, carried on for ſome length of time.

Melancholia,

Melancholia, which Dr Cullen conſiders as a partial inſanity, is, he thinks, chiefly to be diſtinguiſhed from its occurring in perſons of the melancholic temperament, and being always attended with ſome ſeemingly groundleſs, but very anxious fear. This ſtate of mind, he conſiders as attended with a ſtate of brain correſponding to it; and he thinks it probable, that it depends upon a drier and firmer texture in the medullary ſubſtance of the brain.

In the treatment of this diſeaſe, with reſpect to the management of the mind, he recommends, that the attention of the patient ſhould be turned from the object on which it is fixed, and that proper artifices ſhould be employed for correcting the falſe imagination or judgment. Cooling purgatives, he conſiders as highly proper in this diſeaſe, while blood-letting is leſs ſeldom admiſſible than in mania. While he conſiders cold bathing as hardly ever admiſſible in this diſeaſe, he thinks that the warm bath may often be uſeful. Opiates, he thinks, are ſeldom proper; and though low diet be ſometimes neceſſary, yet vegetable food is to be uſed with caution.

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Having finiſhed the conſideration of the pyrexiæ and neuroſes, in the third and laſt part of the work before us, Dr Cullen proceeds to treat of the cachexiæ. Under the title of cachexies, he eſtabliſhes a claſs of diſeaſes, which conſiſt in a depraved ſtate of the whole, or a conſiderable part of the habit of the body, without any primary pyrexia or neuroſis combined with that ſtate. Theſe he divides into the three orders of marcores, or emaciations; intumeſcentiæ, or general ſwellings, and impetigines, or depravation of the habit, with affections of the ſkin.

On the firſt of theſe ſubjects, Dr Cullen contents himſelf, with offering ſome obſervations on the cauſes of emaciation, which he thinks may be referred to two general heads, either to a general deficiency of fluids in the veſſels of the body, or to the particular deficiency of oil in the cellular texture. And where they are idiopathic, they are entirely to be cured, he obſerves, by removing the remote cauſes; but as the greater part of the caſes of emaciation are ſymptomatic, the cure muſt be accommodated to the primary diſeaſe.

The intumeſcentiæ are divided by Dr Cullen into the adipoſe, the flatulent, the watery ſwel-

lings, and laſtly, thoſe which ariſe from an increaſed bulk of the whole ſubſtance of particular parts. After ſome obſervations on the pathology of adipoſe, flatulent and watery ſwellings in general, Dr Cullen treats of anaſarca. This, he obſerves, is evidently a preternatural collection of ſerous fluid in the cellular texture, immediately under the ſkin. The cure, he tells us, is to be attempted on three general indications. 1*ſt*, The removing the remote cauſes of the diſeaſe; 2*dly*, The evacuation of the ſerous fluid already collected in the cellular texture; and, 3*dly*, The reſtoring the tone of the ſyſtem, the loſs of which may be conſidered, in many caſes, as the proximate cauſe of the diſeaſe. The removal of remote cauſes muſt be entirely accommodated to particular circumſtances. The evacuation of water may be performed, either by drawing it directly from the dropſical part, or by exciting ſerous excretions. With the firſt of theſe intentions, recourſe may be had to puncture, to pea-iſſues, to bliſters, to the application of colewort-leaves, of oiled ſilk-hoſe, and the like. But he obſerves, that he has never found the two laſt of theſe practices of much ſervice, while he repreſents the former as not without

without hazard. For drawing off the water in anaſarca, by the ſerous excretions, recourſe may be had, he obſerves, to purgatives, diuretics or ſudorifics. Although by ſpontaneous vomiting, abſorption has been excited in hydropic caſes, yet as it is requiſite that ſtrong antimonial emetics ſhould be employed, and frequently repeated, patients will not readily ſubmit to this practice.

After the water in anaſarca is evacuated, it becomes neceſſary to attempt to reſtore the tone of the ſyſtem. And indeed Dr Cullen obſerves, that this indication may properly have place even from the very firſt appearance of the diſeaſe. Thus, on the appearance of œdematous ſwellings of the feet and legs, bandaging, friction and exerciſe have often been uſed with advantage. But beſides theſe, various articles may be uſed for reſtoring the tone of the ſyſtem; particularly chalybeates, the Peruvian bark, and various bitters. Cold bathing, though the moſt powerful tonic we can employ, can, however, ſcarcely be uſed, he thinks, till the ſyſtem has recovered a good deal of vigour. But it may then be effectual in confirming and completing a cure. He concludes, with obſerving,

that in perſons recovering from dropſy, it will be proper to keep conſtantly in view, the ſupport of the watery excretions, particularly keeping up perſpiration, by a great deal of exerciſe, and continuing the flow of the urinary excretion, by the frequent uſe of diuretics.

To the obſervations on anaſarca, Dr Cullen ſubjoins ſome remarks on hydrothorax and aſcites, after which he proceeds to treat of general ſwellings, ariſing from an increaſed bulk of the whole ſubſtance of particular parts. Under this head, the only diſeaſe which he conſiders is rachitis. This diſeaſe, he obſerves, ſeldom appears before the ninth month, or after the ſecond year of a child's age; and from the phænomena of the affection, he thinks, it conſiſts in a deficiency of that matter which ſhould form the ſolid parts of the body, and this proceeding from a general laxity and debility of the ſyſtem.

Upon this ſuppoſition, he thinks, that the cure of rickets has entirely proceeded, the remedies eſpecially ſuited to the diſeaſe being ſuch as improve the tone of the ſyſtem in general, or of the ſtomach in particular. Among the tonic remedies, he tells us, that he has found cold bathing

thing the moſt uſeful, both in preventing, and ſometimes even in curing the diſeaſe. Recourſe, he obſerves, has alſo been had to preparations of iron and copper, and to the Peruvian bark. Of theſe, however, he has had but little experience. He ſtrongly recommends exerciſe, under the form of geſtation; and thinks it highly probable, that friction with dry flannels may be an uſeful remedy. Although milk, as an article of diet in rickets, has been objected to by ſome; yet he affirms, that in many inſtances in which he has directed it, the cure was not retarded. But he prefers the milk of cows to that of women, as the latter is the moſt watery nouriſhment. Beſides the remedies and regimen mentioned above, he takes notice alſo of the uſe of emetics, purgatives, teſtaceous powders and hemlock, as having been recommended in this diſeaſe. The occaſional uſe of the two former, may, he thinks, be productive of advantage; but he has had no experience of much benefit being derived from the latter.

Under the head of impetigines, the laſt order of diſeaſes which Dr Cullen refers to his claſs of cachexiæ, and with which he concludes the pre-

ſent volume, he treats of ſcrophula, ſyphilis, ſcurvy and jaundice.

From the appearance of ſcrophula in particular conſtitutions, and at a particular period of life, and even from its being a hereditary diſeaſe, Dr Cullen is led to conclude, that it depends upon a peculiar conſtitution of the lymphatic ſyſtem. But we have not yet, he obſerves, learned any practice that is certainly, or even generally ſucceſsful. He thinks, however, that waſhing out the lymphatic ſyſtem is a meaſure promiſing ſucceſs. And on this ground he accounts for the benefit obtained from the mineral waters, whether of the chalybeate, ſulphureous or ſaline kind; for he is diſpoſed to think, that the elementary water is the chief part of the remedy. Nor has he ever been able to diſcover the ſuperior efficacy of ſea-water. Among the numerous other internal remedies which have been employed, he thinks, that ſome benefit may be obtained from Peruvian bark, coltsfoot and hemlock. But he has never found any advantage either from antimony or mercury; and when there is any degree of a feveriſh ſtate, he thinks, that the latter proves manifeſtly hurtful. In the management of ſcrophulous tumours,

tumours, he thinks, that benefit may ſometimes be derived from ſolutions of ſaccharum ſaturni; but he condemns the uſe of fomentations and poultices, and diſſuades their being opened with a lancet, even after matter is formed. The application which he has found moſt uſeful to ſcrophulous ſores, is that of linen cloths wetted with cold water, ſo frequently changed as to prevent their being glued to the ſore. And he concludes, with obſerving, that he has ſeen more benefit from cold bathing, than from any other remedy whatever.

After treating of ſyphilis and ſcurvy, Dr Cullen concludes this volume, with ſome obſervations on jaundice. The obſtructed excretion of bile, which produces the principal ſymptoms of this diſeaſe, may ariſe, he thinks, either from calculi, from ſpaſm, or from tumours compreſſing the ductus communis choledocus. When ſuch obſtructions happen, the ſecreted bile muſt, he obſerves, be accumulated in the biliary ducts, and from thence, be either abſorbed and carried by the lymphatics into the blood-veſſels, or regurgitate in the ducts themſelves, and paſs from them into the aſcending cava.

When the diſeaſe depends on tumours, it is, he thinks, to be conſidered as incurable; and it is almoſt only when it is occaſioned by biliary concretions, that we can expect relief from medicine. In ſome inſtances of this kind, accompanied with tolerable vigour and much pain, blood-letting may be neceſſary. But there is no means of puſhing forward a biliary concretion more probable than the action of vomiting. Purgatives, though frequently employed, can never, he thinks, be proper, excepting where there is a ſlow and bound belly. Opium, as removing ſpaſmodic contractions retaining calculi, is often, he thinks, of great ſervice. The employment of ſoap in this diſeaſe, he conſiders as a frivolous attempt; and he concludes, with obſerving, that although it were much to be wiſhed, that a ſolvent of biliary concretions, which might be applied to them in the gall-bladder or biliary ducts were diſcovered, yet none ſuch, as far as he knows, has yet been found.

III.

III.

Hiſtoire de divers accidens graves, occaſionnés par les miaſmes d'animaux en putrefaction, et de la nouvelle methode de traitment qui a été employé avec ſuccés dans cette circonſtance. Par M. de Laſſone. *Vide Hiſtoire de la Société Royale de Médecine. Tom.* 1. *4to.* Paris.

THE influence of putrid effluvia on the human ſyſtem, has of late been the ſubject of much controverſy. And among thoſe admitting their pernicious effects, there have been many different opinions as to their mode of acting. It is alone by proper attention to facts, accurately related, that theſe controverſies can be ſettled in a ſatisfactory manner. With this view, the paper now before us, claims our attention. But, beſides this, it contains ſeveral particulars, deſerving the notice, not only of the medical practitioner, but of the civil magiſtrate alſo, as the guardian of public police.

Mr

Mr De Laſſone ſets out with obſerving, that, in Paris and its environs, in the year 1749, there prevailed an epidemic diſeaſe among cattle, by which great numbers of them died. A particular field was allotted, in which all the carcaſes of the cattle dying of this affection in the neighbourhood of St Germain ſhould be buried, and the police very properly ordered, that the pits into which they were thrown ſhould be of conſiderable depth. But this regulation was not fully complied with, the dead bodies of the animals being covered only with a few feet of earth. Putrid effluvia did not fail to ariſe from thence, and to be diffuſed in the atmoſphere. And the air reſpired in the neighbourhood, particularly in the houſe de l'Enfant Jeſus, on account of its proximity, was very much infected. Mr de Laſſone, who had frequent occaſion to be in that building, was conſtantly ſtruck with a very diſagreeable ſmell, and, upon inquiry, he diſcovered it to ariſe from this cauſe. He ſoon conjectured that this was the origin of the diſeaſes which daily occurred there. Of this, he thinks, there could be no doubt, ſince the diſeaſe to be deſcribed was entirely confined to the neighbourhood

bourhood of the place where the putrefaction of the dead animals was going on.

The diſeaſe which aroſe from this cauſe began at firſt in a manner but little alarming; ſoon, however, it put on the decided character of malignity.

About the beginning of the winter 1749, thirty young women, at leaſt, in the houſe de l' Enfant Jeſus, beſides other perſons in the ſame building, complained of violent colic pains, which were followed by teneſmus and a dyſenteric flux. The greater part of them had, at the ſame time, an affection of the throat, with ſwelling of the amygdalæ. Aphthæ appeared in the mouth and under the tongue; but the throat did not acquire any livid caſt, nor were there any ſymptoms of gangrene. Some of the patients were ſubjected to a ſingular appearance. Between the evening and morning, there occurred a conſiderable ſwelling of one or other hypochondrium, with tenſion and pain. There appeared alſo, on different parts of the ſurface of the body, ſpots, ſometimes of a red verging to livid, with ſwelling, and an inſenſibility of the ſkin, ſometimes of a florid red, with pain, heat and tenſion.

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The remedies commonly employed in dyſentery diminiſhed this affection, but, after the moſt careful repetition, were not ſufficient for overcoming it. Sedatives prepared with opium were always neceſſary for the cure. A nun of the houſe, attacked later than the reſt with the dyſentery and ſore throat, had ſymptoms much more ſevere than the others, and ſhe died from the development of the gangrenous affection in the common maſs of fluids.

About the end of the ſame year, one of the females who had been ſubjected to the dyſenteric affection already deſcribed, was again taken ill, with violent fever, ſevere headach, and great inclination to vomiting. Two blood-lettings, and a large diſcharge procured by an emetic, appeared ſomewhat to relieve her. But the night following, her ſymptoms became much more alarming. Her pulſe became feeble and irregular, her reſpiration conſtrained, and her head confuſed; her extremities became cold, and there occurred frequent ſerous and black coloured ſtools. In a few days, the proſtration of ſtrength became ſo great, that cordials became neceſſary. Bliſters applied to the nape of the neck, and legs, drew off only a ſmall quantity

tity of ſeroſity, and ſuppuration did not follow. The patient, in the mean time, complained of a pretty ſmart pain deep in the throat, deglutition became painful, and the palate and fauces aſſumed a brown or livid colour. Antiſeptic gargariſms, fumigations, camphor and acids, could not ſuſpend the rapid progreſs of the affection. Homberg's ſedative ſalt given in a pretty large doſe only quieted the urgent ſymptoms for a few ſeconds. The whole ſurface of the body ſoon aſſumed a yellowiſh and livid tinge, which was the forerunner of death.

After relating theſe unfortunate caſes, Mr de Laſſone ſubjoins a third hiſtory, the caſe of a female in the ſame houſe, where every alarming ſymptom took place to a very high degree. There, as he ſaw every mark of approaching death, and had no expectation of ſaving his patient by the remedies formerly employed, he had recourſe to the Peruvian bark. He employed it at firſt under the form of extract, but he found that it would not ſit upon his patient's ſtomach, although conjoined with a proportion of the mineral anodyne liquor of Hoffman. He had then recourſe to a ſtrong decoction of it, thrown up under the form of injection, every third hour.

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From the ſecond of theſe injections, the pains of the bowels and vomiting began ſenſibly to diminiſh, and the patient had ſome reſt. The following ones changed very much the appearance of the ſtools, and, in a few days, the vomiting and pain ceaſed, the livid ſpots diſappeared, and ſhe had, at intervals, ſeveral hours of quiet ſleep.

From the continuance of this courſe of bark-injections, though not afterwards at ſo regular periods, the confuſion of head went off, the tongue became white and moiſt, the affection of the throat gradually diminiſhed, and it was covered with a quantity of viſcid glairy matter, which it became neceſſary to remove four or five times every day by a pencil of fringed linen. When the vomiting ceaſed, the patient was directed to uſe, by way of diet, the cruſt of bread boiled in water and almond emulſion, which, in her ſituation, Mr Laſſone reckoned preferable to animal broth. When the ſimple injections of the decoction of bark did not produce an evacuation, a ſmall quantity of almond oil was added to them, which rendered them more laxative. And, after every diſcharge, the patient's ſtrength was ſupported by a ſmall

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ſpoonful of Spaniſh wine. From perſiſting in this plan, the pulſe gathered ſtrength; and, by the twentieth day of the diſeaſe, it was even full. At this period, the countenance became florid, and the ſkin very hot; theſe were the preludes of a profuſe ſweat, which continned for ſeveral days, and which put the patient in a train of perfect recovery.

Struck with the ſucceſs of this method, Mr de Laſſone followed it with many others, and he did not afterwards loſe any patient affected with this putrid fever. But he had now recourſe to the Peruvian bark-injections, after general remedies, from the very beginning of the diſeaſe. The evacuations, which were ſerous and black, became ſoon of a better appearance, the affection of the throat ſpeedily ceaſed, and the gangrenous tendency never ſhewed itſelf.

As the magiſtrate of the police, after the repreſentations which were made to him, had given poſitive orders to cover over with lime, and a great quantity of new earth, the places where the cattle had been buried, the infection of the air, in a ſhort time, was not perceptible, and the diſeaſe, which theſe putrid miaſmata had unqueſtionably produced, likewiſe ceaſed, and did not again appear.

IV.

IV.

Hiſtoire de la Maladie connue ſous le nom de Crinons, qui attaque les nouveaux nés à Seyne en Provence. *Par* M. Baſſignot, *M. D.* *Vide Hiſtoire de la Société Royale de Médecine. Tom.* 1. *4to.* Paris.

SEYNE or Sedena, a ſmall town in Provence, is, according to Mr Baſſignot, the theatre of a very peculiar diſeaſe, which attacks almoſt all the new born infants at that place. Some authors have ſpoken of it under the name of *crinons* or *comedons*; but it is known by the people of the country under the name of *cées*, a corruption of *ceddes*, a provincial term which ſignifies a briſtle. It ſometimes manifeſts itſelf within the ſpace of twelve hours, ſometimes, however, not till the end of fifteen days, or even a month. And examples of it have occurred, we are told, even at twelve years of age, or upwards. But theſe are extremely rare.

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The ſymptoms by which this diſeaſe is known, are a very conſiderable itching, which is augmented by the heat of the bed, and prevents the infant from ſleeping; a perpetual agitation; an inability to ſuck, the child's tongue not being able to accommodate itſelf to the nipple; and, at laſt, the noiſe of its cries being diminiſhed, which become hoarſe, and are indeed almoſt extinguiſhed. This laſt ſign appears to be the moſt certain; and they in general judge of the ſeverity of the diſeaſe by the degree to which the voice is extinguiſhed, and by the weakneſs of the cries of the infant.

When, by theſe ſigns, the diſeaſe is known to be preſent, they proceed immediately to the cure. This conſiſts in frictions, which are performed by the women of the country, and who are ſo much in the habit of treating this diſeaſe, that they do not in general call in the aid of any medical practitioner. Theſe frictions are performed on different parts of the body, according to the ſtate of the diſeaſe that is preſent. And they diſtinguiſh theſe ſtages of it, which are ſometimes very diſtinct, ſometimes united.

In the firſt, the diminution of the noiſe in crying is conjoined with a total incapability of ſuck-

ing. This requires friction at the upper part of the ſternum, on the fore and back parts of the neck, on the cheeks towards the angle of the inferior jaw, and on the temples. In the ſecond ſtate of the diſeaſe, the infant ſtill enjoys a certain facility in moving the tongue, without, however, being able properly to ſeize the nipple; when the arms are ſet at liberty they are extended, the fingers are ſpread out with a conſiderable degree of tenſion, or the hand is firmly clenched. This ſtate requires friction of the fore-arm, from the ſhoulder to the wriſt. The third ſtage is diſtinguiſhed merely by a diminution of the cries; then frictions are directed to the arms, the ſhoulders, the back, and even to the calves of the legs; which probably, as well as the hands, demonſtrate the exiſtence of crinons in theſe parts, by ſome particular movement, but which has not yet been ſufficiently attended to.

To illuſtrate the mode of friction, Mr Baſſignot deſcribes the treatment of an infant ſubjected to the diſeaſe in its ſecond ſtage. Then the moſt experienced women take the arm, and making choice of a particular part, ſuch, for example, as the extenſor muſcles, they rub it with

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the hand, which has before been moiſtened with ſaliva, till they feel ſuch a roughneſs as is diſcoverable on paſſing the hand over the face of a man who has not been ſhaved for ſome time. They then quit that arm, to apply friction to the other in the ſame manner; that is, deſcribing ſmall circles, and turning always in the ſame direction, which they obſerve with great ſcrupulouſneſs. Theſe two frictions being performed, they preſent the breaſt to the infant, and afterwards lay it to reſt. If, on the firſt cries which it gives, four or five hours after this, its voice be not reſtored, frictions are applied anew to the two arms and to the ſhoulders. If theſe do not produce the deſired effect, frictions are uſed to the back, the loins, the limbs, and every part of the body in ſucceſſion, interpoſing, however, twelve hours between each friction. It is but rarely that the child cries during this operation; on the contrary, from the tranquillity which it enjoys, there is reaſon to believe that it takes pleaſure in the friction, and derives relief from it.

Nothing particular is remarked in the ſkin before the friction. Theſe women, however, who are moſt accuſtomed to it, diſcover a kind of

tenſion which yields to the friction, and the coming out of hairs, without which all the frictions would be fruitleſs. If this does not take place, the voice is not reſtored, and the infant either periſhes by convulſions, or falls into a maraſmus with diarrhœa. There have, however, we are told, been caſes where convulſions and diarrhœa have occurred at the ſame time with the diminution of voice, and where all theſe affections have diſappeared by the aid of frictions alone.

The coming out of the crinons is obſerved in two ways; in ſome they remark a kind of hair, more or leſs black and rough, the length of which does not exceed the tenth of an inch; in others there appear red hairs, remarkably fine, not ſo rough to the touch as the former, and have, at their extremity, a ſmall round bulb. As ſoon as theſe hairs have begun to diſengage themſelves, the diſeaſe is terminated; and, of themſelves, they fall off in the ſpace of about twenty-four hours, or from that to forty hours.

Although an infant has been ſubjected to frictions a ſhort time after birth, and although theſe frictions have been attended with the de-

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ſired effect, yet it is not certain that it will not be neceſſary to have recourſe to them in the ſequel, becauſe this diſeaſe returns at different ages; ſuch returns particularly happen with ſome on the appearance of the firſt teeth, and with others when they are two or three years of age.

Mr Baſſignot concludes this paper with obſerving, that although, in moſt caſes, the frictions are ſucceſsful, yet this is not univerſal. A woman who had loſt three children by the crinons, notwithſtanding frictions, was ſafely delivered of a fourth, in whom unequivocal ſigns of the diſeaſe ſoon appeared. In place of trying frictions, it was covered with a paſte made of flour and water, with the yolks of eggs, and a little ſalt. This application ſucceeded, and the diſeaſe was perfectly cured.

V.

Memoire ſur la maniére dont les animaux ſont affectés par differens fluides aëriformes mephitiques, et ſur les moyens de remedier aux effets de ces fluides. *Par* M. Bucquet. *Vide Hiſtoire de la Société Royale de Médecine.* *Tom.* 1. *4to.* Paris.

IN the memoir before us, Mr Bucquet ſets out with obſerving, that the different methods which have been propoſed for reſtoring to life perſons apparently ſuffocated, appear to be very oppoſite to each other, although alleged to be founded on experience. Nothing, therefore, he thinks, appears more proper to clear up this matter, than multiplying reſearches of this ſame kind. With this view, he has performed a great number of experiments, and in preſence of ſeveral illuſtrious and eminent men. With the reſult of theſe we are preſented in the paper before us.

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In theſe experiments, Mr Bucquet tells us he put to death about two hundred animals, conſiſting of quadrupeds, birds, and frogs. In theſe, his objects, we are told, were, *1ſt*, To examine the ſymptoms to which the animals were ſubjected from the time of their being plunged into a mephitic fluid, to the inſtant of their death. *2dly*, To conſider in the dead bodies the ſtate of the different viſcera, and particularly of theſe which are ſubſervient to circulation and reſpiration. *3dly*, To determine the ultimate degree of affection to which an animal could arrive, while there yet ſubſiſted hopes of the recovery of life. And, *laſtly*, To determine the moſt expeditious and efficacious means of reſtoring the power of ſenſation and motion.

He firſt relates a variety of experiments which he made with the acid gas of chalk; he next proceeds to recount thoſe which were made with air infected with the vapour of charcoal; and he concludes with relating the experiments which he made with inflammable gas. Without entering into the detail, we ſhall here preſent our readers with the general concluſions which he has drawn from his experiments.

All the aëriform fluids, he obſerves, do not act in the ſame manner. The acid gas of chalk occaſions an obſtruction of the blood in the pulmonary artery, in the right ventricle of the heart, and in the vena cava. From this, he thinks, are to be explained, the difficulty of reſpiration, the apoplectic affections, the nauſea, the vomiting, and all the ſymptoms which appear both in men and animals, when ſuffocated with this gas. The vapour of charcoal, he obſerves, produces ſimilar effects, but with much leſs energy, becauſe it is always mixed with a certain quantity of reſpirable air. Inflammable gas occaſions much the ſame accidents; but it has farther an action altogether peculiar on the nervous ſyſtem, as is demonſtrated by the violent convulſions, and even by the tetanus to which animals are ſubjected, when plunged into it.

All animals, he remarks, are not affected in the ſame manner, by the different gaſſes. This had before been proved by the experiments of Meſſrs Prieſtley, Bergman, Sage, and ſeveral others. They had obſerved, that animals accuſtomed to breathe pure air, periſh ſooner in mephitic fluids, than other animals; that quadrupeds,

peds, which habitually reſpire an air charged with exhalations, ſubſiſt for a longer time in the different gaſſes, and particularly in air infected by the vapour of charcoal. To theſe experiments of Dr Prieſtley, Mr Bucquet adds, that the moſt ſenſible animals, and thoſe conſequently which are the moſt eaſily ſuffocated, are alſo the moſt eaſily revived; while they likewiſe feel leaſt afterwards from the ſuffocation to which they have been ſubjected, provided aſſiſtance be given them in due time.

Though mephitic gas, he obſerves, poſſeſſes the fluidity, the compreſſibility, the elaſticity, and all the other properties apparent in air, yet theſe fluids do not appear to be fitted to penetrate into the lungs, and to diſtend their veſicles. For animals plunged into the different gaſſes, make continual efforts to inſpire, but without being able to accompliſh that end. Their lungs, though very much filled with blood, are much leſs voluminous than thoſe of animals who do not die of ſuffocation. And it appears to our author, that the mephitic gas does not penetrate into the lungs, becauſe their ſenſibility prevents its entrance.

Suffocation

Suffocation being always produced, according to Mr Bucquet, by the accumulation of blood in the lungs, air is the beſt, nay, he thinks, the only remedy we can employ againſt this malady, becauſe no other ſubſtance can diſtend the pulmonary veſicles, and renew circulation. For giving aſſiſtance therefore to perſons that are ſuffocated, we ought to begin by expoſing them to free air. If the lungs ſtill continue to exert their function, this alone will be ſufficient for recovery. But if the circulation be very feeble, and reſpiration difficult, we muſt attempt to recruit their force, by the aid of ſtimulants, and ſuch other means as are proper to revive in the heart and veſſels the irritability almoſt extinguiſhed.

All the ſtimulants, however, are not to be employed promiſcuouſly; and to know in what order it is proper to adminiſter them, our author thinks ſuffocation may be divided into three different degrees.

In the firſt, reſpiration diſtinctly continues, the circulation, though conſtrained, is ſtill felt; and the patient is able to ſwallow. The beſt ſtimulants in this caſe are active cordials taken into the ſtomach; ſuch as ſimple or camphora-

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ted aqua vitæ, Hungary water, and all the other ſpirituous waters of the ſame kind.

In the ſecond ſtage of ſuffocation, the pulſe is with difficulty felt, and reſpiration hardly perceptible, while it is impoſſible for the patient to ſwallow any thing. We muſt then, he obſerves, have recourſe to ſtimulants of a volatile and odorous nature, applied to the noſe. The beſt remedies of this kind are ſimple or aromatic vinegar, ſalt of vinegar, or the like. Theſe remedies, he tells us, have the double advantage, of reſtoring ſenſibility, and at the ſame time poſſeſſing a durable cordial and tonic power. But they cannot, he obſerves, exert any action, unleſs the odour penetrates into the noſe; that is, unleſs there remain ſome degree of reſpiration.

In the third degree of ſuffocation, the pulſe is no longer to be felt, and reſpiration has entirely ceaſed. For reſtoring them in ſuch caſes, we muſt therefore employ ſuch articles as can carry themſelves to the membrane of the noſe and throat. Of this kind, our author tells us, he has found nothing ſucceed better than the fuming ſpirit of ſea ſalt, or the volatile ſpirit of ſulphur. He even prefers the laſt, becauſe it

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can be moſt readily had, and adminiſtered with the greateſt eaſe. It is only neceſſary to put ſulphur in powder on a tile, to kindle it, and to direct the vapour into the noſe of the perſon ſuffocated, by means of a glaſs funnel. This volatile ſpirit of ſulphur, however, while it is very penetrating, is alſo, he admits, very ſuffocating; and in its application, precaution is neceſſary. But as ſoon as the ſulphureous vapour has penetrated into the noſe or throat of the perſon ſuffocated, it produces a lively irritation, which occaſions motion more or leſs ſenſible. The ſmalleſt particle of acid that penetrates to the lungs occaſions a cough, which more powerfully renews circulation than any other means. As ſoon, therefore, as the ſuffocated perſon ſhews any motion, he muſt be turned from the fumes of the ſulphur, and left to inſpire pure air. The application of the ſulphureous acid is to be repeated three or four times in this manner; after which recourſe is to be had to the vegetable acids, which are more of a cordial and tonic nature.

The volatile alkali, our author remarks, is a remedy which has been much extolled in ſuch caſes; and the chemiſts have recommend-

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ed it on the idea, that it will ſaturate the mephitic gas which is acid. But our author thinks, that for the recovery of perſons in this ſtate, it is not at all neceſſary to deſtroy the acid, ſince acids certainly recover them. Beſides, the volatile alkali cannot poſſibly act in this manner againſt inflammable gas, which has nothing acid in it. It is therefore, he thinks, only as a ſtimulant that we can preſcribe the alkali; and with this intention, he conſiders it as leſs powerful than the ſpirit of ſulphur. He looks upon it as ſuited only to the ſecond ſtage of ſuffocation, where reſpiration, *viz.* manifeſtly continues; and even there he conſiders it as leſs uſeful than the vinegar; for he affirms, that the one has the effect of afterwards weakening, the other of ſtrengthening the ſyſtem.

VI.

VI.

Recherches ſur la maladie convulſive epidemique attribué par quelques obſervateurs à l'Ergot, et confondue avec la gangrene ſeche de Solognots. Par M. Saillant. *Vide Hiſtoire de la Société Royale de Médecine. Tom.* 1. 4*to.* Paris.

IN the memoir before us, the author ſets out with obſerving, that the experiments undertaken by the Society, to determine whether the ergot rye be capable of producing dry gangrene, or not, agreed with the obſervations of Langius, Perrault, Dodart, and others; but that, on the other hand, there are many reſpectable authorities which exculpate the *ergot* or ſpurred rye, and refer to other cauſes the diſeaſe which has been attributed to it in Germany and Sweden. To clear up this matter, Mr Saillant has compared together the authors who have written upon the ſubject. He finds, that they do not agree with regard to the cauſe of the diſeaſe; but that its progreſs and ſymptoms are eſſentially different from thoſe of the dry gangrene. To prove this,

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in the paper before us, he gives a detail of the ſymptoms of each of theſe diſeaſes; and to this he ſubjoins an hiſtorical view of the progreſs of the convulſive epidemic of Sweden and Germany, the cauſe of which is not yet entirely determined.

The dry gangrene is characterized, he obſerves, by the mortification of ſome one of the extremities, ſometimes of all of them. Often it is preceded by a redneſs, which, however, is not inflammatory, and by ſome veſications. The limb ſwells, becomes painful, and has a ſenſation ſometimes of cold, more frequently of unſupportable heat. The veſſels are obliterated, the phlegm becomes black and hard, and the patient, at the point of death, is happy, if, from a ſpontaneous ſeparation of the gangrenous part, he can ſurvive, with the loſs of his extremities. The firſt ſymptoms of this diſeaſe are not alarming. The pulſe continues for ſome time nearly in the natural ſtate, and is gradually weakened, in proportion to the violence of the diſeaſe. The blood appears black and thick, and the urine in a natural condition. The belly is hard and tenſe, but the appetite continues, and digeſtion goes on as in health; it is only towards the end of the diſeaſe, and even on the approach

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of death, that diarrhœa uſually comes on. After death, on the examination of the body, the inteſtines, and other viſcera, are often found ſtrewed over with gangrenous ſpots.

The cure of this diſeaſe is ſometimes accompliſhed in the beginning, by profuſe ſweats, and by a good diet. The medical treatment conſiſts in evacuating the primæ viæ, in giving internally laxative apozems, diuretics and antiſeptics, while recourſe is had externally to thoſe topical applications which are proper for reſiſting gangrene, for favouring the ſeparation of the diſeaſed part, without amputation, and for aiding ſuppuration.

After this deſcription of the dry gangrene, he next proceeds to give an account of the convulſive epidemic affection which has been confounded with it. In that diſeaſe, there is not, he obſerves, any gangrene. The violent convulſions are its eſſential characteriſtic. It has no regular courſe, but returns by paroxyſms; and while it is in reality leſs dangerous than the former diſeaſe, it yet makes its attack with much more alarming appearances. The patient at one time feels as if he were burnt with devouring fire, and ſoon after is ſenſible of cold, ſimi-

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lar to what ariſes from the application of water. Theſe ſymptoms are accompanied with loſs of appetite, nauſea and vomiting, which are ſoon ſucceeded by an inexpreſſible pain. The patient, without ſhedding tears, utters lamentable cries, and the affected members are either contracted with extreme violence, or remain ſtretched out with inflexible rigidity. The pains ſoon abate, when the patient is able to ſtretch the contracted membranes, or to bend thoſe that have been ſtretched; but they return in a freſh acceſſion, with the ſame ſeverity. The patient is no ſooner out of the fit, than he is tormented with a voracious appetite; and he digeſts with ſufficient eaſe, all ſorts of aliment. In particular years, there ſucceeds ſwelling of the feet or hands, and the fingers have been covered with veſicles full of ſeroſity, the diſcharge of which, however, does not procure any relief.

The diſeaſe, after ſeveral acceſſions, terminates itſelf by ſweat or diarrhœa, which is more violent when patients eat little, than when they eat a great deal. But, for the moſt part, there remains, for the ſpace of ſome weeks, ſeveral inconveniencies, ſuch as vertigo, tinnitus aurium, deafneſs, loſs or diminution of ſight, or the like.

If the affection continues long, it degenerates into epilepſy; and if during the affection, there ſhall occur a mental diſorder, it in general continues for life. If there occurs an obſtruction of the liver, there in general ſupervenes a ſpitting of blood, ſometimes followed by phthiſis, by epilepſy, palſy, or in fine, by apoplexy. This diſeaſe attacks moſt frequently thoſe who are plethoric, and in that caſe the convulſions are the moſt violent. But thoſe of the phlegmatic temperament are moſt ſubject to comatoſe affections after it.

Some have obſerved blood iſſue from the noſe and mouth after death; but they have not obſerved any alteration in the viſcera, excepting that the lungs were much inflated and diſtended with blood. In other caſes, the liver and gall-bladder have been much diſtended with bile, and an eryſipelatous inflammation has been obſerved over the whole ſurface of the abdominal, and even the thoracic viſcera.

Antiſpaſmodics, he tells us, joined to diaphoretics, appear to be the only remedies uſeful againſt this diſeaſe. Narcotics have ſeemed only to aggravate the affection. But bleeding and purgatives have been employed with ſome advantage

vantage in the beginning of the diſeaſe, according to the circumſtances and temperament of the patient.

After this account, of the ſymptoms attending each of theſe diſeaſes, and of the difference in the method of treatment, Mr Saillant next proceeds to give an hiſtorical account of the different periods at which the convulſive epidemic has manifeſted itſelf. He begins with mentioning its occurrence in Weſtphalia in the year 1597, which he conſiders as its firſt appearance in Europe; and concludes with the epidemic in Sweden in 1754, of which an account was publiſhed by Linnæus, in his Amœnitates Academiæ, who treats of it under the title of *raphania*, from the idea, that it was occaſioned by the raphaniſtrum or charlock growing among the barley.

VII.

Obſervations ſur l'Analyſe de l'Opium. Par M. Bucquet. *Vide Hiſtoire de la Société Royale de Médecine. Tom.* 1. 4*to.* Paris.

OPIUM is well known to be one of the moſt powerful remedies which a phyſician can employ, in the treatment of a great number of diſeaſes. The quality which it has, of alleviating the moſt acute and obſtinate pains, has long eſtabliſhed its reputation. It was much celebrated, even in the days of Diaſcondes. Sylvius de la Boe uſed it ſo frequently, that he got the name of Doctor Opiatus. And Sydenham is well known to have employed it very often with the greateſt ſucceſs. But, on the other hand, ſeveral illuſtrious phyſicians, Galen, Fernellius and others, have very much doubted the effects of opium, and even conſidered it as a poiſon. They have accuſed it of diminiſhing ſenſibility, and benumbing the whole nervous ſyſtem; but, above all, they accuſe it of ſuſpending or ſtopping

ping a ſalutary criſis in diſeaſe. From theſe circumſtances, Mr Bucquet obſerves, that even at preſent, it is not but in caſes of urgent neceſſity, and even with ſome degree of regret and tremor, that the beſt practitioners in France venture to employ it.

Several chemiſts, he obſerves, have laboured the ſubject of opium, and have endeavoured to moderate its action, and diminiſh its effects, either by toaſting or by fermenting it, by adding to it acid or alkaline ſalts, or by endeavouring to ſeparate the active principles which enter its compoſition by the aid of proper menſtrua. But theſe different modes of correction have, in general, at leaſt been productive of but little benefit. This, Mr Bucquet is inclined to think, has proceeded from the principles of which it conſiſts being but little known. And with regard to theſe, different opinions have been entertained. M. Geoffroy conſiders it as a gummi-reſin, compoſed of oil and ſalts, a great proportion of which diſſolves in water, and a ſmall quantity in ſpirit of wine. He, however, admits alſo a conſiderable quantity of pretended ſulphur, which, though coarſe, he ſuppoſes to be highly expanſile. M. Lemery again conſiders

opium as compoſed of a ſpirituous part, ſoluble in water, and of a reſinous terreſtrial part, ſoluble only in ſpirit of wine. And laſtly, Mr Cartheuſer conſiders it as a gummi-reſin, containing a virulent principle, which is very mobile. He obſerves, that this ſubſtance is more readily ſoluble in ſpirit of wine, than in water, ſince the ſpirit of wine applied to it diſſolves about three-fourths of it, while water diſſolves only one half. M. Cartheuſer farther obſerves, that the odorous and virulent principle has a preferable attachment to the reſinous matter, which is not ſoluble but by ſpirit of wine. And experience has ſhewn, that a very ſmall doſe of this reſinous part, produces much more diſtinctly marked narcotic effects, than can be obtained from a much more conſiderable quantity of that portion of opium which water is capable of diſſolving.

The reſearches of Mr Baumé, our author obſerves, have led him to nearly the ſame concluſion with Mr Cartheuſer. From the experiments of Mr Baumé, it is demonſtrated, that opium is decompoſed in preparing its extract by long digeſtion, the virulent part of it being diſſipated with the lighteſt of the oil. The reſin

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which was only ſuſpended in the water, by means of the oil, is precipitated, ſo that the clear liquor holds nothing diſſolved but an extractive part, which preſerves nothing of the diſagreeable odour peculiar to opium, but which ſtill poſſeſſes a conſiderable part of its ſedative virtue, without retaining any of its ſtupifying and deliterious quality, ſince theſe reſide only in the odorous and reſinous matter ſeparated by the operation.

Theſe advantages, which there is reaſon to expect may be derived from the extract of opium, render it very deſirable that it ſhould be introduced into common uſe. But the preparation of it, in Mr Baumé's manner, is very tedious, as it can hardly be made in leſs than the ſpace of ſix months. Theſe inconveniencies led Mr Bucquet to think of diſcovering ſome ſimple, eaſy and ready proceſs for removing from opium its virulent quality, its oil and its reſin, and thus preparing an extract ſimilar to that which is prepared by long digeſtion.

As the reſult of repeated trials and experiments, he propoſes the following ſimple mode of preparing it. After having groſsly pounded any quantity of opium in a marble mortar, he

pours upon it, by little and little, water as cold as poſſible, and by the aid of gentle trituration, this water charges itſelf with what it can diſſolve. When it becomes high coloured, he pours it off, and adds a freſh quantity of water, repeating it till the water does not acquire colour from the opium. The opium by this time has loſt nearly one half of its weight, by the removal of the extractive part. The liquor is then to be filtrated and evaporated ſlowly, by which means the extract is obtained. The ſubſtance which remains in the mortar is a ſoft reſinous matter, the whole of which is very nearly, although not entirely diſſolved by the ſpirit of wine.

This reſinous part of the opium preſerves the whole virulent quality of the ſubſtance; and if it be diſtilled with a gentle heat, it gives over, for its firſt product, a fluid having a very ſtrong ſmell of opium. Nay, diſtillation ſeems even to be a method of concentrating the narcotic quality of this ſubſtance. The watery extract diſtilled in the ſame manner, furniſhes nothing ſimilar; and the firſt product obtained, differs nothing from what is had on the diſtillation of any other extract.

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Mr Bucquet concludes, with obſerving, that while this method of preparing the extract of opium is leſs tedious, and leſs expenſive than digeſtion, the product which is obtained has the farther advantage of being always of the ſame ſtrength. The cold water cannot take up any principles but thoſe of which it is a ſolvent. While the hot water, uniting with thoſe ſubſtances which it cannot keep in a ſtate of perfect ſolution, muſt have theſe parts ſeparated by art, an object which cannot be accompliſhed without difficulty, and always more or leſs imperfectly.

VIII.

VIII.

Practical Obſervations on the moſt obſtinate and inveterate Venereal Complaints. *By* F. Schwediauer, *D. M.*

IN theſe obſervations, Dr Schwediauer endeavours to eſtabliſh ſome new facts reſpecting the diſeaſe in general, and to point out ſeveral uſeful and neceſſary diſtinctions with regard to practice, which have hitherto eſcaped notice.

His firſt chapter contains obſervations on venereal infection, and on the different appearances of ſyphilitic complaints in general.

He begins with pointing out the ſymptoms by which a perſon is known to labour under a confirmed lues. With regard to the nature of the venereal infection, or the exact time when the virus produces its effects, he does not pretend to form any poſitive determination; but ſays, the generality of people feel the firſt ſymptoms of the diſeaſe betwixt the ſecond and ſixth day after

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an impure coitus; he has often ſeen chancres appear in the ſpace of twelve hours, or leſs; while, on the other hand, he gives inſtances of the diſeaſe not making its appearance for weeks, months, nay years. With regard to the manner of attack in different perſons, this, he thinks, depends on the particular idioſyncraſy; hence it makes its appearance in ſome, in the throat; in others, on the ſkin or bones. Thoſe who have been once affected, he alleges, are more liable to catch the contagion again. As to the time when the malady made its firſt appearance, he thinks there is room to doubt. Although there be no poſitive proof of its exiſtence among the ancient Greeks and Romans, he thinks it remarkable that Celſus, de obſcœnarum partium vitiis, deſcribes affections very ſimilar to thoſe attending the venereal diſeaſe.

He thinks it a queſtion, whether the venereal poiſon can be abſorbed into the ſyſtem without a previous affection of the genitals, or ſome other parts of the ſurface of the body. He tells us, he never ſaw one inſtance of a perſon affected with the diſeaſe, for the firſt time, without ſome previous appearance either of a running, or a venereal ulcer, in ſome one part or other

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of the body, eſpecially of the genitals, although he has been told, by ſome eminent phyſicians, of buboes ariſing without any previous running or ulceration.

It has been ſaid, that a perſon may be infected by lying in the ſame bed with, or after an affected perſon; but, from experiments made, he never could find this to be the caſe. He ſays, it is equally a matter of doubt with him, whether the venereal poiſon affects any fluid of the body beſides the mucous and lymphatic ſyſtems; hence he is in doubt whether a child can be affected with a nurſe's milk, unleſs there is a previous ulceration about the nipple; and it is alſo a matter of uncertainty, whether the diſeaſe is ever conveyed from an infected father or mother, by coition, to the future fœtus, provided their genitals be ſound, or whether a child is ever affected in the uterus of a diſeaſed mother. He ſays, he has never yet met with an authentic obſervation of any child being born with venereal ulcers, and that ſuch ſymptoms of the diſeaſe as appeared ſome days after birth, may be ſuppoſed to ariſe from infection received in its paſſage, from ulcers in the vagina of the mother, the ſkin of the infant being at that time

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as tender as the parts not covered with cu-
ticle.

He next enumerates the different ways the venereal diſeaſe may be communicated from one perſon to another.

He concludes the chapter, by obſerving, that the virulence of the venereal diſeaſe in former times was not owing to the greater malignity of the diſeaſe, but to the conſtitution of the times, as people are not now looked upon with that deteſtation, when labouring under this diſeaſe, they were formerly; as the poorer people have hoſpitals and diſpenſaries to apply to for relief; and as the phyſicians and ſurgeons do not think themſelves authoriſed to reproach their venereal patients in a rude and inhuman manner, or deny them proper aid; and he thinks that the frequency and violence of the venereal diſeaſe will be diminiſhed exactly in proportion to the degree in which learning is encouraged by government, and liberal principles thus diffuſed among the people.

In his ſecond chapter, he treats of the virulent gonorrhœa, which term he contends is not a proper one, as it conveys an erroneous idea of the diſeaſe being a compound made up of the Greek

Greek words γονη, ſemen, and ρεω, fluo, i. e. fluxus ſeminis, which he contends never takes place in this diſorder; he would therefore term the diſorder *blenorrhagia*, from βλεννος, mucus, and ρεω, fluo, i. e. mucifluxus (activus), to diſtinguiſh it both from the real gonorrhœa and gleets. To gleets he applies the term blenorrhœa, mucifluxus (paſſivus), being without phlogiſtic diathefis. In Britain, the diſeaſe is called the *clap;* in Germany, a *tripper;* and, in France, a *chaudepiſſe*, from the particular ſymptoms attending the diſeaſe. He defines the virulent blenorrhagia or clap, a local inflammation, with a diſcharge of *puriform* matter from the urethra in men, and vagina in women; but the diſeaſe, by the violence of the irritation, is ſometimes not attended with any running, the ſecretion of mucus ſeeming totally ſuſpended, yet all the other ſymptoms rage with the utmoſt violence; in this caſe, the diſeaſe has very improperly got the name of gonorrhœa ſicca, as if we were to ſay, *fluxus ſeminis ſine fluxu.*

He contends, that the diſtemper being a local inflammation, ſeldom affects the whole ſyſtem, and that the diſcharge, though it has a purulent appearance, is not real pus, much leſs ſemen, but

but merely the mucus of the part ſecreted in larger quantity, and changed in its colour and conſiſtence by the ſtimulus applied to the part, analagous to what we ſee happens in a common coryza. This is the reaſon why he gives the diſcharge the name only of puriform.

He holds it to be an erroneous notion, that it always ariſes from an ulcer in the part; and he affirms, that, in ninety-nine caſes of a hundred, no ſuch ulcer takes place. Dr Stoll, profeſſor of phyſic at Vienna, has, he thinks, made this matter perfectly evident. On opening the urethra of two perſons who died while labouring under a virulent blenorrhagia, he found the internal ſurface preternaturally red, and the puriform matter ouzing out from the internal membrane, eſpecially at the lacunæ, where the ſeat of the diſorder was, without the ſmalleſt appearance of ulceration, or even excoriation. He proves, by a direct experiment made upon himſelf, that a ſimilar diſcharge may proceed from any ſufficient ſtimulus applied to the parts; hence he is of opinion, that, when the diſeaſe ariſes from an external cauſe, it is actually excited from the application of the ſtimulus to the cavity of the urethra itſelf, and that the virulent matter

matter in coition enters the urethra; and that the diſeaſe does not ariſe, as many ſuppoſe, from the matter being abſorbed by the lymphatics of the penis, and then depoſited at the lacunæ of the frænum; if ſuch abſorption actually took place, the affection, he thinks, would oftener be ſeated lower down, which it hardly is in any caſe, unleſs by miſmanagement, till late in the diſeaſe.

He endeavours to prove, both from well eſtabliſhed principles, and practical obſervations, that virulent blenorrhagia not only may, but moſt frequently does ariſe from the ſame venereal poiſon which, when applied to other parts of the body, produces chancres, and other ſymptoms of the lues, and attempts to ſtate, and to anſwer the various arguments by which the contrary doctrine has been ſupported.

1ſt, It has been ſaid, that the poiſon which produces virulent blenorrhagia does never, like that of chancres, produce any venereal ſymptoms in the maſs, or the lues itſelf. To this he anſwers, that though the blenorrhagia ſeldom produces lues, yet we are not to look upon this as univerſally true, in moſt caſes, a ſuperficial inflammation being only raiſed on the internal membrane

membrane of the urethra, without any ulceration, no abſorption takes place, the poiſon being out of the courſe of the circulation,; but, in the courſe of his book, he adduces a variety of inſtances where he thinks unequivocal ſymptoms of lues were produced from the injudicious treatment of blenorrhagia, or where the diſeaſe was accompanied with an ulcer in the urethra. The reaſon he aſſigns why the virus does not ſo commonly produce an ulceration of the urethra, as on the glans, and other external parts, is that the quantity of mucus ſecreted there, envelops the virus, and prevents thoſe effects which are the conſequence of its action on parts not equally well covered with mucus. And he adduces inſtances where the ſtimulus has been ſo ſtrong as to occaſion an entire ſuppreſſion of the diſcharge of mucus, ariſing from the imprudent uſe of injections, and from other cauſes of which an ulceration has been the conſequence, and that followed by ſyphilis. At the ſame time he remarks, that the virus lodged on the glans, inſtead of producing chancres, often occaſions a flow of mucus. This ſpecies of the diſeaſe has been termed gonorrhœa ſpuria, but he thinks would be better termed blenor-

rhagia balani, *i. e.* an active discharge from the glans or corona glandis. In this case no symptoms of lues succeeded, any more than in the common virulent blenorrhagia.

2*dly*, It is mentioned, that, as the poison of the blenorrhagia never produces chancres, so that of chancres never produces blenorrhagia.

With regard to this circumstance, he is of opinion, that too general conclusions have been drawn from a few random observations favourable to the above opinion; and he is convinced, from many cases he has examined, that chancres were communicated by persons affected with a simple blenorrhagia, and *vice versa;* but he contends, as still a more striking proof, that when a patient affected with blenorrhagia does not keep the glans and prepuce clean, chancres are often produced, the cause of which may be safely ascribed to the matter of the blenorrhagia: Hence we find the necessity of keeping the parts clean, and even of washing the fingers after handling a person with a running, as frequent instances have occurred of ulcers about the eyes and nose being produced from inattention to this circumstance; at the same time, he is convinced that no one will doubt, that matter taken from

a chancre, and applied to the urethra, will produce a blenorrhagia.

3*dly*, It is affirmed, that mercury never contributes to, or accelerates the cure of blenorrhagia, but that, on the contrary, every blenorrhagia may be, with certainty, cured without mercury, and without danger of the syphilis succeeding.

To this argument he replies, that it is a certain fact, that a great many blenorrhagias may be, and are cured without mercury; nay, in some cases without any medicine whatever. Nature, when irritated by the poison, will excite a greater secretion of mucus than usual, which may envelop, and, by the large discharge, carry it off altogether: Hence the practice of injecting sweet oil, or mucilaginous liquors, is only assisting nature in her operations. Besides, as he maintains that a blenorrhagia is a mere local complaint, out of the reach of circulation, mercury taken inwardly cannot have the least effect. But, though he allows that simple blenorrhagia may be cured without mercury, yet he thinks, that the cure of a blenorrhagia complicata, or attended with an ulcer, is not to be depended on without it. It is alleged, that mer-

cury never ſhows any power in accelerating the cure of blenorrhagia.

To this he replies, that thoſe who hold ſuch an opinion not only confound the runnings which ariſe from venereal virus with thoſe which are occaſioned by other cauſes; but that they do not make a proper diſtinction between the internal uſe of mercury, and the topical application of it. He affirms, that though mercury internally be of little uſe in the cure of ſimple blenorrhagia, yet, that mucilaginous injections, combined with mild mercurial preparations, are the ſafeſt, ſpeedieſt, and beſt method of curing the diſeaſe.

Laſtly, It is ſaid, that blenorrhagia never leaves the ſyphilis behind.

In ſimple blenorrhagia, he obſerves, it is hardly poſſible for any abſorption to take place; but, in the complicated, an abſorption almoſt always does take place, as he has ſeen in many inſtances, where, from a ſcratch with the point of the ſyringe or catheter, the virus has been abſorbed, and produced unequivocal ſyphilitic complaints, which yielded very readily to mercury. He therefore concludes there are ſome blenorrhagias which cannot be cured without

mercury

mercury, while there are others which may be removed although it be not employed, and without any bad conſequence enſuing. But though he maintains, that the virulent blenorrhagia proceeds from the ſame virus with that producing the lues, yet he is convinced, from experiments made on himſelf, and from obſervations made on others, that blenorrhagia is ſometimes produced from other acrimonies or ſtimuli applied to the urethra, and has then nearly the ſame ſymptoms as attend the virulent blenorrhagia; and he is inclined to believe, that ſuch complaints may be propagated as well as venereal ones. In confirmation of ſuch a complaint exiſting, he remarks, that ſtone-horſes and dogs are ſometimes ſubject to a diſcharge having all the ſymptoms of a venereal blenorrhagia, as to colour, *&c.* but that it diſappears in a few days without any application; and he is perſuaded, that the ſame thing happens alſo to mankind from other cauſes, and eſpecially by maſturpation.

In order fully to aſcertain whether other ſtimuli would produce complaints ſimilar to thoſe attending blenorrhagia, he injected a liquor made of ſix ounces of water impregnated with as much

cauſtic alkali as gave it a very ſharp fiery taſte. On injecting this liquor, he preſſed the urethra ſo that it could go no farther than what is ſuppoſed the common ſeat of virulent blenorrhagia. This injection gave him conſiderable pain, and in making water he had ſevere pain when the urine came to the part; in the courſe of the night, a large diſcharge of puriform matter, of the ſame greeniſh colour as attends blenorrhagia, came on, and continued for five days, becoming, in that time, of a deeper green, attended with every other ſymptom, as ardor urinæ, chordée, *&c.* Dr Olinger of Tubingen, he tells us, obſerved the ſame effect from the internal uſe of oil wrung from red Turkiſh yarn. Upon the whole, he concludes the following facts to be fully eſtabliſhed: *viz.*

1*ſt*, That blenorrhagia frequently ariſes from the ſame venereal poiſon applied to the inſide of the urethra, which, when applied to the glans, prepuce, *&c.* produces chancres; or, when abſorbed into the ſyſtem, forms the lues. And,

2*dly*, That there are blenorrhagias that owe their origin either to acrimonious ſubſtances introduced into the urethra *ab extra*, or, perhaps, ſometimes to a more violent mechanical ſtimulus

lus ariſing during coition: Hence he divides the diſeaſe into two diſtinct ſpecies, *viz.* blenorrhagia ſyphilitica, and blenorrhagia *ab acri vel ſtimulo mechanico.* Beſides dividing the diſeaſe into theſe two ſpecies, he thinks it neceſſary to divide blenorrhagia ſyphilitica into ſimple and complicated, or that attended with an ulcer in the urethra.

How far our readers will be diſpoſed to adopt all Dr Schwediauer's reaſoning on the ſubject we know not. And to enter further into the controverſy, whether ſyphilis or blenorrhagia depend entirely on the ſame, or on different kinds of contagious matter, would be foreign to our preſent buſineſs. But we beg leave to refer thoſe who wiſh to examine more fully the reaſoning and arguments employed by thoſe who contend for the oppoſite opinion, to Dr Duncan's Medical Caſes, where they will find this queſtion treated at conſiderable length.

The Doctor finiſhes this part of his treatiſe with his methodus medendi in all caſes of ſyphilitic blenorrhagia; and, as he endeavours to eſtabliſh, that every kind of virulent blenorrhagia is a local complaint excited by a peculiar

poiſon or ſtimulus, he lays down three indications of cure.

1ſt, To remove or deſtroy, if poſſible, the nature of the poiſon.

2dly, To defend the tender parts from its virulence.

3dly, To allay the irritation occaſioned by it.

For anſwering all theſe different indications, he propoſes oleous or mucilaginous injections combined with opium, and mild mercurials, along with the internal uſe of mucilaginous liquors; and where the inflammatory ſymptoms run high, an anodyne draught at night, which is peculiarly neceſſary for ſuch patients as will not ſubmit to the uſe of injections. Theſe, with topical bleeding, and emolient ſedative fomentations and poultices, will generally effect a cure; but where the habit is irritable, and the running thin and ſharp, the Peruvian bark, along with opium, will produce the beſt effects. He finds the uſe of opium, either internally, or by way of clyſter, the beſt means of removing painful erections; and theſe, he obſerves, may, in a great meaſure, be prevented, by tying down the penis, and lying on the ſide on a matraſs.

He

He always adviſes a ſuſpenſorium ſcroti from the very beginning of the diſeaſe, as a ſure preventative of ſwelled teſticles. He has always found neutral ſalts to be hurtful, by increaſing the ſecretion of urine; and diſcommends all draſtic purges, and even the frequent uſe of mild ones, as tending to occaſion an abſorption of the poiſon. By theſe means, he ſays, a ſimple virulent blenorrhagia is to be cured. But where it is complicated with an ulcer in the urethra, he thinks it neceſſary to join along with theſe, the internal uſe of mercury, or mercurial friction on the perinæum and inſide of the thighs. He next treats of gleets, which he defines to be a continued running, after the inflammatory ſymptoms of the virulent blenorrhagia have diſappeared ſome time.

Theſe, he alleges, ariſe from two different cauſes, which require a different method of cure. Firſt, they may ariſe from a relaxation of the mouths of the veſſels, owing to the preceding irritation; or, ſecondly, to an ulceration or eroſion of ſome part of the urethra.

After pointing out the marks by which theſe two ſpecies may be diſtinguiſhed, he propoſes for the cure of the firſt, injections either of aſtringent

ſtringent ſubſtances, or of calomel ſuſpended in a mucilaginous liquor, which, he ſays, will generally remove the complaint; but for the cure of the ſecond, the ſame means are to be had recourſe to, as in the cure of the ſyphilis itſelf.

In this place, the Doctor makes a few new and eſſential obſervations reſpecting injections in general. He ſays, the ſyringe ſhould have a ſhort wide pipe, ſufficient to fill the orifice of the urethra; the patient ſhould puſh the injection ſlowly into the paſſage, till he feels it gently dilated; and ſhould retain it there for a minute or two; and do the ſame operation three or four times repeatedly, and three or four times a-day regularly. The injecting liquor in virulent blenorrhagia ſhould be always lukewarm; but in gleets this is not neceſſary. In all caſes of injection, the patient ought to endeavour to make water before, in order to waſh off any matter lodged in the paſſage, and to keep the injection longer applied afterwards. Where an ulcer is lodged low down in the urethra, bougies, either with or without proper injections, will be of uſe. Where gleets prove obſtinate, irritating injections, and likewiſe exerciſe, by raiſing a local inflammation, will often remove the complaint.

As

As to internal remedies, mercurials, balſamics and corroborants make the chief. The firſt are always neceſſary, where the whole ſyſtem is affected. Balſamics, as balſam of capivi, and thoſe of the turpentine kind, ſeem to act by raiſing a local irritation. Of the laſt, Peruvian bark, with wine or lime-water, with or without powerful aſtringents, is the moſt uſeful.

Gleets, he ſays, ſometimes proceed from obſtructions occaſioned from ulcers in oppoſite ſides of the urethra making adheſions, and forming columnæ carneæ acroſs the paſſage.

He gives a particular caution, in caſes of gleets which have their ſeat low down in the urethra, to examine with great care the proſtate gland. Where it is found hard and ſwelled, a mercurial courſe, with extract of hemlock, and bliſters applied to the perinæum, have been found to produce the beſt effects.

Dr Schwediauer finiſhes this chapter with a noſological table, in which he ranks the diſeaſe under the general claſs of locales, the order of phlogoſis dividing it into a number of genera, each of which he ſubdivides into ſeveral ſpecies.

He

He next proceeds to treat of the hernia humoralis, or ſwelled teſticle. He lays it down as a new fact or obſervation, that this is never originally a ſwelling of the teſticle itſelf, but only of the epididymis, and that it proceeds from an irritation of the mouths of the ſeminal ducts, without any depoſition of the poiſon into the teſticle. He therefore recommends a new method of treatment, recommending the free uſe of opium, with the conſtant employment of a truſs-bag, to which emolient clyſters and warm baths ſhould be joined. But according to circumſtances, bleedings ſhould be premiſed. Where the diſeaſe proves obſtinate, the patient is to be put into a warm bath, or over a perforated chair, have a large doſe of opium, either by the mouth, or by way of clyſter, and every means is to be uſed to bring back the running, if it be ſtopped. Where the epididymis becomes very hard and ſchirrous, mercury rubbed into the perinæum, with poultices of the roots of the atropa mandragora of Linnæus, has been found uſeful.

He next treats of the inflammation and induration of the proſtate gland, which he adviſes ſhould be managed in the ſame manner as the ſwelled teſticle.

In

In the ſixth chapter, he treats of venereal iſchury and ſtrictures. The iſchury he defines to be a total ſuppreſſion of urine, either from the remains of former ſyphilitic complaints, or from a preſent venereal virus affecting the urethra or neck of the bladder. A partial ſuppreſſion, he obſerves, may ariſe from different cauſes, of which a ſtricture or conſtriction of one particular part of the urethra is only a common one. Where the caſe is urgent, the bladder much diſtended, after uſing the common methods by an antiphlogiſtic regimen, the bladder muſt be evacuated by the catheter, about the application of which he makes many uſeful obſervations: when there is, as it often happens, difficulty of introducing the catheter, owing to a ſpaſm taking place, from the irritation of the inſtrument, in this caſe, he adviſes to puſh it gently, till a reſiſtance takes place, then to ſtop a little till the ſpaſm goes off, when it will often be introduced with the greateſt eaſe. Before introducing the catheter, he adviſes a laxative injection to be given, and after that an injection of equal parts of barley-water and lintſeed-oil, with a full doſe of tinctura thebaica, which ſhould be repeated occaſionally. At the ſame time the uſe of the

warm

warm bath will be of great ſervice in removing the complaint.

He mentions a caſe where, by the advice of an old woman, the application of a roaſted onion to the perinæum produced a plentiful flow of urine two hours after the application.

After producing a flow of urine, he adviſes the repeated application of the catheter, to prevent a return of the complaint. The catheters he commonly makes uſe of, are made of twiſted gold-wire, covered with the elaſtic gum reſin or caoutchouc.

If the urine cannot be diſcharged by the above means, the next reſource is the operation.

After the diſcharge of urine is procured, he adviſes, if the iſchuria ariſe from a retropulſed blenorrhagia, to endeavour to bring back the running, which may often be effected by fitting over the ſteam of hot water and vinegar, and the application of emolient poultices to the genitals; but in all theſe caſes the uſe of mercury is neceſſary for a radical cure.

In the following chapter, he next makes ſome obſervations on venereal ulcers and chancres. In the treatment of theſe, he contends, that it

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is of the utmoſt conſequence, to diſtinguiſh the particular nature of the ulcers, *viz.* whether they are local, or owing to an univerſal affection; whether they are ſimply venereal, or complicated with ſcrophula, ſcorbutus, and the like; whether they ariſe from acrimony of the ſaliva, or other fluids ſecreted nigh the place where the ulcer is ſituated; or, ſuch as were originally venereal, but have now changed their nature ſo far, that the uſe of mercury has a bad effect upon them.

Where the ulcer is merely local, it may be cured by topical applications; but when they are joined with, or proceed from an univerſal affection, to theſe muſt be joined mercury. When they have changed their nature, ſo that upon a trial of mercury we find they extend, or do not heal, aſtringent topical applications, with internal corroborants, are what he adviſes.

He finiſhes this chapter with a few obſervations on venereal fiſtulas. Here he adviſes to eradicate the venereal poiſon, before we attempt the operation, as any remains of that often occaſions a return of the diſeaſe.

He

He next treats of phymoſis and paraphymoſis. In theſe complaints, he adviſes never to make inciſions, without the moſt abſolute neceſſity, as by the laying open a larger ſurface of open cuticle, the perſon is expoſed to a greater abſorption of the venereal virus. He therefore adviſes, rather to attempt the cure by injections, in the caſe of phymoſis; and in the paraphymoſis, he adviſes, as the moſt effectual means of reduction, the ſprinkling of the glans with cold water, meanwhile endeavouring, with the fingers, to bring the prepuce forwards over the glans.

He next treats of buboes. Theſe, he ſays, ariſe from two cauſes. One is, the irritation of the mouths of the lymphatics occaſioning a ſwelling of the neighbouring gland; the other is, where the matter is depoſited in the gland itſelf. The firſt he calls *ſympathic*, the other *idiopathic*.

He is in doubt, whether buboes are ever formed from a depoſition of venereal virus from the general maſs. He then enters into the conſideration of the queſtion, whether we ought to diſcuſs a bubo or not? The reſult of this inquiry is a perfect ſatisfaction in the propriety of diſcuſſing, as he looks upon the doctrine of the whole

whole venereal virus being lodged in the bubo, or its becoming a channel by which it paſſes out of the body, to be erroneous, and that the body may be equally well freed from it by diſcuſſion, as by bringing the bubo to ſuppuration.

In diſcuſſing a bubo, he adviſes mercurial friction on the inſide of the thigh, conſiderably lower down than the bubo, and by no means to rub the ointment on the ſurface of the bubo itſelf, as by the irritation raiſed from the friction, the bubo would be often brought to ſuppuration, inſtead of being diſcuſſed. At the ſame time, a mercurial plaſter may be applied over the bubo, to prevent the bad effects of the rubbing of the clothes. During the time of reſolution, the patient is to be kept on a ſtrict antiphlogiſtic regimen.

In ſympathic buboes, nothing more is neceſſary, but to take off the irritation from the mouths of the lymphatics.

He remarks, that ſometimes the bubo cannot be diſcuſſed. In this caſe, the treatment is to be regulated according to circumſtances. If the patient is of a full habit of body, and the ſymptoms run high, an antiphlogiſtic regimen, with topical bleeding with leeches, will be a

means of bringing it to a more ſpeedy and agreeable ſuppuration, than by high diet and ſtimulant applications. But where the ſymptoms run high, from an irritable ſyſtem, then he admits of full diet, opium, with emolient and ſedative applications. He condemns the uſe of mercury in both kinds of buboes; and, indeed, at any time during the inflammatory ſtate of the diſeaſe. But he takes notice of a third kind of bubo, very different from the two former, ſuch as happens in weak, relaxed, debilitated and cachectic patients, which will neither diſcuſs, nor can it be eaſily brought to ſuppuration. In ſuch caſes, he adviſes mercury, along with Peruvian bark, full diet, and topical ſtimulant applications.

He adviſes the leaving the abſceſs to burſt of its own accord; but if it proves tedious, he prefers cauſtic to any other method. The cauſtic he adviſes to be a ſmall one, and never to be allowed to lie on above two or three hours at moſt. After the bubo is opened, he recommends the method of treatment commonly in uſe in ſuch caſes.

He next enters on the conſideration of the ſyphilis, or venereal diſeaſe, commonly called the

the *confirmed lues* or pox. On this ſubject, he begins with enumerating the different ſymptoms that are apt to be produced by an abſorption of the venereal virus into the maſs, the general cure of which depends on the preparations of mercury. He lays down as a conjecture, that the nature of its action depends on a peculiar attractive power, or chemical affinity with the venereal poiſon with which it readily unites, and forms a compound or neutral differing from the qualities either of the mercury or venereal poiſon; hence as ſoon as that union takes place, and the poiſon is fully ſaturated, the effects of the virus in the body muſt ceaſe, and the perſon be entirely cured. From this theory, he alleges, we might perhaps better account for a few grains of mercury relieving the moſt excruciating pains, and curing ulcers without any topical application.

For a fuller account of the operation and uſes of mercury, he refers to Dr Duncan's obſervations on this ſubject, publiſhed at Edinburgh.

In the cure of the ſyphilis, he begins by directing a purgative to cleanſe the bowels. He then puts his patient into a warm bath, rubbing him well down with a fleſh-bruſh. He is then put to

bed, after receiving a cupful of warm wine-whey. That evening, or next day, he begins to introduce the mercury into the ſyſtem by friction, by rubbing on the inſide of the thigh or leg, for half an hour, before the fire, a drachm of good mercurial ointment; after which he puts on a pair of flannel drawers, to keep the bed-linen clean. Before he employs a new friction, the part is to be well cleanſed with ſoap and warm water; the friction may be done either by the perſon himſelf, or by another, with the hand covered with a glove made of ſoft bladder; the part is to be changed at every new friction. Whenever the leaſt ſymptom of irritation or affection of the mouth takes place, the friction is to be left off for a day or two; it muſt then be renewed, and this courſe continued till the patient is radically cured; and it is even to be perſiſted in for a fortnight or three weeks after every ſymptom has diſappeared. He allows his patients, during this courſe, a vegetable diet, mixed with animal food, and a proportion of wine or malt liquor. He wiſhes, if poſſible, for his patients to uſe the warm bath twice a-week, as he thinks thereby not only to prevent

prevent a ſalivation, but likewiſe to render the cure ſhorter.

He next proceeds to give a liſt, and an analyſis of the different mercurial preparations in uſe. The preparation which he prefers, is the unguentum mercuriale fortius for external uſe, when made of freſh lard or butter, without the addition of any turpentine, or any other matter, to render the mercury more eaſily extinguiſhed. For internal uſe, one of the mildeſt preparations, he thinks, is the pulvis mercurius cinereus of the Edinburgh Pharmacopœia, a preparation introduced by Dr Black. Among other remarks on the mercurial preparations, he ſays, he is in doubts whether pure mercury, in its crude ſtate, imparts any quality to ſimple water. He has obſerved, however, a dog cured of a moſt inveterate ſcab, by a decoction of this kind, when every thing elſe had failed. The table of mercurial preparations annexed to this chapter, contains a full and complete view of all the mercurial preparations and compoſitions hitherto known.

He next proceeds to conſider, whether it is neceſſary to raiſe a ſalivation in the cure of a confirmed lues. The reſult of his obſervations

on this ſubject is, that he looks upon a ſalivation to be no certain means of removing the diſeaſe radically; that when raiſed to a high degree, inſtead of curing the diſeaſe, it is very hurtful to the conſtitution; and that no ſolid arguments have been adduced to lead us to continue the uſe of it. He then enumerates the different means of preventing a ſalivation, when under a courſe of mercury.

1*ſt*, By a careful exhibition of mercury, both as to its preparation and doſe.

2*dly*, By wearing a flannel ſhirt next the ſkin, avoiding cold, damp air, and keeping warm clothed in ſuch weather.

3*dly*, By the repeated uſe of warm baths, and the internal uſe of diaphoretic and diuretic decoctions, along with the mercury.

4*thly*, By avoiding very hot rooms, and confined air, and covering the head and neck ſlightly, both by day and night.

5*thly*, By taking a doſe of gentle phyſic now and then, and intermitting the uſe of the mercury as ſoon as the breath and teeth begin to be affected.

6*thly*, If the patient is not of a phlogiſtic diatheſis, a full diet, with the moderate uſe of wine,

wine, rather than a low one, avoiding the ſmoking of tobacco, by ſuch as uſe it, during the time they are under a mercurial courſe. When ſalivation runs high, he propoſes to remove it by gentle laxatives, the warm bath and fleſh-bruſh, and the internal uſe of ſulphur; but if it be owing to weakneſs, a good nouriſhing diet, and aſtringent gargles, with proper caution, may be uſed, ſuch as decoction of bark, with red wine; and, according to circumſtances, with a portion of tincture of gum, lac, or myrrh.

He next proceeds to inveſtigate the cauſes why venereal complaints do not always yield to mercury. He alleges it may be occaſioned by a variety of circumſtances, as from the crude mercury being impure, or the preparations badly conducted, or adulterated; he therefore adviſes every medical practitioner, who has his patient's welfare at heart, to prepare his own medicines; or, it may be owing to the method of exhibiting the mercury either externally or internally; to the particular ſtate of the patient; to irregularities committed by him; to the nature of the diſeaſe itſelf; to the mercury being given in too ſmall quantity, or not for a ſufficient length of time; to its being adminiſtered

in too large quantity, by which ſalivation, ſweating, or purging are brought on; or, laſtly, to its being mixed with other ſubſtances, by which it is rendered inefficacious.

He next proceeds to particular complaints that occur in the venereal diſeaſe, and require a peculiar treatment, as ophthalmia, deafneſs, ſore throat, affections of the ſkin, excreſcences of different kinds, as condylomata, fici, warts, *&c.* venereal impotency, pains, ſpaſms, and the like. In venereal ophthalmia, if the diſeaſe be owing to a retropulſed blenorrhagia, as he tells us he has obſerved ſeveral times, eſpecially in cold climates, he propoſes, along with the common antiphlogiſtic regimen, to ſcarify the coats of the eye, and, by every means whatever, to endeavour to bring back the running, even by inoculation, as the conſequence of ſuch ophthalmia is almoſt always a perfect loſs of ſight. The ſame cauſe, he obſerves, has produced total deafneſs, therefore the ſame means of bringing back the running is to be uſed here.

With regard to the venereal ſore throat, he inſiſts ſtrenuouſly for a careful diſtinction of theſe from ſuch as ariſe from ſcurvy, or from

ſaliva

ſaliva rendered acrid by the uſe of mercury; but particularly, from thoſe, though originally venereal, which have now changed their nature, and acquired a quite different character, as the cure of the venereal ſore throat depends entirely on mercury, which would render the others worſe.

With regard to complaints of the ſkin, beſides the uſe of mercury, he recommends the warm bath, made of a decoction of bran, in every gallon of which he diſſolves half a drachm of corroſive ſublimate.

For venereal warts, and other excreſcences, he has found Plenk's aqua cauſtica anſwer extremely well. Its compoſition is as follows:

℞. Sp. vini rectif.
Aceti vini, ana ſeſcunciam.
Mercur. corroſ. ſub.
Aluminis.
Camphora.
Ceruſſæ, ana ſemidrachmam.

This liquor applied once or twice a-day with a pencil, has, he ſays, removed them when nothing elſe would ſucceed.

Where

Where venereal impotence proceeds from ſome of the virus lurking about the body, he recommends a proper courſe of mercury, and afterwards tonic medicines, with two tea ſpoonfuls of Hoffman's anodyne liquor evening and morning, and rubbing the ſpermatic cord and ſcrotum with the ſame. By this means, he ſays, he has often ſucceeded in removing the complaint.

He next makes a few remarks on venereal complaints, diſguiſed under the appearance of other diſeaſes, and on ſuch as are incurable by mercury. Theſe are to be diſtinguiſhed by circumſtances, and the treatment regulated according to the doctrines he has laid down in the different parts of his work.

Dr Schwediauer finiſhes this ingenious publication with a few obſervations on the prejudices that prevail about the venereal diſeaſe. It is, he ſays, believed by ſome, that, when once the diſeaſe has got into the ſyſtem, it can never be fully eradicated; hence when any little diſorder appears, it is always aſcribed to the venereal virus ſtill lurking in the body; others imagine they can never have the mercury thrown out of

the

the body again; and a third ſet think the beſt way to get rid of a clap is by coition with one or more healthy women. All theſe prejudices being equally fooliſh, and the latter highly criminal, he adviſes the contrary to be ſtrenuouſly inſiſted upon by the phyſician, ſo that their baneful effects may be prevented.

IX.

IX.

Obſervations and Experiments for inveſtigating the Chemical Hiſtory of the Tepid Springs of Buxton, intended for the Improvement of Natural Science, and the Art of Phyſic. By George Pearſon, *M. D.* 2 *Vols.* 8*vo.* London.

IN theſe obſervations and experiments, Dr Pearſon has been at great pains in inveſtigating the nature and properties of the waters at Buxton; and, in ſeveral particulars, has thrown new light upon that ſubject.

He begins with a chronological account of theſe waters from the earlieſt period, inveſtigates the nature of the ſoil in the neighbourhood, and the ſtate of the atmoſphere about the Peake of Derbyſhire.

After this introduction, he proceeds to treat of the hiſtory of the chemical qualities of the tepid waters at Buxton.

He

He firſt conſiders its properties as immediately diſcoverable by the external ſenſes. From this examination, he concludes, that it does not contain any impregnation evident to the external ſenſes, excepting a permanent vapour in a very unuſual form and quality; and that this permanent vapour is not gas or fixed air, as it has commonly been called; that if it be impregnated with other matters, it contains a ſmaller quantity of them than in common ſpring-waters; and that its heat exceeds that of the interior part of the earth, and of ordinary ſprings, which are of a temperature from 48 to 50 degrees, while this water is about 81°, and conſequently feels rather tepid than otherwiſe.

It appears, he adds, that Buxton water does not differ conſiderably in ſpecific gravity from various cold ſprings, when they are of the ſame temperature; in general, it is lighter, and always as light as theſe waters. But an equal bulk of Buxton water, immediately after being taken from the ſpring, weighs twenty grains in a pint leſs than cold ſpring-water. For this he aſſigns two reaſons, the ſuperior heat of the water, and the permanent vapour ſuſpended in it.

To

To the vulgar, he obſerves, it is wonderful that ſprings of different qualities ſhould be near each other; that a cold and warm water, a hard and ſoft water, a pure and a chalybeate ſpring, ſhould be found within the compaſs of a few yards, as is the caſe at Buxton; but, to a perſon tolerably acquainted with the ſtructure of the earth, theſe differences may be readily accounted for. Without ſuch knowledge, however, he obſerves, they muſt be allowed to be rather extraordinary appearances.

He next examines this water by means of mixture, and, from a variety of experiments, he concludes, that the mixture of ſubſtances with the Buxton water inſtructs us that they contain no acid, excepting, perhaps, a ſmall quantity of gas, and no alkali; that they are impregnated with vitriolic acid, combined with quicklime, forming vitriolic ſelenite; but whether united with other ſubſtances, theſe experiments do not make appear; that they contain muriatic acid, combined with ſome ſubſtance, but of what kind is not aſcertained, and alſo calcareous earth; that it is extremely doubtful whether they have any metallic ſalt, but that, if they do contain any, it is iron, diſſolved probably by vitriolic

triolic acid, certainly not by gas; and that they are impregnated with a permanent vapour, which is probably air, but not with any phlogiſtic matter.

The proportion of theſe ſubſtances diſſolved in Buxton water, to each other, and to the water, doth not appear from theſe experiments by mixture; but, from the compariſon generally made of the appearances on mixture with common ſpring-waters, he thinks it probable that they are not only the ſame ſubſtances, but in quantity not exceeding that which is contained in ordinary cold ſprings.

He concludes this part of his ſubject by endeavouring to diſcover, by means of heat, the properties of the Buxton water. In this way, he has made a very conſiderable number of experiments; and, from theſe, he thinks it appears that this tepid water contains about one ſixty-fourth of its bulk of permanent vapour, or four ounces meaſure to four and a half of permanent vapour (meaſured when of the mean heat, and under a moderate preſſure of the atmoſphere) in ſixteen pints of water, a part of which ſubſtance is air; but the kind of vapour with which this air is mixed was not evident, excepting

cepting that it was not gas, or any phlogiſtic vapour.

He found that Matlock water contained, in the quantity of ſixteen pints, from three and a half to four ounces meaſure of vapour, which was found to be air.

He alſo found, that this quantity of common ſpring-water was impregnated with three and a half ounce meaſure of permanent vapour, which appeared to be air; that this air, he ſays, rather exceeded, in purity, that of the atmoſphere.

He found that the ſubſtance which combined with quicklime, on the addition of lime-water to Buxton, Matlock, and common ſpring-waters, and formed therewith a white precipitation, was gas; and, eſtimating the quantity of this permanent vapour by the quantity of lime-water which is ſaturated by a given portion of this ſubſtance in ſpring-water, Buxton water contains about half the quantity of gas that is found in common ſprings, and rather leſs than Matlock water, and other petrifying ſprings here examined; that, judging the quantity of gas in ſprings by the quantity of gas that will ſaturate the quicklime in a certain bulk of lime-water,

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as it requires the gas of fourteen pints of Buxton water, thirteen pints of Matlock water, and eight pints of common ſpring-water, to unite with the whole of the lime contained in four pints of lime-water; and, as four meaſures of gas are required to ſaturate the quicklime in nine meaſures of lime-water, it appeared that the above quantities of theſe ſprings contained four ninths of four pints, or about twenty-eight ounces meaſure of gas. It did not appear to him that the quantity of gas in ſpring-water could be eſtimated by the weight of the ſediment formed by the union of the quicklime of lime-water, and the gas of ſpring-water, when this permanent vapour is only partially ſaturated, but, when the gas is preciſely ſaturated, it may then be eſtimated from the weight of the ſediment. He found, that ſeven pints of Buxton water, and four pints of common ſpring-water, contain each about four ounces meaſure, or ſix grains weight of gas. He found that the quantity of this gas, obtained by decompoſing this compound of gas and quicklime, is four ounces and three quarters to five ounces and three fourths meaſure of gas from three pints and a half of Buxton water. He found three ounces meaſure

ſure of this permanent vapour from two pints of ſpring-water, and three ounces meaſure of gas from three and a half of Matlock water, and one pint of lime-water, when the gas in theſe three ſprings is preciſely ſaturated by lime-water. But when this permanent vapour is not ſaturated, theſe waters afforded ſeven ounces meaſure of gas from each pint of lime-water ſaturated.

He found that the quality of the gas in theſe ſpring-waters is the ſame, with regard to the degree of concentration conſidered as a ſpecies of acid, as the permanent vapour extricated from calcareous earth; and he ſays, that the quantity of gas may be known in a certain quantity of ſpring-water, by aſcertaining the quantity of lime-water that will ſaturate this permanent vapour in a determined bulk of water. For the quality of gas in ſprings being the ſame as that obtained by art, the quantity required to ſaturate a quantity of lime-water, equal to that ſaturated by this permanent vapour in a certain quantity of ſpring-water, is the quantity of this ſubſtance in that quantity of water. He found that the gas in theſe ſpring-waters could not be ſeparated by the heat of boiling water. He alleges the concluſion is falſe, That becauſe a ſpring-

water

water contains gas to the teſt of lime-water, and depoſits calcareous earth during expoſure to heat, this earth is there diſſolved by gas. He finds, that the water remaining after evaporating any part of a given bulk of ſpring-water, contains the ſame quantity, and not more gas than an equal bulk of water before evaporation. He found, on examination, that the gas in Buxton, Matlock, and the common ſprings, contain gas combined with quicklime, or with the compound of gas and quicklime, and not with ſimple elementary water, as hitherto ſuppoſed; and that a ſolution of calcareous earth produced the ſame appearances, on the addition of lime-water, as the above ſprings.

He contends, that iron, and other metals, were not in general diſſolved by gas in mineral waters, but by an acid; and that the ſpontaneous decompoſition of chalybeate waters might not, and actually does not, depend on the eſcape of gas, but upon a different efficient cauſe, *viz.* dilution of the metallic ſalt with which theſe ſprings are impregnated.

He found, that the tepid ſprings of Buxton afforded, upon evaporation, one three thouſand eight hundred and fortieth of their weight, or

ſixteen grains of ſolid matter from a gallon of water, which was ſea-ſalt, vitriolic ſelenite, and calcareous earth; the quantity of each of theſe, he ſays, was about one and three fourth grain of ſea ſalt, two and a half grains of vitriolic ſelenite, and ten and a half grains of calcareous earth. He obſerves, that the cruſt formed on the inſide of tea-kettles, and other veſſels, after boiling Buxton and Matlock water, is calcareous earth, and vitriolic ſelenite; that during boiling, or evaporation by a leſs than boiling heat, no acid can be detected to be ſeparated, conſequently that there is no decompoſition by the heat of boiling water of any kind of neutral, earthy or metallic ſalt. And he further proves, that this water contains no acid excepting the vitriolic and marine acids, and gas combined with fixed alkali and quicklime. Laſtly, he found that Buxton water contains no phlogiſtic ſubſtance ſeparable by heat and evaporation.

After this chemical hiſtory of the Buxton waters, Dr Pearſon preſents us with many experiments and obſervations on the permanent vapour which ariſes ſpontaneouſly from theſe waters. From thence he obſerves, we are informed,

formed, that, by preſſure accompanied with degrees of heat and cold far exceeding thoſe of the atmoſphere, the permanent vapour is readily contracted in its dimenſions, and, upon removing that preſſure, it returns to preciſely the ſame volume as before; that by heat it is readily expanded, and by cold ſpeedily contracted; and he alleges it is ſubject to nearly the ſame laws, with regard to expanſion, as air; that its ſpecific gravity is the ſame, or rather leſs than that of common air, and of air united with phlogiſton, or air altered by the putrefactive fermentation, by reſpiration, and by expoſure to a mixture of iron and ſulphur; that it is tranſparent and colourleſs in any bulk that can be conveniently viewed together; that it has no taſte or ſmell; that it is ſonorous, and when in motion may be felt like a blaſt of wind; and that it has viſcidity.

By various experiments, he found this permanent vapour wholly unfit for the reſpiration of animals, and that they die therein for the ſame reaſon, and probably in the ſame time as in the air-pump; but he did not find it poiſonous to quadrupeds, when taken into the ſtomach. He found, that fiſhes die in the tepid water of

Buxton, from the heat, and not from the permanent vapour with which it is impregnated; that light and flame are extinguiſhed, by being immerſed in it; that phoſphorus, water, and any permanent vapour produce an appearance, upon motion in the dark, reſembling the phoſphoric light of the ſea in the night-time; that phoſphorus, by long agitation, ceaſes to ſhine in permanent vapour; but he found that the phoſphorus itſelf, or its phlogiſton, combines therewith, and forms a vapour which emits a flame upon expoſure to atmoſpheric air; that inflammable ſubſtances which burn, or are decompoſed by air, without light or flame, as nitrous gas, do not burn, and are not decompoſed by the permanent vapour that ariſes from Buxton water. He found, that the permanent vapour extricated by the heat of boiling water from Buxton water, conſiſted, upon an average, of about equal parts of the permanent vapour which ariſes ſpontaneouſly from the tepid ſpring and air; and that under a mean preſſure, and in a temperate heat of the atmoſphere, the bulk of theſe two permanent vapours to the water, is as one to ſixty-four. He found, that ſeeds do not grow in it, but that the living principle was not deſtroyed by,

by, the permanent vapour of Buxton water, inflammable air, air totally altered by reſpiration or putrefaction, nor by air united with phlogiſton by inflammation. He found that plants grew, and frequently in a ſomewhat luxuriant manner, in the permanent vapour of Buxton, in inflammable air, and in air totally altered or ſaturated with phlogiſton, by various proceſſes, for a ſhort time, and then die, ſometimes ſuddenly, in general, gradually. He thinks, that vegetation probably never changes the permanent vapour of Buxton, or air totally altered or ſaturated with phlogiſton, partially or wholly to the ſtate of atmoſpheric air; but that the air found ſometimes in receivers of permanent vapours, different from air in which plants have lived, is moſt probably excreted by the plants, and added to the included permanent vapour.

He found, that the mucilaginous and putrefactive fermentation takes place in the permanent vapour of Buxton water, and in air altered entirely by various proceſſes. He likewiſe found, that an animal ſuffocated by this permanent vapour, does not putrefy ſooner than an animal killed by ſome mechanical injury in a vital part; that ſolutions of metallic ſalts, mixed

with a large quantity of water, decompoſe in this permanent vapour, and in air totally altered by reſpiration, putrefaction, and phlogiſtic proceſſes. He found, that the permanent vapour was neither acid nor alkali, when tried with an infuſion of archill or violets, or that it contained or ſeparated phlogiſton, upon trial, with ſal ſaturni; that various acids, alkalis in a mild and cauſtic ſtate, ſolutions of neutrals, earthy and metallic ſalts, alcohol, oils, and ſolutions of ſoap, have no effect in decompoſing or altering this permanent vapour, but that they abſorbed a ſmall quantity of it; that lime-water, and common ſpring-water, ſaturated with common air, or in their natural ſtate, do not unite with this vapour; and that common ſpring-water, deprived of its natural proportion of air, abſorbs about one forty-ſixth or one forty-eighth of its bulk of atmoſpheric air, one fifty-third or one fifty-fifth of its bulk of the permanent vapour of Buxton water, and from one forty-eighth to one ſixty-third of its bulk of air ſaturated with phlogiſton, or altered by expoſure to a mixture of iron and ſulphur; alſo one forty-fifth of its bulk of a mixture of equal parts of permanent vapour and air; he did not find the permanent vapour at

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all altered, by being a long time in contact with water, or lime-water; that by agitation, in a large quantity of boiling water expoſed to the atmoſphere, this vapour, as well as air ſaturated with phlogiſton, or altered by various proceſſes, mixes with the external air. This addition or mixture, he alleges, has been miſtaken for a change of theſe ſubſtances into air. But theſe ſubſtances, he tells us, are not altered by agitation in veſſels wherein the water is excluded from the atmoſphere, nor perhaps when mixed with a pretty large proportion of common air, and in veſſels of water communicating with the atmoſphere; and laſtly, he found, that this permanent vapour does not combine with, but is diffuſed through atmoſpheric air.

Upon the whole, from the many experiments and obſervations made, Dr Pearſon concludes, that the medical effects of theſe waters depend as much on the ſtate of the atmoſphere about the Peake, along with the different accompanyments in uſing the Buxton waters, ſuch as exerciſe, diet, *&c.* as upon any medicinal effects of the waters themſelves.

He alleges, that the purity of the atmoſphere depends on the abſence of phlogiſton; and that the

the particular ſituation of the Peake prevents the air from being impregnated with ſuch a large proportion of that fluid, as it is at a diſtance from large cities, where much inflammation is conſtantly going on, and where there are many ſubſtances conſtantly under a ſtate of putrid fermentation, from which the phlogiſton is conſtantly generating, paſſing off, and mixing with the ſurrounding atmoſphere, rendering it impure; whereas at the Peake, there are not the ſame cauſes operating for the production of phlogiſton; there is little matter fit for undergoing the putrid fermentation; and by the coldneſs of the air there, that proceſs in the ſmall quantity of matter in this region is much retarded, if not altogether prevented. Hence he concludes, that the atmoſphere, about the high lands of the Peake, is much purer than in the reſt of the iſland; and he therefore ſuppoſes, that conſiderable changes may be induced in a deceaſed body, that has been removed from a low ſituation into a higher one, with a purer atmoſphere, ſuch as that at Buxton.

With reſpect to the medicinal effects of the Buxton waters, from the various experiments he made upon

upon them, he concludes, that these depend on their containing an unusually small quantity of solid substances, being much less than in common cold springs; on their having a temperature considerably hotter than common water, this being in general from 48 to 50 degrees, while that of Buxton is about 81° or 82° of Fahrenheit's thermometer, occasioned, he supposes, by present subterraneous fires, or by such as formerly existed, but whose effects still remain. By this means, these waters are impregnated with, and are continually throwing off a permanent vapour, which he endeavours, from a variety of experiments, to demonstrate, is not gas, but a vapour composed of a portion of common air and phlogiston, which, upon being received into the lungs of animals, proves destructive; but when taken into the stomach, from various experiments he made, seemed to produce, in most cases, little sensible effects. This vapour he found to be heavier than inflammable air, but rather lighter than either common or fixed air.

From the experiments he made, he concludes, that the effects of these waters, externally applied, do not depend on the substances with which

which they are impregnated; and that the ſame effects, under otherwiſe ſimilar circumſtances of atmoſphere, diet, exerciſe, *&c.* may be expected from pure water of the ſame temperature as that of the tepid ſpring of Buxton.

He alſo alleges, that any medical effects theſe waters may be poſſeſſed of, when uſed internally, depend upon the permanent vapour with which they are impregnated, and from their particular temperature. He therefore concludes, that more certain and greater effects may be produced, by exhibiting a larger quantity of that vapour for a doſe, than what is contained in the quantity of Buxton water uſually drank, or that can be conveniently taken into the ſtomach. He adds, we are not to expect the ſame effects from drinking the water when it is cool, or when the temperature is not preſerved, or after expoſure to the atmoſphere, when it has ſeparated a portion of the permanent vapour, as when it is immediately taken from the bath.

He ſuggeſts, however, a method of drinking Buxton water, after being kept in bottles for any length of time, of the ſame efficacy as at its ſource, abſtracting from the effects of the accompanyments of the drinking it there.

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He propoſes, that pint-bottles ſhould be filled with the water at the bath at Buxton, then being inverted in the bath, an ounce phial, filled with the permanent vapour that ariſes from the bath, ſhould be made to riſe within each of the pint-bottles. This being done, while in the bath, the inverted bottles are to be corked, and to be covered with a piece of wet bladder.

The method he propoſes for collecting the permanent vapour, is by going into the bath with a phial, and a funnel in it with a wide mouth. Theſe are to be immerſed in the bath, ſo as to fill them with water, and then to be inverted. It is then to be obſerved where the greateſt quantity of air bubbles are iſſuing out of the nitches or holes of the flooring pavement of the bath; over theſe is to be held the mouth of the funnel, by which means the air bubbles will be received into the inverted bottle, through the funnel, where a bulk of water will be expelled, equal to the bulk of permanent vapour that has aſcended into the phial. The funnel is then to be removed; and the phial, while inverted, is to be ſtopped with a very ſound cork, and covered with a piece of wet bladder. In this way,

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he ſays, it may be kept for a conſiderable length of time.

When the water is intended to be drunk, one of the pint bottles, impregnated as before directed, is to be immerſed in water heated about 82°. After it has ſtood in this heated water a ſufficient time, to acquire the above temperature, the bottle is to be agitated, and the quantity to be uſed, is to be poured out, and to be drunk off as ſpeedily as poſſible. The remaining water in the bottle, ſhould be poured out into a phial or bottle, which it will entirely fill, and always immediately before drinking, ſhould be warmed in the ſame manner as the firſt portion.

By this means, he alleges, Buxton water may be drank, after being kept in bottles for ſome time, in as efficacious a ſtate, (excluſive of its accompanying circumſtances,) as at the ſpring-head, as it may be brought to the ſame temperature; and, inſtead of loſing any of the permanent vapour, he thinks, it may probably have gained by the quantity introduced, when the bottles were firſt filled.

He propoſes a method, of making artificially, a water reſembling Buxton water in its temperature

rature and impregnation, which, he alleges, may be as efficacious, or even more ſo, than the real water at Buxton, in the following manner.

Diſtil, ſays he, a quantity of common hard ſpring-water in a gentle heat, in perfectly clean glaſs veſſels, ſo as to have neither ſmell nor taſte. To thirty-two ounces of this diſtilled water, put into a quart bottle, or large Florence flaſk, add fourteen grains of the pureſt chalk in fine powder, and four grains of vitriolic ſelenite, compoſed by ſaturating quicklime, precipitated from lime-water by gas, with the vitriolic acid. This mixture is to be kept in a ſand-heat of about 150°, for a week, agitating it from time to time; about four grains of the pureſt ſea-ſalt is then to be added, and the whole is then to be boiled in a flaſk or ſilver veſſel, ſo as to ſeparate all the air it contains; it is then to be filtered through paper, previouſly waſhed, by filtering through it hot diſtilled water. He then directs this filtered ſolution to be divided into four equal parts, each of which muſt be contained in a wine quart bottle; to each of theſe portions, add as much of the diſtilled water, (deprived as much as poſſible of air,) as will fill the bottles; agitate

agitate them a ſhort time, then invert them in a tub of common hard pump-water, and introduce, in the manner directed for impregnating Buxton water with permanent vapour, half an ounce meaſure of a mixture of one part of common air, and two parts of the compound of air and phlogiſton, formed by expoſing air to a mixture of filings of iron and ſulphur; the bottles are then to be corked while inverted, and after agitating them ſome time, they are to be preſerved in the inverted poſition out of the water for a month or ſix weeks. Upon drawing the corks of the bottles inverted in a tub of water, the permanent vapour will be found diſſolved, or ſuſpended by the water riſing in the bottle, to occupy the ſpace the vapour took up at firſt. During the time theſe bottles are inverted and uncorked in the tub of water, as little motion ſhould be uſed as poſſible, to prevent the water of the tub from mixing with that contained in the bottles. Before introducing the compound of air and phlogiſton into the bottles, he adviſes it to be deprived of taſte and ſmell, by frequently transferring it through water.

In this way, he ſays, we may prepare a water reſembling that of Buxton, excepting in temperature.

perature. This ſtate, however, is to be obtained in the manner directed for drinking Buxton water, after it has been kept in bottles ſome time. The bottles of water ſhould be kept in a perfectly cool place, till uſed.

Inſtead of the compound of air and phlogiſton procured in the manner directed, if there be an opportunity, it will be better, he thinks, to employ the permanent vapour that ariſes from the tepid bath at Buxton, as collected in the manner before directed.

If diſtilled water cannot be conveniently had, rain or ſnow water, he believes, will anſwer the purpoſe.

If a larger proportion of the permanent vapour is required, than what is contained in Buxton water, he orders half an ounce of the permanent vapour, either artificially made, or that procured from the tepid bath at Buxton, to be added to the artificial or natural Buxton water, when drank; and he ſays, though it ſhould not diſſolve the above quantity of permanent vapour, yet, by a little agitation, it will be ſuſpended till it be ſwallowed.

Dr Pearſon finiſhes this elaborate publication, with remarking, that the headach, vertigo and

heat experienced after drinking Buxton water, he ſuppoſes, is owing to the permanent vapour with which it is impregnated; and he alleges, that changes may be induced in the body, from uſing this water internally, which would not be produced from drinking the ſame quantity of common ſpring-water, of the temperature of Buxton water.

In this hiſtory, the ingenious author has unqueſtionably ſucceſsfully exploded the prevailing erroneous opinion, that the permanent vapour which ſeparates itſelf from Buxton water is gas, or fixed air. His obſervations and experiments, therefore, may be conſidered as not only uſeful to the art of phyſic, but to the arts and ſciences in general, as they make an addition to the preſent ſtock of natural hiſtory.

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A Treatiſe on the Influence of the Moon in fevers. By Francis Balfour, *M. D. Surgeon in the Service of the Honourable Eaſt India Company.* 8*vo.* Calcutta.

THE treatiſe now before us, dedicated to Mr Haſtings, and publiſhed, we are told, at his deſire, contains many particulars, no leſs curious in theory than intereſting in practice. We preſume, therefore, that we ſhall perform no unacceptable office to our readers, by preſenting them with the different important propoſitions which he attempts to eſtabliſh, ſubjoining to each, in the words of the author himſelf, the proof and illuſtration which he has offered.

PROP. I. *In Bengal*, Fevers of every denomination are, in a remarkable manner, connected with, and affected by, the Revolutions of the Moon.*

The bilious intermittent fever, which appears for the moſt part in the form of a tertian, or of a quotidian, and ſeldom, in that part, of a quartan, is by far the moſt common fever in this country. In whatever form it preſents itſelf, I have almoſt invariably obſerved, that its firſt attack is on one of the three days which immediately precede the full of the moon, or on one of the three days which immediately follow it, or on one of the three days which immediately precede and follow the change of the moon. I have obſerved the remarkable connection which prevails at this time evidently, at leaſt three complete days both before and after the full and change of the moon: So that it continues at leaſt ſix complete days at each. In general, I think that the days of the full and change are more powerful than any other, and thoſe that follow

* Under Bengal I comprehend all the poſſeſſions of the Company in this quarter of India, with the dominions of the Vizier.

follow the full and change more powerful than thoſe that precede ; but my obſervations reſpecting this point do not allow me to ſpeak with any confidence. I ſhall, therefore, when I have occaſion to mention the full and change of the moon, comprehend in my meaning the whole of the ſix days already deſcribed, at each of theſe periods, without regard to any one in particular. With reſpect to theſe two periods, I cannot poſitively ſay which of them has the greateſt power of producing fever.

The full and change of the moon are no leſs remarkable for occaſioning relapſes than for inducing the firſt attack of bilious fevers. This is a fact ſo well eſtabliſhed that there are few Europeans who have reſided for any time in this country who are not ſufficiently informed of it, either from their own perſonal experience, or from the daily proofs of it that occur in the circle of their acquaintances. But it cannot poſſibly eſcape the notice of any perſon who practiſes medicine with the ſmalleſt attention for a few months. For my own part, I have obſerved this tendency to relapſe at the full and change invariably for theſe fourteen years ; and in particular caſes can prognoſticate the return

of the fever, at theſe periods, with almoſt as much confidence as I can foretel the revolution itſelf.

The detached examples which occur in the courſe of common practice, not being properly attended to, or aſſembled, may ſometimes perhaps, prove inſufficient for impreſſing the truth of this general obſervation; but whenever a number of ſick are collected together in one place, and a multiplicity of correſponding proofs are repeatedly preſented at the ſame inſtant, perſuaſion follows inſenſibly, and every doubt is removed.

In the years 1773-4, I had for many months the charge of a regiment of Seapoys, in the province of Cooch Behar, immediately under the vaſt range of mountains which ſeparates the northern parts of Bengal from Boutan. The diſorders were chiefly fevers, or fluxes attended with fever; and in the ſpace of the firſt month above 400 men were taken ill. The greateſt part of theſe however got quit of the fever in the courſe of the eight days which intervened between the full and change, and, by the aſſiſtance of medicine, were ſoon reduced to 70 or 80. But during the remaining months of our

ſtay

ſtay in that country, the ſick conſtantly increaſed nearly to double this number at every full and change, falling down again as conſtantly to their former ſtandard, during the eight days which intervene between theſe two periods. In future I ſhall call theſe intervening days the intervals.

Although I am now endeavouring to eſtabliſh the ſuperior influence of the full and change of the moon in producing bilious fevers, I muſt, at the ſame time, allow that the intervals are by no means exempted, either from firſt attacks, or relapſes. But theſe happen much leſs frequently at this time, and when they occur, furniſh arguments to ſupport the propoſition we are trying to prove: For the fits are now leſs ſevere, of ſhorter duration, and yield much more eaſily to medicine than thoſe which happen during the full and change; and the approach of theſe two periods as certainly increaſes the violence of the diſorders when preſent, as the coming on of the intervals brings along with it a remarkable abatement of the ſymptoms, or a perfect ſolution of the fever.

The remittent fevers I have met with in this country have either been purely bilious, or of a putrid tendency, ſuch as the pucca fever of Bengal, deſcribed by Dr James Lind; or a few others of the ſame nature, leſs rapid in their progreſs, and reſembling more the putrid fevers delineated by Sir John Pringle; to which I muſt add ſome rheumatic and nervous fevers, and likewiſe the fever which accompanies the eruption of the ſmall-pox.

With regard to bilious remittents, whether you conſider the particular time of their attack and relapſe, the ſeverity and duration of the paroxyſm, and its diſpoſition to remit, or the different changes that take place on their tranſition from the full and change to the intervals, and from the intervals to the full and change, the influence of the moon at theſe periods is no leſs remarkable in them, than it is in intermittents.

The inaugural diſſertation of Dr James Lind on the putrid fever, which firſt prepared my attention for this ſubject, furniſhes many proofs of the influence of the full and change in this diſorder; to which I can now add my own experience, and the conſent of many other gentlemen

men who have been employed in practice at Calcutta.

In the few putrid fevers I have ſeen elſewhere, and in a ſmall number of rheumatic and nervous fevers, the influence of the full and change never failed to ſhew itſelf in a remarkable manner; and in every caſe, where I have had an opportunity of making obſervations, I have ſeen it exert itſelf ſtrongly in the fever which accompanies the eruption of the ſmall-pox.

But theſe obſervations are not confined to intermittent and remittent fevers. Headachs, toothachs, inflammations of the eyes, aſthmas, pains and ſwelling of the liver and ſpleen, fluxes, ſpaſms and obſtructions in the bowels, complaints in the urinary paſſages, eruptions of different kinds, and a great many more unattended by any obvious fever, aſſume often an intermitting form, and regularly return or increaſe with the full and change of the moon, and diſappear or diminiſh during the intervals.

In general, as far as my experience extends, the attack of intermittents, during the influence of the full and change, happens at ſome period between eight in the morning and ſix in the evening.

evening. The acceſſion of the paroxyſm in remittents of all kinds is pretty much limited to the ſame time; and the period at which their remiſſions ſeem to be moſt complete, is between three and eight in the morning. Fevers no doubt attack at every hour of the day and night, but this obſervation I think holds good in the full and change *.

It is from the above analyſis that I would venture to advance the propoſition with which I ſet out in the beginning. I now proceed to ſhew, that, "In Bengal a particular and conſtant attention to the revolutions of the moon is of the greateſt importance in the cure and prevention of fevers."

PROP. II. *In Bengal a conſtant and particular attention to the revolutions of the moon is of the greateſt importance in the cure and prevention of fevers.*

Although it be no part of my preſent intention to enter into a particular detail of my practice,

* I have no doubt of the ſuperior influence of the moon in fevers at the time of the equinoxes, but my obſervations have not been accurate; and the revolutions of the planets open a field which I have not attempted to explore.

tice, but ſolely to eſtabliſh a ſingle principle by which it is greatly directed, I find it previouſly neceſſary to deliver my ſentiments with regard to the Peruvian bark.

Having practiſed in Calcutta in 1769 and 1770, during the ſeaſon in which the remittent fever of Bengal, commonly called the pucca fever, prevailed, I communicated my obſervations on this ſubject to Sir John Pringle, in 1772. In that treatiſe I related my practice at large, and drew from it the following concluſions; which I have had no reaſon ſince to retract.

1*ſt*, That the bark * in powder is a certain cure for the putrid remittent of Bengal, commonly called the pucca fever.

2*dly*, That there is no ſymptom whatever that ought to prevent it from being exhibited, after the bile is duly evacuated.

3*dly*, That it may be given with ſafety at all periods of the diſeaſe, whether in the remiſſion or exacerbation †.

4*thly*,

* The decoction cannot be depended on.

† This becomes abſolutely neceſſary, when you happen to be called too late, for after the third or fourth day, the fits

4thly, That, when it is rejected by the ſtomach, opium will in all caſes make it ſit quietly, and in ſufficient quantity to ſtop the fever.

5thly, That, in order to make a ſufficient quantity ſit on the ſtomach, or to prevent it from running off by ſtool, opium may be given in any moderate doſe *, during any ſymptom, and at any ſtage of the diſeaſe, whether in the remiſſion or exacerbation.

6thly, That the true pucca fever, as far as my experience extended, was not cured by any means, except the bark, after the patient had ſuffered three regular returns of the fit; and that by this medicine it was eaſily cured, after petechiæ had appeared all over the body.

I concluded my addreſs to Sir John Pringle, with obſerving, that although theſe were the principles

fits are protracted ſo long as to run into one another; and when this is the caſe, whoever waits for a complete remiſſion, will find himſelf wofully diſappointed.

* That is to ſay, in as great a doſe as is almoſt ever given in any caſe as a medicine. I have often found it neceſſary to give three grains in 24 hours; and was once under the neceſſity of giving more than five. I begin with a moderate doſe, which is repeated, or increaſed, juſt as I find occaſion.

principles which conducted my practice in the cure of the pucca fever, I did not mean to advance them as rules to which there could not occur any exception, but that I never had met with any myself, and now proceeded on them with as little concern as if none could exist.

With regard to that species of putrid fever described by Sir John Pringle himself, and other authors of Europe, I have some reason to believe, that they might be brought to a more speedy termination, by an early and vigorous exhibition of the bark. But, at all events, I have no doubt that it may be given in every stage with safety; and that it checks the fever, and prevents the putrefaction from making any advances, whilst we continue at the same time to evacuate the corrupted contents of the bowels, and to supply the system with fresh stores of accescent nourishment.

I am strongly inclined to suspect, that all the nervous fevers I have seen in this country, were nothing more than putrid fevers, in a lower degree. This suggestion, however, I leave to the examination of farther experience, and shall only observe, that, in all such fevers, I have ever found the bark no less safe, than it is useful.

Very

Very few cases of rheumatic fevers have come under my care, but in all of them the fever returned by fits; in all there was a large secretion of bile; and they were all cured by evacuations and the bark, like other bilious intermitting fevers.

Besides the pucca fever, there occur in Bengal many intermittents and remittents purely bilious, which require nothing more for their cure, than early and plentiful evacuations; and in the upper and more healthy parts of the country, the pucca fever very seldom makes its appearance. Still retaining, however, the idea of this tendency in the pucca fever to run on to destruction, in spite of every evacuation, I was from this impression often misled into a premature exhibition of the bark, long after I had left Calcutta, and was removed to a climate where fevers were attended with much less danger. But when such mistakes were committed, that is, where the necessary evacuations had not been premised, they were very soon discovered and corrected. The bark was either thrown up with the bile in the course of the remission; or if it remained on the stomach, not having power to prevent the succeeding paroxysm, it seemed to render

render that more uneaſy. Theſe were all the bad conſequences that ever enſued; and in ſuch caſes, all that was required was to repeat the common evacuations for a remiſſion or two longer *.

Prompted by this anxiety, in the beginning of my practice, to remove the fever as expeditiouſly as poſſible, and encouraged by the ſafety and efficacy of the bark in the pucca fever, I was alſo frequently urged to an early exhibition of it in intermittents and remittents, attended with pain and obſtruction in the liver; and from obſerving its innocence in all ſuch caſes, I have been led to a practice which I have ſince found to be ſafe and ſucceſsful, and of which I ſhall now communicate the ſubſtance.

1ſt, In intermittent fevers, which, from the habit and conſtitution of the patient, his mode of living, his long reſidence in this country, ſymptoms

* In the hot ſeaſons of the year, I have ſeldom or never had occaſion to deſiſt from giving the bark after I had once begun to exhibit it; but in the cold weather, I have found it neceſſary to continue evacuations much longer; and if the ſkin can be well opened, it renders the effect of the bark much more certain.

ſymptoms of obſtruction, the ſituation or ſeaſon of the year, I have reaſon to ſuſpect are diſpoſed to continue for ſome time, and are not likely to yield eaſily to evacuations alone, after the ſtomach and bowels are cleared of bile, (which is always produced during the fit in great quantities), it is my conſtant rule to give the bark as ſoon as poſſible; in general, ſo as to prevent the third fit; and in caſes where the diſorder is habitual and well known, even ſo as to prevent the ſecond, provided that a ſufficiently copious evacuation of bile downwards can be effected during the firſt fit, or early enough in the beginning of the firſt remiſſion to admit of its being exhibited in ſufficient quantity, to be of any uſe in averting or alleviating the next expected return. In caſes where a tendency in the fever to continue is much apprehended, even a ſlight pain in the liver does not prevent me from purſuing this practice, unleſs I find it increaſe to any conſiderable degree by taking the bark.

I follow this practice, 1*ſt*, Becauſe the pain and other ſymptoms of obſtruction in the liver, which may appear, or be increaſed on taking the

the bark *, are not to be conſidered of any conſequence, when compared with the ſuperior tendency which a continuation of the fever has to produce theſe effects, by accumulating the blood in

* The large ſize of the liver, its warm ſituation in the body, and the languid circulation and peculiar nature of the blood which paſſes through it, ſuggeſt the probability of relaxation, accumulation, obſtruction, ſtagnation, corruption, and irregular ſecretion in this organ, in warm climates. And when we conſider the pains and ſwellings that are actually perceived in it, in the majority of Europeans who reſide in this country, together with the diſeaſed diſcharges of bile to which they are almoſt univerſally ſubject, that probability approaches in every individual nearly to a certainty. This being the caſe, it does not appear altogether fair, to load the bark with the blame of creating all the obſtructions and diſeaſes of the liver, that ſhew themſelves on the exhibition of this medicine. The reaſoning which infers, that it does no more than bring to light latent diſeaſes of the liver already exiſting, is ſupported by the prevailing probability, that the livers of Europeans, reſiding in this country, are rarely to be found in a ſound ſtate. And as the bark, when taken by people whoſe livers are perfectly ſound, does not produce thoſe effects, and is not accuſed of generating obſtructions in the other glands of the body free of diſeaſe, the concluſion which is made to its diſcredit, has no analogy in its favour.

the viſcera during every return of the paroxyſm. 2*dly*, Becauſe when any ſymptoms of obſtruction are preſent, they are much more eaſily and effectually removed after the fever is gone, and any harm that may ariſe from the premature exhibition of the bark, is remedied with little trouble; whereas the miſtake of delaying it too long, admits of no remedy whatever. 3*dly*, Becauſe independent of every conſideration of danger attending each fit, it is a matter of conſequence to every perſon, to avoid the repetition of ſo ſevere an attack. 4*thly*, Becauſe it is alſo of importance to preſerve the patient's ſtrength, in a country where weakneſs always diſpoſes to a relapſe, and is attended with many other bad conſequences. And, 5*thly*, Becauſe, by ſtopping the fever immediately, you ſecure the patient's life, a conſideration ſuperior, ſurely, to every other, againſt a great many accidents that are likely to happen at all times in the progreſs of this diſorder, particularly from the want of proper ſick-bed attendants *, which has very often proved fatal in this country.

II.

* For example, evacuations are abſolutely neceſſary after every fit, whether the bark is to be given or not. The medicine

II. All the arguments I have been advancing in favour of an early exhibition of the bark in intermittents, are equally applicable in the caſe of remittents, whether attended or not with ſymptoms of obſtruction. And as theſe diſorders

medicine preſcribed for this purpoſe, at a certain hour of the night, is, from ſome cauſe or other, neglected altogether, or not adminiſtered in a proper manner. The patient perhaps cannot be prevailed on to take it, or perhaps it is rejected immediately by the ſtomach, and there is no perſon at hand to ſeize the opportunity of ſubſtituting another in its place; and perhaps a falſe report is made to the ſurgeon in the morning. From cauſes ſuch as theſe, the evacuation which ſhould have taken place in the intermiſſion, being neglected, the bowels and circulation get loaded with bile, the ſtomach becomes ſo weak and irritable, as to receive neither medicine nor nouriſhment, the fever returns with double violence, and continues without intermiſſion; and, in ſhort, is converted into a dangerous bilious remittent. This leads me to obſerve, that I am much inclined to ſuſpect, that the bilious fevers of the Weſt Indies, with the yellow ſkin and other terrible ſymptoms, deſcribed by authors, are owing to a neglect of plentiful and repeated evacuations downwards, in the very beginning. For wherever I have met with it here, it has univerſally proceeded from this cauſe. And on the other hand, I have never ſeen it in that form, where proper evacuations were obtained at the beginning.

ders are more rapid in their progreſs, and more dangerous, ſo is the neceſſity of this practice in proportion more urgent. I do not recollect to have loſt a ſingle patient in this diſorder, ſince I have proceeded on this plan; and I attribute my ſucceſs, to the diſpatch and freedom with which I go through the firſt evacuations; to the particular care I always take to be certain that theſe have been properly effected; to my early, and, if I may be allowed the expreſſion, even to my premature exhibition of the bark; to the perfect confidence I put in this medicine, when given in powder to a ſufficient quantity; and to the free uſe I have made of opium, in order to effect this purpoſe. In two or three caſes of bilious remittents, where no evacuations downwards could be effected by any means, and where I began to ſuſpect a putrid tendency, I have ſaved the patient's life, by preparing the ſtomach with a large doſe of opium, and throwing in, during its operation, a quantity of bark, ſufficient to ſtop the fever.

III. In intermittents and remittents, attended with any conſiderable degree of inflammation on the liver, or any other part, veneſection muſt be inſtituted freely, as well as other evacuations;

cuations; and in many caſes bliſters are neceſſary; after which, if the fever ſtill continues, and be not likely to ſtop, by proſecuting this plan, the bark is to be given without heſitation; for in all the partial determinations I have met with, I have ever found the fever do much more harm in one fit, than all the bark that is neceſſary to ſtop its return.

Theſe being my ſentiments with regard to the bark, the uſe and application of the facts we have eſtabliſhed, reſpecting the influence of the moon in the cure of fevers, may now be explained without any interruption, and in the following manner.

1ſt, When an intermittent of any kind appears towards the end of the intervals, the firſt object to be held in view is, to put a ſtop to it, if poſſible, before the approach of the full and change; becauſe, as I have already obſerved, the paroxyſms then become more ſevere, of longer duration, and more difficult to cure, and will ſometimes continue ſo long as to run into one another, and aſſume the form of a remittent, and afford no convenient opportunity for exhibiting the bark during the whole of that period. And although evacuations alone will

generally remove the fever in the intervals, this is ſcarcely to be expected during the full and change.

For the ſame reaſon, when intermittents appear at the beginning of the full or change, the ſame object muſt be held in view, otherwiſe we muſt not look for a ſolution of the fever till that period be at an end.

2*d*, On the other hand, it is to be obſerved, that when intermittents make their appearance towards the end of the full or change, there is not the ſame occaſion for a haſty exhibition of the bark; becauſe there is a probability, if not of a ſpontaneous ſolution of the fever, at leaſt of an abatement of its ſeverity upon the expiration of theſe periods.

And we may alſo proceed more at leiſure, when intermittents make their attack at the beginning of the intervals; for we have then ſufficient time before us, both for plentiful evacuations, and for the bark, ſhould it be requiſite before the approach of the next apprehended revolution.

3*d*, One of the moſt important advantages to be derived from an attention to this ſyſtem, is the mode ſuggeſted by it, of ſecuring againſt relapſes.

relapſes. Theſe generally happen at the full and change; and no perſon who has had an intermittent, can conſider himſelf in any degree ſafe at theſe periods, until he has perfectly recovered his ſtrength, and removed every ſymptom of obſtruction. It is therefore abſolutely neceſſary to watch theſe returns with the greateſt care; and, in general, the uſe of laxatives, and a few doſes of bark given a day before, and continued every day whilſt the period laſts, will prevent a relapſe. When theſe precautions prove ineffectual, and the patient, in ſpite of all his endeavours, neither recovers ſtrength, nor gets quit of the ſymptoms of obſtruction, we are then taught to remove him, with all expedition, to a climate where the influence of the moon is leſs perceivable, and leſs prejudicial, than it is in Bengal *.

All the common occaſional cauſes of fever are to be avoided with more than ordinary care, at the full and change; ſuch as expoſure to the ſun, full meals of animal food, or whatever heats and irritates, and, in ſhort, exceſſes of any kind.

* At Madras it is much leſs felt, and a removal to that ſettlement from Bengal, is, in many caſes, almoſt a certain cure.

When this ſyſtem comes to be more generally underſtood, I flatter myſelf that it will ſuggeſt many uſeful hints, for the better management of all Britiſh ſoldiers and ſailors ſerving their country in warm climates; and particularly of the latter, whoſe diet might be regulated by an attention to theſe unhealthy periods, without neglecting at the ſame time the judicious regard that is paid at preſent to a proper variety and interchange of food.

4th, With reſpect to bilious remittents, they are to be conſidered as no other than quotidian and tertian intermittents, whoſe fits are protracted by bile retained in the bowels, or taken up into the circulation, by obſtructions of the liver and ſpleen, by the influence of the moon, or ſome other cauſe; and in them, an attention to all the different circumſtances we have juſt now pointed out, is ſtill more neceſſary than in intermittents, in proportion as their progreſs is more rapid, their danger greater, and their management more difficult.

The tendency of ſuch fevers to attack and remit, during the full and change, at certain times of the day, which I cannot help conſidering as intimately connected with the relative poſition

of

of the ſun and moon, with reſpect to us at theſe particular periods, belongs to this place, and furniſhes many uſeful indications in the method of cure.

I have learnt, by long experience, that all laxative and purgative medicines, as well as injections, are very uncertain in their operation, and generally diſappoint us, ſo long as any degree of fever is preſent. And tartar emetic itſelf, with all the management we are maſter of, will often at this time operate only on the ſtomach, and produce no effect whatever on the bowels. The period therefore at which fevers ſhew a tendency to remit, muſt be watched carefully, and purgatives muſt in all caſes be adminiſtered on the firſt ſigns of a remiſſion. And although theſe ſhould not ſhew themſelves diſtinctly, ſtill the uſual period of remiſſion is to be preferred for this purpoſe. At this time they will generally operate, and evacuate the bile, which is the firſt, and, indeed, an indiſpenſable requiſite in the cure of theſe fevers.

When antimonials are to be given, with a view of cutting ſhort the fever, or of relieving the ſtomach of bile, the ſooner they be exhibited, ſo much the better. But if the intention be

be to carry off the abſorbed bile by perſpiration, and to procure a more complete remiſſion, the period we have juſt pointed out is to be choſen, that the operation of the medicine may concur with the tendency of the fever to remit.

This period is alſo the proper ſeaſon for throwing in the bark; and it is often of the greateſt conſequence, not to allow a moment of it to eſcape, but to begin with the earlieſt ſymptoms of its commencement; or when theſe are not manifeſt, at the earlieſt hour at which in other caſes they generally begin to make their appearance.

Theſe hints will ſuffice to ſhew the general application of our obſervations reſpecting this period to the cure of remittent fevers. On many occaſions, however, circumſtances are ſo urgent that we are glad to ſeize the moment that is in our power for the exhibition of theſe medicines, without regard to any period whatever.

5th, Putrid, nervous, and rheumatic fevers, are all in this country equally under the influence of the moon, and in all, our attention to theſe obſervations, will be of the greateſt uſe, both

both in treating them when preſent, and in preventing relapſes.

6th, My experience in the inoculation of the ſmall-pox is confined to a ſmall number of caſes; but, from the few obſervations I have been able to make, I am perfectly ſatisfied that the full and change of the moon interfered with the eruption, and increaſed the fever to a dangerous degree. I have therefore determined to avoid this accident in future, by inoculating on the ſecond or third day of the full and change; ſo that the eruptive fever may always happen in the intervals. And I have no doubt that, on farther experience, this obſervation will become a matter of ſerious attention in the practice of inoculation, and afford many uſeful indications in the treatment of this diſorder when caught in the natural way *.

7th,

* I have long obſerved that the ſecretion of bile is increaſed at the full and change of the moon, in many caſes where there is no fever. I have alſo obſerved, that whenever bile is taken up into the circulation, all wounds, ſores, boils, eruptions, the gums of children teething, rheumatic pains, *&c.* are remarkably inflamed, and irritated by it; and I have farther obſerved, that all theſe complaints are remarkably

7th, With regard to headachs, toothachs, inflammations of the eyes, aſthmas, pains and ſwellings of the liver and ſpleen, fluxes, ſpaſms, obſtructions in the bowels, complaints in the urinary paſſages, eruptions of various kinds, and a great many more which return periodically with the moon, whether attended with fever or not, the cure entirely depends on a conſtant attention to theſe revolutions. By every ſucceeding return of ſuch complaints, the parts affected grow weaker and weaker, more liable to relapſe,

remarkably inflamed and irritated at the full and change of the moon. From theſe premiſes, I have been led to conclude, that the bile ſecreted at this time, in greater quantity than uſual, may be the cauſe of the irritation and inflammation I mention. And indeed this concluſion ſeems to be confirmed in a great degree by the good effects of purging in all ſuch caſes, and by the quantities of bile that are then carried off. Calomel, above all other medicines that I am acquainted with, poſſeſſes the power of carrying away the ſlimy and tenacious bile, with which the bowels are ſo apt to become loaded in this country. Query, May not the good effects of preparing for the ſmall-pox be owing to the evacuation of all kinds of acrid bile previouſly to the infection? And may not the mercury which is given on this occaſion, by promoting a freer circulation in the liver, produce a more recent, and leſs irritating bile?

lapſe, and more difficult to cure. On the other hand, by preventing each return, the parts have a longer interval for gaining ſtrength, become leſs ſubject to relapſes, and at laſt recover their former tone. Therefore, when ſuch complaints do not originate from a diſeaſed liver, a proper attention to regimen and to the ſtate of the bowels, a judicious derivation from the part affected, and a timely exhibition of the bark before the approach of the lunar revolution, and during their continuation, will in general ſucceed. But it is to be remembered, that ſuch periodical complaints, in almoſt every caſe, are connected with a diſeaſed liver, which is beſt cured by mercury *; and the bark is nevertheleſs

* Long neglected obſtructions of the liver generally terminate in dropſies, which, although far advanced, I have always found curable by a mercurial courſe, and other neceſſary attentions, provided that the diſorder was accompanied by a tolerably ſmart intermittent or remittent fever. And the only caſes in which ſuch a courſe failed, was where there was no ſuch fever to be obſerved. In ſuch hydropical caſes attended with a fever, the tranſition from the full or change to the intervals is a very critical period, and often brings on a free diſcharge of urine, eſpecially if the blood be previouſly loaded with mercury, and

a

leſs to be given at the full and change in ſuch quantity as prevent relapſes.

8th, As an attention to the ſyſtem we have been endeavouring to explain will teach the phyſician how to foreſee and provide for the various occurrences that are likely to happen in fevers, ſo it will enable him, not only to explain to others, in a rational manner, the paſt and preſent phænomena, but alſo to predict future events; a convincing proof of real ſcience, and a certain ſource of reputation and confidence to him, and of inexpreſſible ſatisfaction and eaſe to his patient.

Having thus found, by an application of the principles eſtabliſhed in our firſt propoſition to the treatment of fevers, that they are not only uſeful in aſſiſting us to cure, but alſo to prevent theſe

a determination made, exactly at this juncture, to the kidneys, by the exhibition of diuretics, ſuch as tincture of cantharides, ſquills, and alkaline ſalts. It would be an inveſtigation no leſs inſtructing than curious, to aſcertain the exact dates of all dropſies cured by ſudden and unexpected diſcharges of urine; for I cannot help ſuſpecting that moſt of theſe, as well as the ſudden and unexpected ſolutions of fevers, would be found connected, in a ſtriking manner, with the critical period I mention.

theſe diſorders, the truth of our ſecond propoſition follows of courſe.

PROP. III. *The Influence of the Moon in Fevers prevails in a ſimilar manner in every inhabited quarter of the globe, and conſequently a ſimilar attention to it is a matter of general importance in the practice of medicine.*

Being by no means prepared to ſupply the comprehenſive induction that is requiſite to eſtabliſh this propoſition on an unexceptionable or certain foundation, I muſt therefore proceed by a method leſs direct, and which, although it may not afford the ſame degree of certainty, may, however, perhaps, anſwer the purpoſe of drawing the attention of the Faculty in other parts of the world to a ſubject which really ſeems to deſerve it.

By my own experience and obſervations, I know that the influence of the moon, at the full and change, prevails in fevers from the 13th to the 26th degree of north latitude; and we have certain accounts of it in Arabia and Perſia from the authority of the phyſicians of theſe countries. Hippocrates, who practiſed in Aſia and in

in Greece, and in latitudes ſtill higher than Arabia and Perſia, obſerved it, and wrote of it 2000 years ago. And we have teſtimonies of its exiſtence in all the intermediate latitudes between Greece and Great Britain. Upon theſe grounds, it is not extending the analogy too far to conclude, that it prevails in every inhabited northern latitude *. And theſe teſtimonies being alſo ſo many various proofs of its exiſtence in a great number of northern latitudes, we ſhall likewiſe venture to infer that it prevails in every inhabited northern latitude. And, in ſhort, (uniting the argument ariſing in favour of this concluſion, from theſe particular inſtances, with that derived from the known univerſality of the moon's influence on the ebbing and flowing of the ſea), that it prevails over the whole northern hemiſphere. But having proceeded thus far, we are unavoidably led to advance ſtill farther on this analogical ground, and to conclude that the influence of the moon prevails equally in the ſouthern hemiſphere.

The univerſality of the moon's influence in fevers, all over the globe, being once admitted, it

* That is to ſay, as far north as the influence of the moon extends in the caſe of the tides.

it will follow, by a closer analogy, that its influence is exerted in a similar manner, at the same periods, and lasts for nearly the same length of time; *viz.* for six days at the full and change. It will follow also, that, in all parts of the globe, the knowledge of this general law may be applied to the cure and prevention of fevers in the same manner as in India; and consequently, that an attention to it must be of general importance in the practice of medicine.

PROP. IV. *The whole doctrine of the Crisis of Fevers may be easily explained from the premises we have established respecting these disorders at the Full and Change.*

If the histories and descriptions of fevers had been handed down to us by medical authors, with a minute attention paid to the date of every occurrence in the course of the disease, so as to have ascertained in every case the relative situation of the moon, I am inclined to believe that we should have found the abatement and final solution of fevers so much connected with the expiration of the periods of the full and change, that the truth of this proposition would

have appeared at a ſingle view, without further inveſtigation or argument. But that indiſpenſable requiſite in every ſpecies of hiſtory has been neglected. And, on the other hand, modern practice leaving much leſs than formerly to nature, and putting a ſtop to fevers in the very beginning, or interrupting them in their natural courſe and termination, denies us that aſſiſtance which we might otherwiſe receive from daily obſervation. I can therefore do nothing more than invite the attention of future obſervers to this curious and important ſubject, by aſſuring them that I am fully convinced myſelf of the truth of this concluſion, from my own experience; and that, in almoſt every caſe where I have had an opportunity of attending to fevers at the period when the full or change expired, and the intervals commenced, I have obſerved almoſt invariably, either ſome ſymptom of the abatement of the fever, or a perfect ſolution.

This obſervation, which was firſt made on common bilious and rheumatic fevers, firſt led me to conclude that the tranſition from the full and change to the intervals, is a favourable critical period in fevers, and that all the days of the

the interval are alſo favourable. And as I have likewiſe been able to obſerve almoſt invariably an increaſe of the fever upon its paſſing from the intervals into the full and change, and during the continuation of theſe periods, and frequently death, I therefore ventured to conclude that the tranſition from the intervals to the full and change is an unfavourable critical period in fevers, and that all the ſix days formerly deſcribed are alſo unfavourable; in other words, that, "along with the full and change of the "moon, there is conſtantly recurring ſome un- "common or adventitious ſtate or quality in the "air, which increaſes fever, and diſpoſes to an "unfavourable termination or criſis; and that "along with the intervals, there is as conſtantly "recurring a ſtate or quality in the air, oppoſite "to the former, which does not excite, but di- "miniſhes fever, and diſpoſes to a favourable "criſis *."

* If this be true, beſides having eſtabliſhed theſe propoſitions, we ſhall have alſo approached, by a very conſiderable ſtep, towards a more intimate acquaintance with the more immediate cauſe of fever; for, by a comprehenſive ſyſtem of experiments and obſervations, we ſhall now be able

The hiſtories of fevers delivered to us by Hippocrates being deficient in the eſſential requiſite of date; and his account of criſes ſo much mixed with a particular theory of his own concerning

able to aſcertain the nature of that ſtate or quality in the air which cauſes ſo eſſential a difference at theſe periods. Such a ſyſtem would require a journal of every lunar day, containing a cotemporary record of fevers and other diſorders; of the human body in a ſtate of health; of the heat, moiſture, and weight of the atmoſphere, and various winds; of experiments and obſervations made on the ſtate of electricity and putrefaction; of the various revolutions of the ſun, moon and ſtars; and of a great many other circumſtances that would be ſuggeſted occaſionally, in ſuch a manner as to aſcertain their relative ſtates and ſituations; and, finally, their connection as cauſes and effects. An undertaking of this kind would be more than enough for the conſtant employment of one man, and is far out of my reach: But it belongs to this ſubject, and is worthy of being remarked, that it is a fact eſtabliſhed in this country, on general obſervation, that the tendency of meat to ſpoil is much greater at the full of the moon than during the intervals. I know alſo, from experience, that at all ſeaſons of the year, the full and change ſeldom fail to produce, for ſome time, an uncommon calmneſs, heat, and cloſeneſs in the air; and, if I be not miſtaken, it is that calmneſs, heat, and cloſeneſs, which lay the foundation of the winds which prevail ſo much about theſe periods.

concerning the original ſtadia of fevers, and alſo with ſome vague and unphiloſophical ideas reſpecting the aſpects and conjunctions of benign and malevolent planets, any attempt to reaſon on what he has delivered to us, on this ſubject, would be a work of mere conjecture, and afford but little ſatisfaction. It is more to the purpoſe to ſay, that, ſince I have given my attention to it, I have met with no turn or termination in bilious, rheumatic, or nervous fevers, which I have not been able to explain to my own ſatisfaction on this ſyſtem; that I have alſo been able to predict their turns and terminations with much certainty; and that the duration of ſuch fevers is not limited to any fixed critical period depending on odd or even days, but is conſtantly connected with the favourable and unfavourable critical periods I have juſt deſcribed. And whenever theſe periods interfere with the eruptive fever of the ſmall-pox, I am convinced, from experience, that they are to be conſidered in no other light.

From what has been already obſerved on the ſubject of the putrid or pucca fever of Bengal, I have no doubt in determining that their favourable and unfavourable critical periods are

the ſame with thoſe of the bilious, rheumatic, and nervous fevers, and of the eruptive fever of the ſmall-pox. But to reconcile to this doctrine, the putrid fevers deſcribed by Sir John Pringle, Mr Tiſſot, and Dr Hillary, terminating regularly in 14, 17, and 19 days, is a matter of great difficulty. And I muſt here once more regret that all theſe hiſtories are materially deficient in being deſtitute of every kind of date; and that I am again reduced to the neceſſity of advancing with the faint and partial light of my own experience.

In the courſe of my endeavours to account for theſe facts, which at firſt ſeemed to eſtabliſh a limited duration to particular fevers, independently of any favourable or unfavourable critical periods; and therefore, to militate ſtrongly againſt our preſent theory, I was led into the following train of conjecture.

In the caſe of putrid fevers, continuing 19 days, I ſuppoſed that there muſt have been a ſtrong putrid tendency in the habit, and that the febriferous * influence of the air, which prevails

* If it be confirmed, by farther experience, that this febriferous influence is conſtantly connected with an increaſed

vails at the full and change, co-operating with this tendency at theſe periods, had the power of producing a fever on the ſecond day from their commencement, and that, before means could be uſed to ſtop or correct this diſpoſition in the patients habit, the fever continued to run on through the firſt full or change, and ſucceeding interval, and alſo through a ſecond full or change; but that the putrid tendency being now in ſome degree overcome by medicine, and at the ſame time the febriferous influence, of the full or change removed by the arrival of the ſecond interval, a criſis, of conſequence, immediately took place at this juncture, juſt about 19 days from the firſt attack.

In the caſe of putrid fevers, continuing only ſeventeen days, I ſuppoſed that in them the putrid tendency of the habit was ſomewhat leſs at

creaſed tendency to putrefaction, which there is ſome reaſon to ſuppoſe, from the fact related in the preceding note, the account we have given of the various duration of putrid fevers will be rendered ſtill more probable and intelligible, and be applicable to every fever of this kind, whether longer or ſhorter than thoſe which we have here ſpecified as examples to illuſtrate the theory of the whole claſs.

the beginning than in the former caſe, and that the febriferous influence of the full or change had not power to excite a fever until the fourth day of the period, when the putrid tendency was farther advanced; that the fever continued to run on during the remaining days of that full or change, through the ſucceeding interval, and alſo through another entire full or change, in the ſame manner as the fever of nineteen days; and that at laſt, from the concurrence of the ſame cauſes, it terminated critically, immediately on the commencement of the ſecond interval, juſt about ſeventeen days from the firſt attack.

And laſtly, in the caſe of putrid fevers, continuing only fourteen days, I ſuppoſed, that the putrid tendency in them being ſtill leſs than in thoſe of ſeventeen days, the febriferous influence of the full or change had not power to excite a fever, until the very cloſe of the period when the putrid tendency was ſufficiently advanced, or towards the beginning of the interval; during which interval, and the whole of the ſucceeding full or change, it continued to run on, and at laſt, from the concurrence of the cauſes we have juſt explained, terminated critically, immediately

ly on the commencement of the ſecond interval, juſt about fourteen days from the firſt attack.

Since I became poſſeſſed of theſe ſentiments, regarding the criſis, and the above theory of putrid fevers, I have had an opportunity of meeting with only four or five caſes of this kind. In one of theſe, the fever continued exactly ſeventeen days, and terminated completely and finally on the commencement of the ſecond interval; a circumſtance which afforded me no ſmall ſatisfaction, as I had predicted the criſis on the theory juſt explained at that very juncture, and was looking for it with anxious expectation. In the other caſes, I had not an opportunity of aſcertaining the beginning of the fever, nor conſequently the exact time of its duration; and a perfect ſolution did not take place, as I had expected, on the approach of the ſecond interval; but, in all of them, the diſorder took ſo favourable a turn at this period, that it might be called, without impropriety, a criſis of the fever.

Whether I have hit on a juſt explanation of the cauſe of that variety which appears in the duration of theſe period fevers, is a queſtion which I ſhall leave to the deciſion of farther experience.

perience. But I will not ſcruple to pronounce, even from theſe few examples, that they, as well as the other fevers of which we have already ſpoken, have their favourable and unfavourable critical periods; and that theſe are no other than what we have already deſcribed, *viz.* the full and change of the moon.

The detail which I have brought to ſupport my opinion, reſpecting favourable and unfavourable critical periods, is now only defective in examples of inflammatory fevers; and although I cannot ſay, that I have had an opportunity, in this country, of making obſervations on any that could be eſteemed purely and ſolely inflammatory, yet as I have ſeen the effects of theſe periods in partial inflammations, in fevers attended with inflammatory ſymptoms, and in every other kind of fever, I ſhall not conſider them as any exception to the general rule.

Whilſt we employ this doctrine of favourable and unfavourable critical periods, to explain the different criſes of fevers, the ancient theory of concoction muſt of courſe fall to the ground. But there is no neceſſity on that account, for rejecting the idea of a morbid matter, which in many inſtances certainly exiſts, and which we conceive

conceive may be perfectly reconciled with our preſent ſyſtem, on the following terms.

1*ſt*, That in bilious and inflammatory fevers, which we know may be ſtopped in the beginning, or at any ſtage, a morbid matter, if any exiſts, has ſo ſmall a ſhare in determining the criſis, that it is not to be regarded in practice; and that in all ſuch caſes, the favourable and unfavourable critical periods demand our principal attention. The termination of nervous and rheumatic fevers ſeem alſo to be much more under the dominion of theſe periods, than any internal conſtitutional principle that I have been able to diſcover *, and therefore come under the ſame rule.

2*d*, That in the ſmall-pox and meaſles, and other ſuch diſeaſes, the duration of the fever ſeems to be chiefly determined by the peculiar nature of the infection; but that great attention is alſo to be paid to the favourable, and eſpecially the unfavourable critical periods, which may

* If it ſhould be determined by future obſervation, that moſt of the fevers called nervous, differ from the putrid only in degree, it will probably be found alſo, that their progreſs and duration is affected by the favourable and unfavourable critical periods in a ſimilar manner.

may aggravate the ſymptoms, interrupt the natural progreſs of the fever, and protract it beyond its uſual length.

3*d*, That in putrid fevers there is a putrid tendency in the habit, to overcome which, a conſiderable ſpace of time is often requiſite; ſometimes more, ſometimes leſs, depending on the degree to which it is advanced, and perhaps on other circumſtances; and that their apparent limitation, on certain occaſions, to a fixed duration, ariſes from the influence of the favourable and unfavourable critical periods exerting itſelf in the manner already deſcribed.

4*th*, That the natural tendency of the conſtitution, with the concurrence of other occaſional cauſes, may produce fevers in the intervals, independent of any aſſiſtance from the febriferous influence of the moon; and when fevers of any kind begin and terminate in the intervals, the effects of the unfavourable critical periods will not interfere in ſuch caſes, and muſt not therefore be expected.

5*th*, That when the internal cauſe of fever is very powerful, and the ſymptoms run extremely high, the effects of the favourable and unfavourable critical periods may not be obſervable,

vable, although their influence in ſuch caſes nevertheleſs continues to be exerted.

To ſum up the whole, it appears, that, by eſtabliſhing the exiſtence of favourable and unfavourable critical periods, we have acquired the knowledge of a principle which is uſeful in the cure and prevention of fevers, and which alſo teaches to predict and explain their various criſes, on grounds that are conſiſtent and ſatisfactory. It is therefore unphiloſophical to ſearch for any other; and our fourth propoſition muſt remain unſhaken until it be refuted, not by the bare diſſent of one or two, who may not have directed their attention expreſsly to this ſubject, and by whom the very phænomena upon which the whole ſyſtem is built may have paſſed unnoticed or uncollected, but by the united experience and opinion of many future accurate and intelligent obſervers."

We have thus preſented our readers with the different arguments by which Dr Balfour has attempted to eſtabliſh the propoſitions which he has enumerated. How far, from a candid conſideration of what has now been offered, the reader will be diſpoſed to conclude, that the revolutions of the moon have not only a powerful influence on fevers

vers in Bengal, but alſo in every inhabited part of the globe; how far he will be diſpoſed to admit, that attention to theſe revolutions is of the greateſt importance in the prevention and cure of fevers, we will not pretend to conjecture. But we may at leaſt conclude, with obſerving, that it is a ſubject which highly merits attentive obſervation from all thoſe by whom it has hitherto been overlooked; and that it is one of thoſe particulars, concerning which, a deciſion ſhould be formed by ſtrict regard to fact, not by theoretical ſpeculation.

SECT.

SECT. II.

Medical Obſervations.

I.

A Letter from Dr Robert Hamilton, *Phyſician at Lynn Regis, to Dr* Duncan, *giving an Account of a ſucceſsful Method of treating Inflammatory Diſeaſes, by Mercury and Opium.*

I HAVE taken the liberty to ſend you the following ſummary account of a ſucceſsful method of treating inflammatory diſeaſes with mercury and opium, which has been practiſed here almoſt eighteen years, and I believe is ſcarcely known any where elſe in the kingdom; and therefore,

therefore, I flatter myſelf you will think, may, with propriety, be inſerted in your valuable Commentaries, that it may be communicated to the world.

In July 1773, I gave ſome information of it to my excellent friend Dr John Gardiner, the preſent worthy Preſident of the College. And in the year 1776, I gave a ſhort account of it to my amiable and learned friend, the late Sir John Pringle; and expreſſed a wiſh at the ſame time, that this method of treating diſtempers of the inflammatory kind might have a candid trial in the public hoſpitals. But although this met with the countenance of this great man, in private, ſo little was it conſonant to common practice, and ſo difficult is it to overcome prejudices, that I apprehend it never was tried, as no young gentleman that I have met with, who had attended the hoſpitals in London ſince that period, ever ſaw mercury and opium adminiſtered in thoſe diſeaſes, in any one of them.

The following circumſtance firſt led me to this method of treating inflammatory diſtempers.

At the cloſe of the year 1764, the fleet which returned from the Eaſt Indies, brought a worthy

thy ſurgeon of the navy to England, who had ſerved in that country eight years. By this gentleman I was informed, that the eſtabliſhed method of curing the hepatitis, or endemial inflammation of the liver, incident more particularly to Europeans, than the natives in that country, was by mercury: that mercury was, in general, eſteemed a ſpecific in that diſeaſe: that the method was, after the patient had loſt ſome blood, and taken ſome gentle purgative, to have a ſtrong mercurial ointment rubbed in on the region of the liver, and to give either calomel, mercurius alkaliſatus, or the mercurial pill, until the ſalivary glands were affected by the mercury, or the inflammation removed: that the ſooner a gentle ſpitting was raiſed by theſe means, the ſooner the patient got well: that this method of cure was generally ſucceſsful, if employed early in the diſtemper; but if it was neglected, the liver, which was commonly ſo turgid as to be perceived externally to be enlarged, ſoon ſuppurated: that he had had a number of patients with ſuppurations in the liver, from this diſeaſe, under his care, and had opened many of thoſe abſceſſes. Some of his patients thus treated had recovered, but more

became tabid, and ſunk under the profuſe diſcharge.

The reſpectable authority of a man of probity, and profeſſional ability, who had had a large ſhare in aſſiſting to ſuperintend and conduct the naval hoſpital on the coaſt of Coromandel, and conſequently had had an ample field for information, deſerved particular attention, as there was reaſon to believe, that this practice might be adopted with advantage, in many places in England; and particularly in this country, as the environs of Lynn are very low, and ſurrounded with fens and marſhes of many miles in extent, which are liable to inundations, are moſtly under water in winter, and thus far reſemble many places in India, where the hepatitis is endemial. Our diſeaſes are nearly the ſame with thoſe of ſimilar ſituations in India; particularly the bilious autumnal remittent and intermittent fevers, an allowance being made for their difference in violence and malignity, from the greater exaltation of the ſubtile poiſonous miaſmata, by the intenſe heat of the climate in India. We have ſometimes a moſt dangerous hepatitis. Some patients in that diſorder falling under my care, ſoon after my friend's

arrival

arrival from India, I gave the method of cure with mercury a trial, and found it ſucceſsful. I uſed the ointment in very few inſtances, and gave no preparation internally but calomel; to which I ſoon, however, found it neceſſary to add opium, in order to relieve that diſtreſſing concomitant of inflammation, the pain, which happily anſwered that purpoſe moſt effectually.

This ſucceſs led me into the following train of reaſoning. The efficacy of mercury in ophthalmia had long been eſtabliſhed: Its ſpecific virtues in every ſymptomatic venereal inflammation, had been long known: Its liberal uſe in inoculation, in the modern way, had borne teſtimony of its power in abating inflammation; and the ſucceſs in treating the hepatitis in India, with the late inſtances of the ſame kind which had paſſed under my eye in this country, were freſh proofs of its excellence. I conſidered, that the general cauſe (be what it may) of an inflammatory diatheſis, muſt be the ſame, whether the inflammation is ſeated in the meninges, pleura, lungs, liver, diaphragm, or any other internal membranous part; and therefore, the circumſtance of locality could make little or no alteration in the general intention of cure.

From theſe premiſes, the following deduction naturally aroſe.

As mercury had proved ſo ſucceſsful an agent in removing inflammation in the ſeveral inſtances above mentioned, it was reaſonable, from analogy, to conclude, that it would prove equally ſo in every kind of inflammatory diſeaſe. Wherefore I was determined to give it a fair trial in every one, as opportunities offered for that purpoſe, and flattered myſelf, from the data before me, that my experiments would be attended with ſucceſs.

The peripneumony was the firſt diſeaſe that fell under my care, after this reſolution was taken. The ſucceſs attending the adminiſtration of calomel and opium here, filled me with aſtoniſhment. I was ſucceſsful in a great number of caſes, and under a variety of circumſtances. I have had the ſatisfaction to ſee women far advanced in pregnancy, in a manner reſcued from death, in the laſt ſtage of the peripneumony, by calomel and opium, after every other means, which had been tried, had failed in relieving the patients. I had the pleaſure afterwards of ſeeing them go their full time, be ſafely delivered of living children, and enjoy the happineſs of bearing

ing ſeveral others ſince that period. I have known many a life ſaved in the ſymptomatic, variolous and morbillous peripneumony, by theſe medicines; and I never ſaw any remedies afford ſo certain and ſpeedy relief in obſtinate dry catarrhous coughs, as thoſe, particularly when continued until the mouth became affected by the mercury. The ſame means have proved equally efficacious in pleuriſies. But the moſt extraordinary and early relief I ever ſaw calomel and opium give, was in the phrenitis and paraphrenitis, which has been repeatedly experienced in a great number of caſes. Inflammations of the inteſtines, and other parts within the abdomen, have moſt readily yielded to this treatment. I have, in the 66th volume of the Philoſophical Tranſactions, in the account of a puncture made into the bladder through the anus, for the cure of a ſuppreſſion of urine, mentioned the uſe of calomel and opium in that diſorder. I have known the greateſt benefit ariſe from thoſe medicines, in child-bed fevers, with highly inflammatory ſymptoms. In the inflammatory angina, calomel mixed with thebaic tincture and honey, laid upon the root of the

tongue, and fwallowed gradually, has frequently given great relief.

Having ſucceeded in the moſt unequivocal manner, in curing local inflammatory diſeaſes by this practice, my experiments were next directed to that formidable malady of general inflammation, the acute rheumatiſm; and I had the ſatisfaction to ſee this alſo give way moſt readily to it.

I have many times experienced the moſt happy relief from excruciating pain in an highly inflammatory gout; and ſome of my friends, as well as myſelf, have repeatedly experienced the moſt ſalutary effects from this practice, in this diſtreſſing diſeaſe, for ſeveral years, in our own perſons.

We have alſo found equal benefit from the uſe of thoſe medicines, in inflammations ariſing from external injury, either in head, thorax, or abdomen, as we experienced in thoſe ariſing from an internal cauſe.

Having named the diſtempers in which our firſt experiments proved ſucceſsful, it is now requiſite to give a detail of our general mode of practice in this town and neighbourhood ever ſince that period, in all inflammatory diſtempers,

pers, ariſing either from an internal or an external cauſe, which is as follows:

Blood was directed to be taken away in the beginning of the diſeaſe, in quantity proportioned to the violence of the inflammatory ſymptoms, and the age and conſtitution of the patient. And the bowels were next ordered to be emptied, either by clyſter, or (more commonly) by an eccoprotic purgative. After which, a compoſition, conſiſting of from five to one grain of calomel, and from one to one-fourth grain of opium, (with any conſerve in a bolus), in proportion to the ſtrength and age of the patient, was adminiſtered every ſix, eight, or twelve hours, as the degree of inflammation, or the threatening aſpect of the diſtemper, ſeemed to require; and a plentiful dilution with barley-water, or any other weak tepid beverage, was at the ſame time ſtrictly enjoined. After taking three or four doſes of this medicine, in the courſe of twenty-four hours, the patient was generally greatly relieved; and in twenty-four more, the diſtemper commonly gave way, and ſoon terminated. But if not relieved in the firſt twenty-four, and the high inflammatory ſymptoms continued, with little or no abatement,

(which was rarely the caſe), more blood was taken away, and this mercurial compoſition was directed to be more frequently given, and continued until the diſtemper reſolved, either by ſweating, purging, or more commonly both, or by a ptyaliſm being raiſed. I have obſerved a great variety in the effects of mercury thus adminiſtered. When the patient ſweated or purged much, the ſalivary glands did not become ſoon affected. But when the evacuations by the inteſtines and ſkin were not copious, the ſpitting was the ſooner excited. And I have ſeen large quantities of mercury given for a continuance, without affecting the mouth in the leaſt, or producing any very large viſible evacuation, yet the patient was greatly relieved. A little increaſe of urine, indeed, was all that was ſometimes to be ſeen; and we may conjecture, that the inſenſible perſpiration might ſometimes be increaſed alſo. But be that as it may. If this method of cure was employed early in the diſeaſe, the patient's recovery was ſoon accompliſhed, whatever was the operation of the mercury. But if employed late, it was attended with more uncertainty, the caſe was rendered more doubtful, and the recovery was more

ſlow,

ſlow, but moſt commonly the ſooneſt, when the ſalivary glands were affected.

If the fever was violent, accompanied with a dry contracted arid ſkin, emetic tartar, and ſometimes camphor, were added. And I beg leave here to obſerve, that I never found any medicine, either in a ſimple or aggregate ſtate, produce ſo certainly, ſpeedily, and effectually, a relaxation of the ſkin, and a plentiful diſcharge from its pores, as a compoſition of calomel, opium, emetic tartar, and camphor, which has alſo the advantage of increaſing the evacuations by ſtool and urine: from which it would appear, that the glandular ſecretions, in general, are moſt eſſentially promoted by this compoſition.

When I have been conſulted in an advanced period of any inflammatory diſeaſe, I have frequently found it neceſſary to direct bliſters, as powerful auxiliaries to this internal method of cure, to be applied to the ſide, ſternum, hepatic region, extremities, *&c.* as the nature and ſeat of the diſtempers, or urgency of the caſe ſeemed to require; but very ſeldom to the head, becauſe, from repeated experience, I have long found, that the inflammation of the ſkin, and ſubſequent diſcharge from bliſters on the lower

lower extremities, have, in many inflammatory diſeaſes, (particularly in the phrenitis and paraphrenitis), afforded much greater relief than when they had been applied to the head. But, when calomel and opium had been employed early in the diſeaſe, it was very rarely, and in very bad caſes indeed, that bliſters were found to be requiſite.

After the inflammation began to reſolve, and the diſtemper appeared to be on the decline, the Peruvian bark, in decoction or powder, was directed to be taken, with great advantage *, and a ſuitable portion of wine was ordered to be added to a proper diet, in order to recruit the debilitated ſyſtem. It is almoſt needleſs to add, that the bowels were kept ſoluble during the cure, by ſome gentle purgative, if that purpoſe was not ſufficiently anſwered by the mercurial medicine; or to obſerve, that acids were avoided, for obvious reaſons.

It has been alleged by ſome who had heard of this method of treating inflammatory diſeaſes, that as other powerful medicines had been frequently joined to the calomel, the cure might, with greater probability, have depended upon them

* Particularly in the acute rheumatiſm.

them than the mercury. I candidly acknowledge, that I have always thought the opium of the moſt eſſential ſervice, by relieving that moſt haraſſing ſymptom pain; and muſt allow, that I have thought the emetic tartar and camphor have ſometimes contributed towards the cure. But truth obliges me, at the ſame time, to obſerve, that we have very often ſeen caſes wherein emetic tartar, camphor and opium had been for ſome days employed, with the aſſiſtance alſo of thoſe remedies of the ſaline tribe, which are uſually given in inflammatory diſorders, without affording the ſmalleſt relief in the diſeaſe, which, although arrived at a conſiderable height, to the great danger of the patient, has, on calomel being added, given way in a very ſhort time. I muſt alſo add a well known fact here, that calomel and opium have, from the firſt exhibition of mercury in inflammatory diſeaſes in this place, to the preſent time, ſucceeded in a very great number of caſes, without any other addition. And moreover, that even with the additions above named, many diſeaſes of this kind have proved ſo obſtinate, as not to diſcover any tendency to an amendment, until the ſalivary glands were affected, when the diſtemper gradually

dually gave way, as the ſpitting advanced, and afforded a moſt deciſive proof, that the cure was effected by the mercury. We generally therefore look upon it as a happy preſage of the patient's recovery, when the ſalivary glands become affected by this noble medicine.

The Eaſt India method of treating inflammations of the liver, has long been communicated to the world. I preſume you are not unacquainted with the account of it, publiſhed in the Medical Muſeum in 1764, that year my friend returned to England. Dr Lind's relation of it, in his account of diſeaſes incident to Europeans in hot climates, and the reſult of that excellent phyſician's experiments with mercury, on ſome patients who had returns of the hepatitis in England, which are therein recited, muſt have been long known to you. I may alſo reſt aſſured, that you muſt have remarked what Dr Clark has ſaid of it in his account of Eaſt India diſtempers; and muſt have ſeen the account of his ſucceſs in curing an hepatitis, with mercury, at Newcaſtle. And a man of your reading and obſervation, muſt have remarked, that neither of thoſe writers, or any other that I know of, have dropped the leaſt hint of ever attempting

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to give mercury in any other inflammatory diſtemper, in either of the three cavities of the body.

Having finiſhed this ſummary account, I have only to add, that the ſubject of it is not the haſty reſult of a few months practice, but that it is founded on the ſolid baſis of (I muſt again repeat) near eighteen years ſucceſsful experience, to which many of the principal practitioners of this town and neighbourhood can bear the moſt ample teſtimony.

II.

A few Hints on particular Articles of the Materia Medica, communicated in a Letter to Dr Duncan, *from Antigua, by Dr* James Adair, *now Phyſician in Bath.*

THE diagnoſis of diſeaſes of the ſlaves of this country cannot, in general, be ſo accurate as of thoſe of white patients; and this partly from their ignorance, but more from their inclination to impoſture; and hence we are very frequently obliged to draw our information, and form our indications, from temperamental diſtinctions, aſpect, pulſe, and the moral character of the patient.

From theſe general circumſtances, we cannot, without injuring our patient eſſentially, determine whether the ſtimulating or ſedative plan ſhould be followed, until, by a patient attention

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to the effects of remedies, we are able to ascertain the nature of the disease, if disease really exists.

For the same reasons, we cannot always ascertain, with due precision, the effects of remedies, as they are often not used, and their operation frequently misrepresented.

From this difficulty we are in a great measure exempted with respect to the extensive class of pyrexiæ, so far as evident phænomena can be our guides, and enable us to form a judgment of correspondent morbid sensations.

It is necessary to premise these observations, that the following remarks may be adopted with due diffidence, even with all the advantages resulting from visiting from 3000 to 4000 patients every year.

STIMULANTS.

Sinapi, an ounce and a half, to one pound proof spirit, and half a pound of water, adding to the strained liquor three ounces spirit of sal ammoniac, given in doses from half an ounce to one ounce diluted, once or twice a-day, is a good medicine in debility of the stomach and bowels,

bowels, chronic rheumatiſm, and anomalous gout, and all diſeaſes connected with languid circulation and torpor, or depraved ſenſibility. It is peculiarly uſeful in the morbid diſpoſition which I call *Cachexia Africana*, but which Sauvage denominates *Anaſarca Americana*, cl. x. ord. 2. gen. 6. ſp. 7. a moſt frequent and fatal prediſpoſition to diſeaſe among the ſlaves.

Piper Cayensis, is a pure ſtimulant. It was never uſed here in a medical form, until I introduced it, though always a favourite condiment, qualifying the effects of vegetable foods, on which the negroes chiefly ſubſiſt. From five to eight grains, formed into pills, with canella alba and tar, or half an ounce infuſed in one pound proof ſpirit, and from one to three drachms diluted as a doſe, has ſimilar effects (but more powerful and immediate) with the former and next article.

Canella Alba. This is called here black cinnamon, and is not the true winter's bark, but, as a pure aromatic ſtimulant, is, I think, preferable. Of this I preſcribe every year ſome hundreds of pounds. It adds to the efficacy of the

the bark in intermittents, when given to the quantity of five grains to each drachm. It is an useful adjunct to bitters and chalybeates, and also to astringents in all passive serous discharges, and renders purges and diuretics more grateful and stimulating in low cases.

ASTRINGENTS.

In hot climates, excess of the excretions, active or passive, constitutes very frequently the essence of disease, or is at least a leading and very urgent symptom. This may be owing either to the violence of our febrile paroxysms, by which the irritability of the system is not only much increased, but the morbid determinations become very great and sudden; or to the putrescent, or other acrimonies, and tenuity of the fluids; or to general laxity and debility: Hence hæmorrhages, cholera, diarrhœa, dysentery, profuse sweats, and serous effusions, in different degrees, into the various cavities.

Alum. From ten grains to half a drachm for a dose, is an useful and safe astringent, especially when its ungrateful stimulus in the sto-

mach is mitigated by ſpermaceti, gum Arabic, or opium. In a late epidemic dyſentery, I uſed it with advantage; the vitriolic acid combined with earth of alum renders it ſedative and antiſeptic; and as it is at the ſame time eccoprotic, in a large doſe, it is the ſafeſt aſtringent I have hitherto tried. Dr Percival's remarks on this drug, led me to try it early and boldly. Its uſe in hæmorrhages is well known; but I think the ſanguis draconis does not cover it ſo effectually as the gum Arabic. I have alſo uſed it with advantage in ſome febrile diarrhœas; and in what I call the *Diarrhœa cachectica*, which carried off many negroes laſt autumn. Whilſt the dyſentery reigned, I experienced good effects from it, when combined with aromatics.

Lapis Calaminaris. From five grains to one ſcruple for a doſe, with one or other of the adjuncts mentioned under the preceding article, is a powerful aſtringent in the diarrhœa cachectica; and its uſe was more warrantable and neceſſary, as not a few were deſtroyed by this diſeaſe in the courſe of two or three days.

Acetum

Acetum Lithargyrites, given by way of a clyſter, from twenty drops to one drachm, was of uſe in mitigating the extreme irritability of the rectum in the advanced ſtages of dyſentery, and diminiſhed the frequency of diſcharge. In the diarrhœa cachectica, it ſeemed to have conſiderable tonic powers, when joined with a decoction of tar and ſpiritus vinoſus camphoratus, given as a glyſter.

ANODYNES.

From a long and extenſive experience of the effects of anodynes, (eſpecially opium), I am inclined to believe that no claſs of medicines requires qualifying adjuncts ſo generally, not ſo much to promote their efficacy, as to obviate their bad effects. Unleſs when given to leſſen pure nervous irritability, they often become unſafe, by diminiſhing the ſecretions and excretions, and promoting accumulation and congeſtion in the circulating and glandular ſyſtems. Therefore I ſeldom give opium, without combining it with ipecacuanha, the active antimonials, or, in low caſes, with ſome of the pure ſtimulants, fœtids, or volatile alkali; and if, by theſe

additions, I can keep the belly ſoluble, or the ſkin open, or both, I rarely, if ever, remark any of thoſe untoward effects from it, which it produces *per ſe*; that is, the head is leſs affected, and the patient leſs ſubject to anxiety and languor. Emetic tartar ſeems to be a more powerful adjunct than ipecacuanha; and, when combined with opium, renders the latter more ſafe and effectual, when given early in diſeaſes from irritation, even when attended with fever, as in caſes of dyſentery, diarrhœa, catarrh and rheumatiſm. Amongſt our formula we have the following apparently draſtic remedy, which has nevertheleſs had ſurpriſing effects in the diſeaſes juſt enumerated, either when the inflammatory diatheſis does not exiſt in any conſiderable degree, or after it has ſubſided. ℞. Vitr. antimon. granum unum, calomel. grana duo, pil. ſaponac. P. L. grana ſeptem. This is the common doſe, (though I have ſometimes given fifteen of this compound), taken at bed-time, and warm drink. It ſweats powerfully, ſometimes creates nauſea, and generally looſens the belly. I am perſuaded I might have ſucceeded better in the treatment of the epidemic dyſentery, had I uſed this remedy when it firſt appeared. Whether

ther its good effects are owing to powerful determination from the inteſtinal canal, or to ſomewhat ſpecific in the mercury, perhaps to both, is, I think, uncertain.

EXTRACTUM CICUTAE. During the prevalence of the dyſentery, ſeveral caſes occurred of an untoward and dangerous remittent, accompanied with depreſſion, anxiety and pervigilium. This remedy, from half a ſcruple to half a drachm, with camphor, from five grains to half a ſcruple, given at bed-time, quieted thoſe ſymptoms, and ſeemed to render the remiſſions more regular and complete. In one or two caſes of recent amenorrhœa, the extract has reſtored the menſtrual flux; but, in general, there is no diſeaſe on which medicine makes ſo little impreſſion as this; and yet it occurs very frequently among the negro women, and, ſooner or later, brings on fatal diſeaſes. It is of uſe alſo when the lochia are ſparing from febrile ſpaſm.

VERMIFUGA. Several of our indigenous plants are celebrated; the cow-itch, anthelmia occidentalis, bark of the cabbage-tree, *&c.* One other has lately been introduced here, which I

call the anthelmia Bermudenſis. While the others have untoward effects, when not given with caution, this is perfectly inoffenſive; and yet, in ſome caſes, has been found to be a powerful anthelmintic; it is probably the ſame plant from which the ſemen ſantonicum is taken. It may be given in infuſion to any quantity. I have found the following, however, a pretty certain vermifuge: ℞. Anthelm. occidentalis (common worm-graſs) unciam unam, cannell. alb. ſcrupulos duos, pulv. jalap. ſcrupulum unum, vitriol. cœrul. grana decem. M. The doſe is from ten grains to two ſcruples, according to the age, once or twice a-day. When it has been ſuſpected that worms were connected with the fever of children, magneſia, or chalk, in conſiderable doſes, and a due portion of vegetable acid afterwards, have expelled worms, and removed the fever.

NAUSEATIVA. I uſe theſe frequently in fevers, eſpecially in the firſt ſtage, from an idea, that, by the ungrateful ſenſation they excite in the ſtomach, they reſolve ſpaſm, and powerfully check the force of the heart. I rarely give cathartics, without the addition of ſome one or other

other of the emetic tribe, (unleſs extreme irritability of the ſtomach forbids), as their operation is rendered thereby more extenſive, by increaſing the ſecretions by the ſkin and kidneys, thoſe of the other glands, and thoſe alſo which are produced by ſerous effuſion into all the cavities, large or cellular, in every point of the ſyſtem. And to the perverſion of theſe latter, I am diſpoſed to attribute many of the moſt dangerous circumſtances of diſeaſe, whether acute or chronic.

IPECACUANHA. Dr Lewis at Kingſton, author of the Materia Medica, *&c.* firſt led me to ſubſtitute this in place of the antimonials, to which, though a chemiſt, he had an inſuperable averſion. It was his catholicon, whether the diſeaſe was acute or chronic; and indeed I have ſeen remarkable good effects from it, given every three or four hours in a naufeative doſe. It has one advantage over the active antimonials, its operation as an emetic or cathartic is ſo limited, that no injury can be done, even when the patient is weak; but I do not, from long experience, find it to be ſo powerful as the antimonials; eſpecially the following compound, which

I think, on a fair compariſon, is preferable to James's powder: ℞. Crem. tart. calomel. utriuſque grana quinque, tart. emet. granum unum. This is a full doſe; to the weak and younger patients, half the quantity is given. It creates nauſea generally, often vomits, and commonly purges and ſweats. If it do not purge, I direct half an ounce ſal catharticus, and half a grain of tartar emetic, a few hours after, and ſometimes repeat the mercurial in ſix or eight hours, if the caſe be urgent. It is of great uſe in ſuch fevers as begin with violent or untoward ſymptoms, and generally brings them to a favourable remiſſion, or complete intermiſſion. In topical inflammations, eſpecially pleuropneumony, it is the moſt certain remedy I have yet experienced; and I alſo tried it with advantage at the commencement of the epidemic dyſentery which lately raged here.

Fixed Air. Some of our moſt violent remittents commence with exceſſive vomiting. I therefore tried the magneſia in a large doſe (two ſcruples, or one drachm) in water, directing ſome diluted vegetable acid to be given immediately after; and one or more doſes in this way

way reſtrains the vomiting, is gently laxative, and abates all the febrile ſymptoms. If there be diarrhœa, I give the fixed alkaline ſalt diluted, and, after it, diluted vegetable acid, though I believe the mineral acid will, in general, do as well. If the ſtomach be not very irritable, I generally add one grain of ipecacuanha to each doſe of the magneſia or chalk. I have tried fixed air exhibited in this manner in the epidemic flux, and in the worm fevers of children, with conſiderable advantage. My friend, Dr Athill, had been for ſome years much ſubject to ſevere fits of gravel; by my advice, he has uſed the fixed air with great advantage, as has an aſſiſtant of ours, who had ſevere attacks of colic from biliary calculi. In the advance of low putrid fevers, I have experienced good effects from the fixed or volatile alkali in an infuſion of ſerpentaria and contrayerva, and the decoction of the Peruvian bark, ſuperadding vegetable acid, or acid elixir of vitriol, ſo that the fixed air being evolved in the ſtomach, may act with full power.

VITRIOLUM COERULEUM. Though I have given this medicine in a variety of caſes, I cannot

not yet fully decide upon its powers and effects, otherwiſe than by being perfectly aſſured, that in the many thouſand inſtances in which I have preſcribed it, I have found it perfectly ſafe. Many years ago, a letter from Maryland to the late Dr Parſons of London, fell into my hands, wherein the author aſſerts its great efficacy in phthiſis pulmonalis, ſtrumous enlargement of the glands and inveterate ulcers. And the late Dr Chalmers of South Carolina vouches for its good effects in the colica pictonum, when accompanied with other means. From an attentive conſideration of its effects, I conſider it as a mild nauſeative and eccoprotic, and that it is ſedative and tonic. It ſometimes vomits very gently; but I am often diſappointed when I give it with this view, though it never fails to purge. The following is the form in which it is generally given: ℞. Vitriol. cœrul. ſemidrachm. aq. font. ſeſquilib. f. ſolutio. Of this, the emetic or cathartic doſe is from a tea-ſpoonful to two table-ſpoonfuls, repeated every two or three hours, till it produces either effect. If it vomit, it only produces one mild puke; and if I wiſh to promote the operation, I repeat the doſe, giving a pint of warm water before and after each,

each. But I am often diſappointed, as it purges more frequently than it vomits. Though I frequently give it as a placebo, or where I ſuſpect a negro is not ill, and often preſcribe it empirically, when I am not well aſſured of the nature of the diſeaſe; yet I have uſed it in the following diſeaſes, and I think with advantage, in mild colics and diarrhœa, in ſome caſes of the epidemic dyſentery, and diarrhœa, though rarely in the latter, becauſe I did not think myſelf warranted in loſing time by making experiments, in diſeaſes ſo dangerous and rapid in their progreſs. In intermittents, I give it alternately with emetics every day, one or the other, until the patient has undergone three or four paroxyſms; and if the fever recurs after that time, I give the bark. But I think I have in many caſes, eſpecially of the ſpring remittents, and intermittents of this country, which are not ſo acute or dangerous as the autumnal, by this remedy alone, removed the fever; and ſhould, I believe, in many more; but the people in this country are not always to be reſtrained from giving the bark, after the firſt or ſecond paroxyſm. In anomalous intermittents, it has either entirely cured, or at leaſt paved the way for the uſe

of

of the bark. In worm cafes, I give it either alone, or joined with the anthelmia and jalap. In cafes of inveterate ulcers, I give it in a purgative dofe every day, or every fecond day. In one or two cafes of enlargement of the lymphatic glands, probably ſtrumous, the humours diſappeared after its uſe, but in many others it has failed. In hæmorrhages of all kinds, where a mild purge was indicated, either to empty the bowels, or for the purpoſe of revulſion, I prefer it; and I ſometimes join opium with it in ſuch caſes, though it is not ſo certain a tonic as the alum. In leucorrhœa I think I have ſeen good effects from it; and I have lately tried it in a few caſes of gonorrhœa, but believe it will not anſwer, unleſs aſſiſted by mercury; for moſt of thoſe caſes among the negroes are complicated with bubo or chancre.

Though my friend Dr Athill thinks he has ſeen good effects from it in obſtinate coughs, with hectic fever, I do not recollect an inſtance of this kind, wherein I thought it uſeful.

ARSENICUM ALBUM. Having ſeen this mentioned in the Medical Commentaries, as having been uſeful in cancerous caſes, I adviſed a trial of it,

it, in the caſe of a lady, who had ſeveral tumours on the noſe and face, which were probably of this kind; and having met her ſome months after, her face was almoſt entirely clear. It was uſed alſo as a lotion, in a caſe of the moſt obſtinate herpes I ever ſaw, and which had reſiſted, for many months, the moſt powerful means. The diſeaſe was entirely removed by it, uſed internally, and applied externally.

We have a diſeaſe in this country, hitherto deemed incurable, and called here the *black ſcurvy*, which anſwers pretty nearly to Sauvage's *Elephantiaſis Indica*, being ſpecies 9. ord. 5. of claſs 10. On my return into this country, I determined to try the vitriolic ſolution, with ſublimate, in ſome of theſe caſes, but without any ſenſible good effect. I then had recourſe to the arſenic, which ſeemed to have good effects in one caſe; but our opium falling ſhort, I was obliged to deſiſt; but ſhall again give it a fair trial. There is a diſeaſe here, which the negroes call *canker*; its chief ſymptom is a moſt inveterate ozena, which, though it may ſometimes be connected with lues venerea, is certainly in many inſtances a diſtinct diſeaſe, and probably a ſpecies of the elephantiaſis. This remedy had

had an amazing and ſpeedy effect in a caſe of this kind, in a negro girl of about twelve years old. I am alſo trying it in the *Frambœſia*, or yaws. I formerly uſed it in ſolution; but the following I find to be preferable: ℞. Arſenic. alb. grana ſex, opii grana duodecim, nitr. et gum. Arabic. utriuſque drachmas duas, mucil. gum. Arabic. q. ſ. f. pilul. N° 48. Doſ. pilul. una ad ſex bis in die, doſin ſenſim augendo, et ſuperbibendo aq. tepid. lib. unam. If they purge or gripe, which they rarely do, I direct ſome tinctura thebaica after them. The following is the external application I have lately directed: ℞. Syr. ſacchar. uncias duas, ſpt. vin. uncias tres, acet. letharg. ſemunciam, arſenic. alb. ſemidrachmam. M. With this the ulcers are to be touched twice or thrice a-day.

III.

III.

Account of the Diſcharge of Animals by the Anus, much reſembling the common Caterpillar, and which were found to be the Larva of an Inſect. Communicated to Dr Duncan, *in a Letter from Mr* Robert Calderwood, *Surgeon, Dalkeith.*

I HERE ſend you, according to promiſe, an account of the boy who diſcharged that uncommon ſpecies of animal I mentioned to you, and of which ſome ſpecimens accompany this letter.

He is four years old, and was remarkably healthy from his birth, until the middle of April laſt, when he ſhewed ſome ſymptoms of worms. He complained of headach and pain of his belly, picked much at his noſe, rubbed his teeth violently together, and ſtarted in his ſleep; his appetite was uncommonly keen, and his belly, for the moſt part, bound. About the beginning of May he was attacked with the meaſles, but ſo favourably, that he was going about until

til the third night after the eruption, when he was ſuddenly ſeized with locked jaw. In a few minutes after he was deprived of ſenſe and voluntary motion, and lay as if in a profound ſleep, interrupted however by frequent moans and ſtarting. He changed colour often, and ſeemed much oppreſſed at times in his breathing; his belly, throat, and face, particularly the upper-lip, ſwelled prodigiouſly. Once or twice he vomited and ſhivered, like one in the cold fit of an intermittent. He made almoſt no water, and had been bound in his belly for ſeven or eight days. His pulſe was frequent, and his ſkin hot. In this ſituation he was for three days before I was called to him, having ſwallowed nothing all that time.

I applied immediately a large bliſter to his throat, which reduced the ſwelling, and, in a great meaſure, removed that ſpaſmodic affection of the muſcles of the lower jaw. He ſwallowed two or three tea-ſpoonfuls of wine and water, and a bolus of conſerve of roſes, containing two grains of calomel. In a few hours after, he had a ſtool, and paſſed with it a large lumbricus, eighteen or twenty inches in length, and four animals, ſuch as thoſe I have ſent you, but rather larger,

larger, as they diminiſhed in ſize towards the end of the diſcharge. Next morning his parents told me that they had crept out of the anus, one by one, all night; and ſeemed as if they were releaſed from confinement, for they very ſoon made their way to different parts of the room. Having never ſeen or heard of ſuch animals in the human body, I would hardly believe he had paſſed them. To convince me, they turned down the bed-clothes, when, to my great aſtoniſhment, they were to be ſeen in numbers about his breech, three or four having made their way up to the pillow. In the evening, he knew and ſpoke to his parents, but ſtill was in a comatoſe ſtate, and appeared like one in the laſt ſtage of hydrocephalus. I gave him another bolus with calomel that night, and ten grains of jalap next morning, which brought away incredible numbers, both with and without ſtools. He continued to paſs them at times, for ſeven or eight days, and recovered his ſenſes and the uſe of his limbs by degrees. The ſwelling of his belly and face fell, and in two weeks more, he was reſtored to his uſual health, without a ſingle complaint.

The parents tell me, that for two or three weeks before he was ſeized with the meaſles, he went frequently into the garden, and had eaten the young leaves of cabbage, *&c.* Is it not probable, that he had then ſwallowed the ova of theſe animals? as from ſeveral circumſtances, I ſuſpect that they were not in their natural element, whilſt in the alimentary canal; and particularly from the circumſtance of their living ſo long after being paſſed. They were all alive, and continued ſo for above twenty-four hours. Thoſe that I gave you, lived fifteen or ſixteen hours in a tin-box. Another circumſtance worth notice is this, that the boy enjoyed a perfect ſtate of health, and had no ſigns of worms until he began to eat theſe raw vegetables; and he has remained, ever ſince that, without a ſingle complaint.

IV.

IV.

Account of extraordinary Effects from the Application of cold Water after Delivery. *By Dr* J. Fitzpatrick, *of Dublin.*

I WAS ſent for to the wife of Roger Mercer of Goulſtown, county of Weſtmeath, in the year 1770. She had before been the mother of ſeveral children, and was then ſuppoſed to be ſeven months pregnant, but had been under the neceſſity of keeping the bed for more than two months previous to my ſeeing her, on account of an almoſt conſtant uterine diſcharge. This, at times, increaſed to ſuch a degree that ſhe fainted. When I firſt ſaw her, her legs and thighs were much ſwelled, and the whole countenance of a pale ſallow colour, her ſtrength almoſt exhauſted, and the colour of the diſcharge and conſiſtence rather like the waſhings of freſh meat, as there ſeemed to be no perfect blood remaining, for every change of poſture brought

on ſome new diſcharge. She was rather inclined to a ſlumbering, out of which ſhe generally awoke as if affrighted, with retchings, which ſeldom failed of bringing on freſh appearances.

Having underſtood that a perſon of the profeſſion had frequently viſited her during this indiſpoſition, I requeſted that he ſhould be ſent for, which was complied with, and the following day we met at the patient's houſe, when, from every appearance, there was nothing good to be expected, excepting by immediate delivery. For this I urged, as there was every reaſon to ſuppoſe, that the placenta was, in part, detached, or that it adhered to the neck of the womb; and, perhaps, by extending itſelf over the os uteri, according as that dilated, would neceſſarily be more and more ſeparated; ſo that protraction in this caſe was only to be attended with more danger. Notwithſtanding that I propoſed to become the operator, he was averſe to having any thing done at that time, as ſhe was uncommonly weak. We parted, after recommending ſuch diet as we imagined moſt eaſy of digeſtion, and nouriſhing. After ten or twelve days I was again ſent for, when I found her much

much weaker than before; and then intreated for a ſecond interview with the gentleman, who was pleaſed to let me know, that he was very apprehenſive the woman would die, in attempting to deliver her, and that he did not wiſh to be preſent; but would give ſanction to whatever I did, as he believed nothing was to ſave her but immediate delivery.

On receiving this account, I knew not what to do, as his declining even to be preſent at the operation, muſt have heaped cenſure upon me, (he being an old practitioner, and very ſucceſsful, and I but very young); but I was determined to forego every thing for the recovery of the poor woman, as every ſymptom that could add to my early apprehenſions increaſed. She was now reduced to a ſtate of inſenſibility or childiſhneſs, and her pulſe very weak. The firſt thing to be done, after informing her huſband and other friends of the abſolute neceſſity of delivering her, was to learn every thing poſſible relative to the ſtate of the uterus, when I diſcovered, that the os uteri was very much dilated, and a part of the placenta protruded. This confirmed me in my former opinion; and, having ſlipped on a broad bandage, that I might

give her as little diſturbance as poſſible, after the delivery, I then placed a window-ſhutter in the bottom of a loſſet, and having placed her on the ſhutter, the delivery was completed in five minutes. To effect this, I introduced the hand ſo, as to keep the back of it oppoſed to the placenta, and, without much difficulty, brought the child by the feet, having met with no ſort of reſiſtance from the uterus, for it ſeemed incapable of contracting itſelf. The inſtant the delivery was over, a large quantity of cold water was poured into the loſſet, ſo as to have her back immerged. The bandage was drawn tight, to aſſiſt the faint contraction of the uterus, (from which I had every thing to fear), and cold vinegar was poured from the region of the ſtomach to the pubes. She remained in this ſituation for ſome minutes, until I had reaſon to believe the uterus had contracted; for after three minutes, by laying my hand gently over the navel, I perceived a tightneſs under the part, which gradually increaſed, until that ſort of globular fulneſs and hardneſs was evident, which after delivery generally ſets in, and indicates the contraction of the body of the uterus.

During

During the time ſhe remained in the machine, until ſhe was delivered, ſhe drank near half a pint of Port and water; but after that, until I had reaſon to believe the diſcharge from the uterus was diminiſhed, which was about four minutes, ſhe merely took a little vinegar and water, (for I obſerved in two caſes which I met with before, that every thing cordial, by increaſing the action of the heart, *&c.* increaſes hæmorrhages). She remained in the loſſet, before and after delivery, about ten minutes, when I had her lifted gently, by means of the window-ſhutter, into her bed, where I continued for ſome time the application of vinegar-cloths, and moderately looſed the bandage, not having, from the time the uterus exerted its own power, ſo much occaſion for the exterior preſſure, and fearing ſome bad conſequence might ariſe from its obſtructing the neceſſary circulation in the viſcera, which I am inclined to think ſometimes happens.

In the courſe of the after treatment, nothing material occurred; but I found it neceſſary to put her on the uſe of bark, chalybeates, *&c.* and a very dry diet, rather cordial for ſome time, by which means ſhe was perfectly recovered.

The child likewiſe required a more aromatic ſort of diet than is generally neceſſary; for notwithſtanding that he was rather large, yet his colour and great weakneſs proved how much he was injured by his mother's loſſes. She carried the child, by what I could learn from her, after ſhe was recovered, near nine months; but was deceived, by her having almoſt from the beginning ſome appearances.

The reaſon I did not put the cold water into the loſſet before the delivery, was, leſt the ſudden contraction, which would naturally follow from its effects on the ſurface, ſhould drive the blood to the uterus, which could not contract, ſo long as it retained its burden.

V.

V.

Account of a ſingular Tumour in the Groin, removed by Extirpation. By Mr James Bowen, *Surgeon to the* 30th *Regiment.*

A Man belonging to the 30th regiment was reported to me for a ſwelling in his groin, on the left ſide, juſt below the aperture, in the tendon of the obliquus deſcendens muſcle. This was become ſo very troubleſome that it prevented him from doing his duty. Upon a ſlight view of his complaint, I imagined it was an incipient bubo; but, on a more particular examination, I found the tumour receded from a very ſlight preſſure of the fingers, and paſſed down into the ſcrotum. I was a little ſurpriſed at this circumſtance, and believed it might be the teſticle, (which I had before, in other patients, ſeen in ſuch a ſituation), but I evidently could diſtinguiſh the tumour, independent

ent of the teſticle, the tumour being the ſize of a large pigeon's egg.

Dr Lanphier, phyſician at Waterford, with Mr Davies, ſurgeon in that place, did me the favour to viſit the patient with me; who, on examining the tumour, (it being then in the ſcrotum), had an idea that it was an enlarged teſticle. But, on my deſiring them to be more particular, they very readily paſſed (as I had done before) the tumour from the ſcrotum to its former ſituation. This gave the patient little or no pain, unleſs the tumour was handled roughly.

We thought it might be an indurated gland; and, as it was become very painful and troubleſome, the beſt way was to make an inciſion, and take it out. The man conſenting to have any thing done I thought moſt proper for his relief, I gave him ſome gentle medicine that procured him two or three ſtools; and the next day, in the preſence of Dr Lanphier and Mr Davies, I made an inciſion the length of the tumour, and carefully diſſected, imagining the tumour would turn out; but I found it every where ſurrounded, and cloſely adhering to a great quantity of cellular membrane. It was of a

tranſparent

tranſparent hue, and appeared to be full of ſome fluid. I divided the whole length of it, and let out about an ounce and a half of thin lymph. A large portion of cellular membrane protruding, I made two ſtitches, and brought the lips of the wound as cloſe together as poſſible.

I took eight ounces of blood from the patient, and applied ſome ſlight defenſive; and, with ſuperficial dreſſings, fomentations, and emolient cataplaſms, the wound was perfectly healed, and the man reſtored to his former health in three weeks.

He had very little ſymptomatic fever, although ſome time was taken in the operation. It is now two years ſince, and the man has not had the ſmalleſt return of his complaint.

VI.

VI.

Obſervations on the Yellow Fever of the Weſt Indies. Communicated to Dr Duncan *in a Letter from Dr* Samuel Curtin, *Phyſician at Rio Bueno, in Jamaica.*

AS I made the yellow fever of this country the ſubject of my inaugural diſſertation, I was very deſirous, on my arrival, of obtaining information concerning it. From the converſation I have had with ſome of the moſt eminent practitioners here, and the few caſes that have happened in my own practice, I ſhould be induced to make ſome alterations, was I to attempt a ſecond publication. You will obſerve that I have referred this diſeaſe to the genus ſynochus of Dr Cullen's noſology. I was induced to do ſo, from conſidering that it was always uſhered in with inflammatory ſymptoms, and generally terminated, when fatal, with thoſe of an oppoſite nature.

nature. Theſe two ſtadia, though univerſally admitted, yet often differ in degree. Sometimes the inflammatory ſymptoms are very violent, and the diſeaſe, if properly treated in the beginning, is ſeldom attended with ſymptoms of putreſcency. The principal indication ſeems to be, to obviate putrefaction, by diminiſhing the too great action of the ſyſtem. If then proper evacuations are made in the incipient ſtate, the diſeaſe generally yields to the bark. In conſequence of this practice, which is now univerſally adopted, thoſe alarming ſymptoms, which rendered the very name of the diſeaſe terrifying, are in general obviated; and when it proves fatal, it is commonly owing to want of timely aſſiſtance. Like the vernal intermittent and remittent fevers of Europe, it requires ſometimes veneſection, always purging. The bark afterwards proves the moſt efficacious remedy. It appears to me to be perfectly of the remittent kind, for, on the third day, there generally happens a complete remiſſion of eight or ten hours, and, if the bark be not given, it aſſumes a continued form. The yellowneſs on the ſurface, which appearance has given a name to the diſeaſe,

eaſe, is not always uniform in its approach. Sometimes it accompanies the very firſt ſymptoms of the diſeaſe, at other times does not appear till a late period. Although I have endeavoured to prove, that it depends upon putrefaction, yet I am now inclined to think that it is ſometimes owing to an effuſion of bile; for it ſometimes appears at the commencement of the diſeaſe, when no ſymptoms of putrefaction can be perceived. However, as a ſufficient number of facts have not yet fallen under my obſervation, I choſe rather to make it the ſubject of ſome future epiſtle, than offer any thing at preſent, which I cannot eſtabliſh by a ſufficient number of facts, and render probable by reaſoning deduced from them. There is one peculiarity of this fever, which I have taken notice of, and it is confirmed by the united teſtimony of practitioners here, That negroes are never affected with it; and, what is equally remarkable, I have not met among them with a pure tertian intermittent in the whole of my practice, though white people are often affected with them. I have been informed by practitioners here of forty years experience, that it is a rare occurrence

occurrence among negroes; that they have not met with more than one or two inſtances in the whole of their practice; and that even theſe few have been confined to mulattoes and houſe-negroes, or thoſe who live in the ſame manner as white people. This is a fact I have never met with in any writer, and, for that reaſon, have made it the ſubject of my particular inquiry.

Intermittents are very frequent in this country, and, when they attack people ſoon after their arrival from a European country, often prove very obſtinate. Some inſtances of this kind have alſo fallen under my care. The moſt effectual method, I find, is, to reduce that rigid tone of fibre, ſo peculiar to the inhabitants of northern regions, either by moderate bleeding or purging, and then the bark proves generally ſucceſsful; for I have known it given for a length of time, with no effect, until, by ſuch evacuations, particularly purging, its action has been rendered more certain. Indeed I have given this medicine in larger doſes in this country than ever I have known it given, even to the extent of an ounce at a time.

time. This quantity, if adminiſtered at the approach of a fit, generally prevents its recurrence. An univerſal glow of heat ſucceeding, effectually prevents the formation of the fit.

VII.

Account of the ſucceſsful Treatment of a Caſe of Hydrocephalus, by Mercurials. By Dr A. Campbell, *Phyſician, Hereford.*

IN a long courſe of practice, I have attended many patients ill of hydrocephalus internus, and I am ſorry to ſay, I never knew more than one recover, a young man of twenty-five, who was recovered by repeated bleeding, and purging with ſalts. For ſeveral years after, he was ſubject to giddineſs, and pain of the head, recurring at uncertain intervals, of which he was occaſionally

occaſionally relieved by bleeding and purging. A ſmall degree of ſtrabiſmus remained for ſeveral years. The ſucceſsful treatment of the following caſe with mercurials, as happily ſuggeſted by Dr Percival, has induced me to tranſmit it to you. Nov. 13. Mr Palmer was called to a ſtout boy of five years old, who had been attacked on the 10th with pain in the head and limbs, pain and ſtiffneſs in the nape of the neck, and with ſickneſs at the ſtomach; he had fever, with ſtupor, and was coſtive. Mr Palmer knowing that the child was ſubject to worms, gave him an infuſion of Indian pink, with tincture of rhubarb and ſpirit of vitriol, which was continued until the 17th, when the child was worſe. The diſorder was now apprehended to be hydrocephalus internus, and I was deſired to viſit the child; but, being from home, Mr Palmer applied a bliſter to the nape of the neck, and directed a ſolution of emetic tartar. The bliſter diſcharged very well for ſeveral days. When I ſaw the child in the evening, the mother confirmed the above account, and added, that when he was firſt taken ill the head leaned forward, as though it were too heavy to be ſupported, and the neck was ſo ſtiff that the

child turned his head with the body, when he looked to either ſide. He was in a ſtupor, could not ſpeak, made conſtant moanings when awake, and was continually turning his head on the pillow, and applying his hand to it, chiefly to pick his noſe. The pupils were greatly dilated, and when a lighted candle was applied before his eyes, he did not expreſs the leaſt perception of it. The eye-lids were moſtly half ſhut, he looked pale, but had frequent fluſhings in the cheeks. The tongue had a white fur on it, and was in conſtant motion, as were his lips; the heat of the body was temperate; the head was ſomewhat hotter; he had ſome fever; the pulſe beat about an hundred ſtrokes in a minute; he indiſcriminately ſwallowed what was put in his mouth; the urine and fæces paſſed involuntarily from him. 18th, ℞. Calomel. grana quatuor, pulv. febrifug. vulgo James's powder, grana tria, m. et ſtatim ſumatur; et repetatur calomel. quinta hora exinde ſine pulvere febrifug. et affricetur drachmam unam unguent. cœrul. fort. tibiis. The firſt doſe excited vomiting and ſweating. From this time to the 22d, the calomel was given twice a-day, and the ſame quantity of the ointment was rubbed in each day. One, two, or three

three liquid ſtools were promoted each day, and it was ſuppoſed that the child voided a good deal of urine. He lay much quieter, and the ſleep was leſs diſturbed; no ſoreneſs nor heat of the mouth was perceived. On the 22d and 23d, He had five grains of calomel twice a-day, and the ointment as before; urine and ſtools as before; the pulſe was leſs frequent, and he was quiet. 24th, ℞. Calomel. Jalap. Scamonii, ſingulorum, grana quinque, m. ſtatim ſumatur; had ſeveral ſtools. 25th and 26th, Took five grains of calomel once a-day. 27th, Took the calomel twice a-day; no ſoreneſs of the mouth. 28th, He was quiet, and I thought him weaker. ℞. Extract. cort. Peruv. drachmam unam, tinct. cantharid. drachmam unam, aq. menth. v. ſimp. uncias ſex, ſacchar. alb. drachmas duas, m. Cap. duo larg. coch. ter de die; hor. ſomn. repet. calomel. 29th, Perſiſtat ſumendo miſturam. Dec. 1. The child is much better; the pupils contract, and dilate, and he can diſtinguiſh objects, calls for aſſiſtance to the ſtool and urinal, the urine of a higher colour, turns paler on ſtanding, and depoſits a white mealy ſediment. Dec. 3. Can ſpeak but very ſlowly, and is very weak, continues the mixture, has two ſtools a-day, and voids plenty of urine.

Dec. 5. Sat up moſt of the day, and can walk with aſſiſtance. 10th, Is now well, though he be yet ſomewhat weak.

P. S. About a week before I was called to this child, I attended a boy of three years old, in the ſame diſorder. He was treated in the ſame manner as the above, and the ſymptoms ſeemed to be abated on the third day, but he died on the fourth or fifth.

VIII.

Obſervations on lymphatic encyſted Tumours. Communicated to Dr Duncan, *in a Letter from Dr* Charles Biſſet, *Phyſician at Knayton, Yorkſhire.*

IN the courſe of my practice in England, two caſes have occurred of a white encyſted and ſomewhat painful tumour, which contained a clear ropy lymph, with ſome gelly-like humour, and ſeveral hydatides of different ſizes, containing a ſimilar lymph. Each of theſe tumours was

was formed upon the tendinous expanſion of a muſcle, and this formed the baſe of the cyſt. The firſt that fell under my obſervation was formed upon the lower portion of the exterior oblique muſcle, adjoining the ſpine of the ilium. The patient was a ſtout man, about thirty years of age. The tumour was opened; the exterior portion of the cyſt was almoſt extirpated; a profuſe diſcharge enſued, which, for ſome time, was attended by a ſymptomatic or purulent fever; a complete cure was accompliſhed; but, in three years after, the patient died conſumptive. The other tumour was formed upon the biceps muſcle of the thigh of a healthy young woman.

This ſpecies of encyſted tumour, may, with ſome propriety, be termed lymphatic; and, though it ſhould ſeem not to be a very extraordinary occurrence, yet it is not mentioned by any author I am acquainted with. The following uncommon caſe apparently aroſe from a tumour of this ſort, which, I ſuppoſe, had formed upon a portion of the interior ſurface of the muſcular coat of the colon, at the middle of the great arch, and was attended with great danger, even after burſting into the cavity of the gut.

Mrs H—— of Coatham, in Cleveland, aged about thirty, naturally ſtrong and healthy, was attacked, in the beginning of ſummer 1780, with a jaundice, attended with an obtuſe pain immediately above the umbilicus, which, in a ſhort time, was carried off by moderate doſes of opening pills, conſiſting chiefly of aloes and ſoap. At the onſet of that diſeaſe, ſhe was adviſed by a neighbouring woman, to drink pretty freely of the decoction of the freſh undried roots of Burdock, which, in the patient's opinion, contributed not a little towards the recovery of her health.

Towards the end of November following, the obtuſe pain, a little above the navel, returned, and gradually increaſed; but it gave her no material diſturbance till the beginning of March 1781, when that local diſeaſe became more troubleſome, and began to affect her health. Hitherto the catamenia were regular, but rather ſcanty. It is alſo proper to obſerve that ſhe was married, but has had no children.

On the 9th day of May following, when I firſt viſited this patient, there was ſome degree of tenſion immediately above the umbilicus, and in the lower portion of the epigaſtrium. She had

a conſtant, uniform, deep-ſeated pain in that part, and could not bear the preſſure of a finger upon it. She was exceedingly weak, low-ſpirited, and without appetite; and her ſtomach could admit of but a very little light food at a time. She was much affected with flatus; and, from this ſecondary cauſe, the pain was ſometimes increaſed, ſo as to occaſion nauſea, ſometimes with retching and great ſickneſs; and ſometimes ſhe was ſo exceedingly low and faint, that her huſband, and others about her, apprehended the moſt imminent danger.

Though her pulſe, on this day, (9th May), was weak, and very little accelerated, yet, as it was equal, and pretty large, and the pain and tenſion above the umbilicus afforded a ſtrong preſumptive proof of inflammation, I directed four ounces of blood to be drawn from her arm; and a whitiſh ſizy covering, which ſoon appeared on the top of the coagulum, furniſhed a manifeſt proof of the exiſtence of a local inflammation. Yet, as the patient was ſo very low and weak, and had, after this, in general, a languid and weak pulſe, and it was doubtful whether an abſceſs was not already formed, I thought it improper to order farther bleeding;

and I muſt own, that it appeared to me, at firſt, doubtful whether the part affected was the left lobe of the liver, the ſtomach, or the middle convex portion of the arch of the colon.

As the patient's urine was highly bilious, ſo as to tinge linen yellow, and there was a manifeſt tendency to a jaundice, and ſhe had very ſeldom a motion without the aid of a laxative draught or a clyſter, I preſcribed the following laxative apozem.

℞. Rad. curcumæ, Polypod. quercin. Rhei, contuſ. utriuſque drachmam unam, Fol. ſennæ ſemidrachmam, Sem. fœnicul. dulc. Fol. chelidon. major. utriuſque ſemidrachmam. Coquantur ex aq. font. lib. una ad uncias octo, et cola. Bibat hujus apozematis cochleare majus, quater in die, vel q. ſ. ad alvum apertam ſervandam.

This was continued for ſeveral days, and produced the deſired effect. When a nauſea prevailed, a cup of coffee proved ſerviceable; a ſpoonful of ſimple mint water, diluted, ſometimes allayed that ſymptom; and when the patient was very low, ſick, and faint, the following cordial wine was adminiſtered by ſpoonfuls, either alone, or diluted, apparently with ſome advantage. ℞. Limonium malum affatum, et in fruſtula ſectum,

tum, Croci Angl. inciſ. drachmam unam, vini albi Liſbonenſis bullientis libras duas. Macerentur per horas quatuor, et colaturæ adde ſacch. albiſſ. ſeſcunciam.'

Whey, and balm-tea, lightly acidulated with lemon juice, were her common drinks; but as ſhe had but a ſmall degree of fever, and her tongue was moiſt, and pretty well coloured, her thirſt was not great. The affected part, after being bliſtered, without any advantage, and healed, was embrocated two or three times every day, with a mixture of equal parts of ſpt. Mindereri, and oil of ſweet almonds, and covered with flannel. This was directed to be applied with as much preſſure as the patient could bear, with a view of burſting the ſuppoſed impoſthume.

On the 26th, the patient became affected with vehement pain at the ſeat of the diſeaſe, and in her bowels, attended with an obſtinate conſtipation. Clyſters and the former laxative apozem, with the addition of a ſmall doſe of ſal catharticus amarus, having proved ineffectual, I directed a clyſter of tobacco-ſmoke to be thrown up, and that the blowing ſhould be continued till a nauſea ſhould be excited. This

produced

produced a motion, with a great diſcharge of flatus; and the patient was inſtantly relieved: and, the ſame laxative apozem being continued, the patient, early next morning, voided by ſtool a conſiderable quantity of gelly-like mucus, with ſeveral hydatides of different ſizes. The pain in the lower portion of the epigaſtrium nevertheleſs continued; and the patient, who could take very little even of the lighteſt food, was now ſo weak, that it was deemed neceſſary to diſcontinue the laxative apozem, and to keep the belly open chiefly by means of mild demulcent clyſters, which, with the aid of ſmall doſes of a ſolution of manna in whey, brought away ſome of the above mentioned gelly-like ſubſtance, and ſome few hydatides, almoſt daily for a week. After that, the hydatides diſappeared; but the white gelly-like mucus continued to come away at times for twelve or thirteen days longer. The patient, during that period, ſtill continued to be much affected with flatus; and though the tenſion above the umbilicus was ſcarce perceptible after the firſt conſiderable diſcharge of mucus and hydatides on the morning of the 27th, yet the patient, for three weeks after that event, had a continual obtuſe pain, or ſome degree

gree of ſoreneſs, and ſometimes great pain in that part: and it was remarkable, that, in either caſe, the tobacco-ſmoke clyſter always afforded the moſt immediate eaſe; by inſtantly abating the pain, when vehement; and by occaſioning a total and ſpeedy diſcharge of flatus, when this prevailed. Theſe good effects, which were almoſt inſtantly produced by blowing up tobacco-ſmoke till it excited ſome degree of a nauſea, induced the patient to have this operation repeated ſometimes twice a-day. Whether any purulent matter was mixed with the mucus and hydatides that were firſt voided, or not, I cannot ſay, as I did not ſee theſe; indeed the patient's nurſe declared in the affirmative; I know, however, that no pus appeared among ſome of the ſucceeding diſcharges of the white gelly-like mucus which were ſhown me.

The patient's ſtomach was ſo delicate, particularly after the firſt diſcharge of hydatides and mucus, as to admit only of the mildeſt deterſive alterative medicines. As ſhe thought the decoction of the rind of the recent undried root of burdock had been very ſerviceable to her under the former icteric affection, with an attendant deep-ſeated pain above the umbilicus, and as no alterative

alterative medicine can be milder, I approved of her reſuming it under the preſent diſorder. She drank a ſmall tea-cupful of that decoction three times every day, for a month or upwards from the firſt appearance of the above extraordinary dejections; and it was apparently of great ſervice to her. And almoſt the only food ſhe took during that period, was new milk curdled with a little freſh runnet. She took the curd while it was light, with the whey in it, and drank the whey that ſeparated ſpontaneouſly from it. In this manner it is an exceeding light food; and it agreed much better with her than chicken-broth, or any other light food ſhe had tried; and by the end of July her health was pretty well re-eſtabliſhed.

As no part of the mucus, nor any hydatides were ever ejected by vomiting, though the patient vomited ſometimes, it is moſt probable, that a cyſt had been formed at the middle of the great arch of the colon, on the inſide of its muſcular coat, which contained that matter, and that it had, partly from the effect of the firſt tobacco ſmoke clyſter, burſt into the cavity of the inteſtine.

From

From the effects of the tobacco-ſmoke clyſters, in this caſe, it may be inferred, that the ſame remedy will prove of ſignal ſervice in flatulent colics, provided always that the blowing be continued till a nauſea be excited. And I am perſuaded, that, in the iliac paſſion, when it is not incurable, it is the moſt efficacious remedy yet known; at leaſt after bleeding, and the exhibition of a full doſe of a ſuitable purgative, that is retained, and of ſweet oil. It is alſo moſt probable, that this eaſy remedy would be of the greateſt utility in a true tympany.

IX.

IX.

Hiſtory of a Caſe of Angina Polypoſa. By Dr Joſeph Dixon, *Phyſician in Whitehaven.*

DEcember 5. 1782. Mr W. H—, aged 48, became affected two months ago with the uſual ſymptoms of catarrh, ariſing from accidental cold, to which he has been often liable. Cough, hoarſeneſs, and abundant expectoration were moſt urgent with him. To theſe, ſoon after acceded (ſometimes blended with, but generally diſtinct from the phlegm expectorated) a conſiderable quantity of a very white and ſolid ſubſtance, of different degrees of tenacity, and aſſuming very various forms, ſimilar for the moſt part to numerous ramifications, derived from one common trunk. With regard to the ſenſible qualities of this ſubſtance, he only remarks its ſupplying his mouth with a conſtant ſweet taſte. Heat and flame applied to it in a recent ſtate, excite a remarkable crackling, till the fluid parts are evaporated, when the reſiduum exhibits

bits the ſureſt teſt of inflammability. Chemical experiments prove, that acids and ſpirits condenſe and corrugate it powerfully. Alkalies and their compounds diſſolve it gradually, whilſt lime-water alone becomes a moſt perfect menſtruum. He always excretes it liberally in the morning, and generally effects its diſcharge by the mere irritation of a ſlight hem; rarely, if ever, is it the conſequence of any violent effort; that of coughing, though frequently occurring, has no direct influence over it. In quantity, it has within theſe eight days diminiſhed ſenſibly, excepting laſt night, when he brought up a large ramified piece, and found his breaſt inſtantly free from a painful degree of oppreſſive conſtriction. Mr H— has lately experienced a trivial uneaſineſs in the firſt joint of his great right toe, but with no tumefaction nor inflammatory arthritic ſplendour. It ſtill, however, continues a little painful to him, but does not in the leaſt impede his uſual and neceſſary motions. Bowels rather conſtipated. In other reſpects, his general health has long been, and ſtill remains very perfect. Habit of body neither particularly ſlender nor corpulent. Mode of living always temperate, and laterally exceedingly abſtemious.

The

The palliative and curative indications in this caſe were,

I. To promote the ready diſcharge of this ſubſtance. And,

II. To anticipate and prevent its future abundant generation.

Mr Hamilton, a very eminent ſurgeon, had employed a vomit in the incipient ſtate of this diſeaſe. He afterwards directed a maſs of gum pills, with rhubarb and ſoap; alſo the uſe of lime-water, and frequently to inhale the vapour of warm water from Dr Mudge's late invented apparatus. To this laſt I have added a ſlight emollient ſolution, with that of the native balſam of Tolu, and wiſhed him to take liberally a certain ſtimulant expectorant, the ammoniacal ſcillitic mixture. Various demulcents, in which the ſweet and the mucilage were intimately united, have been occaſionally employed, and always excited a more profuſe and immediate diſcharge of this peculiar ſubſtance. But above all remedies, as eſpecially reſponſive to the ſecond indication, I have begged him cautiouſly to guard againſt any violent exertion of voice, or long expoſure to the cold air of this ſeaſon. Neither of which injunctions, as regulator of this

this port, is it altogether in his power to comply with; and to the combined influence of these powerful causes, inducing an increased degree of absorption and evaporation from the bronchial vessels, may the presence of Mr H—'s disease be rationally imputed. For unquestionably the form and figure of the matter discharged depend upon those of the parts on which it is deposited, and where, from the above contingencies, it has an opportunity to imitate in its appearance the vessels themselves. Hence it was anciently believed, that in confirmed phthisical cases, the lungs might be thus separated and discharged. But modern observations undeniably prove a different doctrine. The late celebrated Professor M'Laurin used frequently to present substances very similar to the bronchiæ, which were always imputed to the inspissation of the natural mucus adhering to the ramifications of the trachea, the thinner parts of which mucus being carried off by the constant current of air, the remainder adapting itself to the shape of the vessels, would become more consistent and viscid. Mr H— is also recommended to wear the warmest clothing, a flannel-shirt, *&c.* and to employ a diet rather more ge-

nerous and agreeable to his former habits. The above ſtate of Mr H—'s caſe was particularly regarded by my much revered and moſt ingenious preceptor Dr Cullen, from whoſe letter I ſhall ſelect the following obſervations: "My o-"pinion is, that the excretions in Mr H—'s "caſe are quite analogous to thoſe membranes "which are found lining the trachea in the "croup, or as we name it, the cynanche tra-"chealis, or as it has been named by the prin-"cipal writer upon the ſubject, the angina po-"lyposa. Such membranes are perhaps the "ſame with thoſe always formed on the exter-"nal ſurface of the lungs, and other viſcera af-"fected with inflammation. From theſe conſi-"derations, it appears, that in all caſes, and, a-"mong the reſt, in the caſe of Mr H—, thoſe "membranes are the effect of inflammation; "and though their nature was that of an inſpiſ-"ſated mucus, even that muſt be imputed to "an inflammatory ſtate of the bronchiæ, which, "as I judge, takes place more or leſs in every "catarrh. The caſe therefore muſt be treated "by the ordinary remedies of catarrh, that is, "chiefly by moderating the inflammatory dia-"theſis, and by taking off the determination to

"the

" the lungs. In every reſpect the caſe has been " hitherto judiciouſly treated; and had it not " been for the patient's being frequently expo- " ſed to cold, he would have been relieved be- " fore now. I ſhall only offer a few remarks " on the meaſures you may ſtill purſue. I " think a ſmall bleeding might now and then " be uſeful, and the proper times you will judge " of, by increaſed frequency or hardneſs of " pulſe, by difficult reſpiration, drier cough, or " pains about the thorax. In like circumſtan- " ces, a bliſter between the ſhoulders, or on the " breaſt or ſides might be uſeful; and a con- " ſtant pea-iſſue or ſeton, I think very adviſable. " In the affair of demulcents and expectorants, " I need offer you no inſtruction. Of the lat- " ter, I would avoid all thoſe of the heating " kind. Lime-water will do no harm; but I " cannot believe it can do any good. I have " only to add, that his body ought always to be " kept cool by gentle laxatives, when neceſſary. " I approve much of his abſtemious courſe; " and what I would eſpecially and moſt earneſt- " ly inculcate, is his avoiding external cold."

May 1. 1773. Mr H—'s diſeaſe has been aggravated conſiderably within theſe two months,

the coagulable ſubſtance being excreted abundantly, not only in its firm conſiſtent ſtate, but in a ſoft gelatinous one, very ſweet and diſagreeable. In the morning this laſt generally takes place, and it aſſumes a more ſolid form towards night. He had a ſlight arthritic paroxyſm three months ago, which relieved his peculiar ſymptoms.

Previous to the bringing up any large piece of lymph, his cough is remarkably troubleſome and ſonorous; but after this is effected, he continues free from complaint for ſeveral hours. His regimen has been ſtrictly antiphlogiſtic. He always finds himſelf beſt, when employing active exerciſe in the open air, his cough being then not in the leaſt irritating. He has taken freely a ſaline ſcillitic mixture, with frequent ſmall doſes of vinum antimoniale, though he always found his cough much and immediately excited by them. He had a large iſſue made in each arm, which diſcharge abundantly. He has been repeatedly bled, but did not experience any ſenſible benefit from that evacuation. His blood was always ſizy. He obſerved his iſſues had, upon April 25th, become nearly dry. The next morning, as uſual, he went abroad early, and expoſed himſelf all day to the influence of a keen

keen cold air. In the evening, he was ſeized with inceſſant cough, moſt urgent dyſpnœa, and a ſenſe of oppreſſive tightneſs at his breaſt. At laſt, with difficulty, he brought up a large minutely branched piece of lymph; but this gave him no relief. His head, from the violence of coughing, became affected with very acute pain, and a degree of delirium immediately ſucceeded. Fourteen ounces of blood were inſtantly taken from the arm, and a large highly ſtimulant bliſter applied betwixt his ſhoulders. Saline, antimonial and mucilaginous remedies were alſo exhibited. The effects of theſe attentions were to mitigate all his inflammatory ſymptoms, ſo that the next morning he experienced a relief far exceeding his moſt ſanguine expectations. His bowels were open. Excepting a degree of troubleſome irritation to cough, he has continued very free from complaint, no appearance of lymphatic matter having occurred in any form ſince the above urgent affection. At the particular requeſt of Sir James Lowther, Mr H—'s caſe was now laid before Dr Warren, in conſequence of that gentleman's previous attention to the ſubject; particularly his having related a ſimilar inſtance of bronchial polypus in the London

Medical Eſſays. The Doctor preſcribed three pounds of lime-water, and twenty drops of the lixivium ſaponarium, to be taken twice a-day.

October 6. He has, in the courſe of this ſummer, remained tolerably free from diſeaſe, regaining his natural ſtrength and alacrity in action, rarely for months excreting the ſmalleſt portion of coagulable ſubſtance; and when he did, it was always during the prevalency of a keen north-eaſt wind, and with no remarkable difficulty. Upon the acceſſion of a ſeaſon leſs temperate, he gradually experienced a ſenſible aggravation of his inflammatory ſymptoms, his cough becoming more troubleſome, and lymphatic matter exceedingly abundant. Sometimes its excretion was effected with almoſt an univerſal convulſion; at others it came up very eaſily. Relative to its conſiſtency, a conſiderable variety obtained. In the morning it was much mixed with mucus, and accurately broke down. In the evening it aſſumed a ſolid fibrous appearance, imitating pretty exactly the circumſtances of the preceding winter, but with greater potency. Lately he has brought up a large quantity of very thin pieces, moſt minutely ramified,

mified, and irregularly jagged at their extremities, containing very little lymph, and taking the form of a denudated vaſcular coat.

With regard to the treatment. Mr H— has ſtrictly obeyed the former regimen. He has employed a great variety of demulcent pectorals, cautiouſly avoiding the ſtimulant ones. Blood-letting and bliſtering were occaſional remedies. The latter always gave remarkable relief, ſenſibly diminiſhing the quantity of the ſubſtance excreted, and obviating the oppreſſive conſtriction at his breaſt. His iſſues now diſcharge freely, and a bliſter is kept open betwixt his ſhoulders. The lixivium was taken regularly in lime-water for ſeveral months, and the doſe gradually increaſed to fifty drops, with the effect of impairing his appetite, and producing nauſea at ſtomach. As his bowels have been lately much conſtipated, a courſe of habitual laxatives became expedient.

Such is the character, and ſuch the treatment of this affection; and, in apologizing for ſo tedious a detail of circumſtances, I have only to obſerve, that it was my wiſh to accumulate thoſe facts which might in any degree convey an idea of that peculiarity in diſeaſe they ſo certainly

eſtabliſh. I have ſent, with this letter, a ſmall piece of recent, and one of the dried bronchial polypus.

Extract of a letter from Dr Dixſon, Oct. 15. 1784.

In the courſe of the preceding ſpring and ſummer, Mr Harriſon's inflammatory ſymptoms were governed, in the degree of their urgency, by the ſtate of the ſeaſon. During the prevalence of froſt or cold, and moiſt weather, his pulmonic affections diſtreſſed him inceſſantly; cough, dyſpnœa, and ſometimes acute pain of ſide, with oppreſſion at breaſt, becoming remarkably violent, and his pulſe very frequent and tenſe. He complained alſo of headach, with giddineſs, ſo as to prevent his retaining an erect poſture. Blood then taken always aſſumed an inflammatory aſpect, and the loſs of it generally procured conſiderable relief. His averſion to this evacuation, and that of bliſtering, made it eligible to preſcribe various other ſubſtitutes. Thoſe of habitual laxatives, and occaſional ſaline, yet active purgatives, were moſt beneficial. To their frequent employment, he very juſtly imputed the prevention of thoſe aggravating

gravating circumſtances, which, for the moſt part, took place from his expoſure to cold, or were the uſual effects of long protracted diſeaſe. In the month of Auguſt he was the moſt free from topical inflammation, and rarely, if ever, brought up any firm portion of lymphatic ſubſtance, and then eaſily, without any violent effort, or remarkable dyſpnœa. His iſſues continue to diſcharge abundantly, but he thinks they have no ſenſible influence upon his phlogiſtic diatheſis. Within this week paſt, he has excreted ſeveral ſmall ramifications, but with no difficulty, and from the exhibition of his uſual cathartic, has derived conſiderable benefit.

X.

X.

Hiſtory of a Caſe of Ileus, in which great benefit was derived from the application of a Bliſter.
By Mr Daniel Forbes, *Surgeon at Dornock.*

ON the 23d May laſt, Mr M— was ſeized with a moſt violent iliac paſſion, which he attributed to ſitting on wet graſs. Next day I was ſent for to ſee him. When I came, I found him labouring under a moſt diſagreeable ſtercoraceous vomiting, with ſingultus, acute pain reaching from the os ilium, on the right ſide, to the umbilicus, pulſe 98, ſkin hot, tongue white, with a great inclination for drink, but nothing would reſt on his ſtomach. He was blooded to the quantity of ſixteen ounces, and emollient injections were ordered to be adminiſtered every half hour, but theſe were thrown up by vomit. After giving four of theſe injections, I ordered ſome of a more ſtimulating kind; theſe paſſed as the former. Injections of tobacco-ſmoke were then tried, but gave no relief. As there were

were evident marks of ſanguine congeſtion, ſaline purgatives were ordered, premiſing twenty grains of ſalt of wormwood and juice of lemons in the ſtate of efferveſcence, with twenty drops of thebaic tincture; this likewiſe failed, but was repeated in an hour after, with the addition of ten drops more of the thebaic tincture, and twenty grains of muſk, on account of the ſingultus, which now was very violent; this gave relief for half an hour, but was then thrown up. He was ordered to be bled again to the quantity of fourteen ounces, and a large bliſter to be applied all the way from the umbilicus to the os ilium of the affected ſide; in half an hour after the application of the bliſter, two grains of ſolid opium were given, and, ten minutes after, about four ounces of the decoctum tamarindorum cum triplice ſenna. This reſted on the ſtomach, and no ſooner did the bliſter begin to operate, than the pain remitted, and, in a few hours, he had two looſe ſtools of a bilious complexion, and ſoon found himſelf much relieved; he fell aſleep, and got about four hours ſound ſleep, and wakened quite refreſhed, and had no further complaints; but, for ten days, he complained of great weakneſs. He was ordered to keep

his

his extremities warm, to wear a flannel-ſhirt, and occaſionally to take gentle doſes of tartarum ſolubile, to live ſparingly, and, in order to ſtrengthen the tone of the ſtomach, and habit in general, the Peruvian bark was recommended, with riding and the cold bath, by which means he now enjoys perfect health.

XI.

Obſervations on the Dyſentery, as it appears among the Negroes on the Coaſt of Guinea. By Mr Robert Atchiſon, *Surgeon.*

ON all parts of the coaſt of Guinea, the moſt prevailing diſorders are, a flux and fever. Theſe are every where to be met with in ſlave-veſſels, but do not in an equal degree obtain in every place, and in every ſeaſon of the year. On that part of Guinea which is called the *Windward Coaſt*, where grain is the chief article of food, the ſlaves are of a pretty ſtrong and hardy conſtitution, conſequently leſs

ſubject

ſubject to diſorders than any others, ſo that the ſame cauſes which, in the *Bite of Benin*, would inſtantly bring on a moſt violent putrid flux, will ſcarce be ſufficient here to produce the common ſymptoms of a fever. In all parts of the Bite of Benin, ſuch as Benin, Bony, Old and New Callebar, where grain is not uſed, and where the chief food is either yams, (a ſort of potatoe), or fiſh, and where few or no exertions of body are requiſite to ſupply the wants of nature, the ſlaves are of a very weak habit of body, ſubjected to diſorders in a moſt remarkable degree. In the nature of the country too there is a vaſt difference. The firſt is moſtly high and mountainous, the latter low and marſhy throughout. All veſſels ſent out to the coaſt of Africa, have places prepared for the purpoſe of ſleeping-rooms for the ſlaves in the night. Theſe are, for the moſt part, ſo crowded that the heat and perſpiration becomes exceſſive; and, after a courſe of time, brings on that ſtate of debility, which, in my opinion, is the great ſource of the two diſorders above mentioned. That relaxation is the genuine cauſe of theſe, I think appears both from what is obſerved above, and from the following conſiderations. When ſlaves

are

are firſt brought on board a veſſel, they are generally of a pretty full ſtate of body, and, ſo long as they are not crowded, and overheated, remain healthy and well; but as the numbers increaſe, and the rooms by degrees become warm, a thinneſs and relaxation ariſes, and then fevers of the bilious remittent kind, ſometimes accompanied with the morbus mucoſus, but oftener the dyſentery itſelf, take place. That this laſt is infectious, no one will doubt, but nothing ſo much diſpoſes to produce and ſupport it as a debilitated ſtate of the animal ſyſtem.

Of all people on the African coaſt, none are ſo ſubject to the dyſentery (and the worſt kind of it) as the *Bite* ſlaves. Out of the cargoes of ſeveral veſſels, conſiſting of ſix or ſeven hundred each, one buried two hundred and fifty, one two hundred and twenty, one an hundred and fifty, one ſixty, and our ſhip eighty-two ſlaves, moſt part of them having died of this terrible diſorder. The dyſentery generally makes its firſt appearance in the veſſel in a very mild manner. The ſtools are, in the beginning, of the mucous kind, voided in ſmall quantities, attended with griping, often with a certain degree

gree of pyrexia, and not unfrequently with bilious inflammatory ſymptoms. In a day or two they aſſume the appearance of well digeſted pus. In this ſituation, I have known them continue, together with the hectic fever, for many days, and gradually wear off, the ſtools becoming natural, and the patient recovering his health and ſtrength. But though this may have been, in the beginning, pretty common amongſt the cargo, it often happens, that, if the cauſes exciting debility continue, and the diſeaſe has gained a footing in the ſhip, the putrid dyſentery itſelf appears with all its horrors.

XII.

XII.

The Hiſtory of a ſpeedy Recovery after the Operation of the Trepan. Communicated to Dr Duncan *by Dr* James Gerard *Phyſician in Liverpool.*

D—— H——, aged thirty, by trade a brewer, but a moderate drinker, received a blow, on the 2d of July, on the upper and outer part of the parietal bone, by a brick thrown at him, which made a ſmall triangular bruiſed wound in the ſcalp. At that time he was in liquor, and under a profuſe perſpiration was ſubjected to cold. As there was no ſymptom of fracture, the wound was dreſſed ſuperficially on the 3d, and he had a doſe of ſalts. On the 5th, I ſaw him for the firſt time, when the appearance of the edges of the wound was clean and healthy. But about the 7th he complained of pains in the head, for which he was bled largely, and took a doſe of ſalts. Notwithſtanding this,

this, the pains increaſed ſo much, that, on the 10th, it was thought proper to examine whether the cranium was not fractured. The wound was therefore dilated for that purpoſe, in a triangular direction, preſerving the ſcalp, which was turned back. When this was done, a triangular piece of the cranium, not much larger than the head of the trepan, was obſerved to be depreſſed. It required however two perforations to diſengage it, the fracture of the internal table being larger than the external. One edge of it had wounded the dura mater, and even the brain itſelf, inſomuch that a ſmall portion was diſcharged.

The wound was dreſſed up lightly, approximating the edges of the ſcalp moderately towards each other, and making a light preſſure by lint in the centre upon the brain.

On the 11th, he was eaſier; he had paſſed a quiet night; and his pulſe did not beat more than an hundred ſtrokes in the minute; but it was full and ſtrong. On this account, it was determined he ſhould be blooded again, and have his body kept open. On the 12th, the dreſſings were eaſily removed, the part looked clean, and there was very little inflammation or

protruſion of the brain. The pulſation, however, was very ſtrong, and ſynchronous with the pulſe, which I have always found it to be. On the 14th, the patient was blooded again, to guard againſt protruſion, by moderating the impetus of the blood in the head; and as there was no appearance of ſlough from the dura mater, while granulations were appearing on it, all intermediate dreſſings were removed, and the lips of the wound were drawn nearly together by ſticking plaſter external to it, while ome more preſſure was made by lint and bandages between the edges of the wound. No bad ſymptom or inconvenience ariſing in conſequence of this, the edges of the wound were every day drawn cloſer together by ſticking plaſter, the divided part being covered by ſtrips of lint ſpread with wax and oil. On the 14th and 15th, the patient ſat up ſome hours. On the 24th, he came down ſtairs, and even walked out of the houſe, which he has continued to do ever ſince. On the 7th of Auguſt, he walked ſome miles without any inconvenience; and by the 14th, the part was entirely healed, and the patient in health, ſtrength, and ſpirits.

XIII.

XIII.

Extract of a Letter from Mr Ivie Campbell, *near* Inverary, *to Dr* Duncan, *giving an Account of a ſewing Needle lodged in the Breaſt of a Woman being removed by Inciſion.*

THOUGH, from your extenſive practice and correſpondence, you muſt have met with many inſtances of foreign ſubſtances lodged in different parts of the body, yet you will forgive me, I hope, for communicating the moſt extraordinary caſe of the kind that has occurred to me.

In November laſt, Margaret Stuart, aged twenty years, applied to me, complaining of a tumour in one of her breaſts, which, ſhe ſuſpected, contained ſome pin or foreign ſubſtance. Upon examination, I found, in the internal or left ſide of the right breaſt, a tumour about two inches in length, which felt to the touch like the ſize of a thick gooſe-quill, ſuſpended in a perpendicular direction, about two inches from

the nipple, to which the middle of the tumour was nearly oppoſite. By gently preſſing upon either end of the tumour, the other was elevated above the ſurface of the breaſt, in the form of a ſmall pea; and when the upper end was preſſed, ſhe felt a ſlight pricking pain at the lower end. At each end, one could plainly perceive a hard ſubſtance, which ſeemed to lie immediately under the ſkin; but from the natural convexity of the breaſt, the middle part felt as if lodged about three quarters of an inch within the ſubſtance of the breaſt. When the breaſt was in its natural poſition, the tumour was only perceptible by a ſmall elevation at each end, juſt diſcernible to the eye.

Fully convinced that ſome foreign ſubſtance was lodged in the part, I propoſed cutting it out; to which ſhe readily conſented; and, by a ſmall inciſion on the lower end of the tumour, I extracted a common ſewing needle, two inches long, perfectly entire, and free from ruſt, only become a little blackiſh. There was no pus or other matter contained in the tumour; and by dreſſing ſuperficially with ſimple cerate, the wound healed in a few days.

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Is it not ſurpriſing how the needle ſhould have found its way there, and have remained perhaps for years in ſo ſenſible a part, without occaſioning the leaſt pain or uneaſineſs, for ſhe only diſcovered it by accident laſt May? Poſſibly ſhe ſwallowed it when a child, but remembers not that ſuch an accident ever happened her.

I would have ſent you the needle; but the gentleman in whoſe ſervice the girl was, aſked it of me, to ſend to Dr Monro, with whom he had occaſion frequently to correſpond.

XIV.

Hiſtory of a Caſe of Ileus, in which a conſiderable Portion of the Inteſtine was voided by Stool. Communicated to Dr Duncan *by Mr* William Dougall *Surgeon at* Keith.

MARJORY EDWARD, aged ſixty-ſeven years, naturally ſtrong and healthy, a married woman, in very low circumſtances, in Fochabers, was ſeized with a violent colic, or ileus, in the end of October laſt year. All the common remedies were diligently employed for ſeveral days, to no purpoſe, except blood-letting, which was omitted on account of her being much reduced by the general ſcarcity of proviſions. Nothing relieved the vomiting, pain, and conſtipation. About the ſixth day of her illneſs, Dr Livingſton being then at Gordon Caſtle, made her a viſit; and, on finding a hiccup come on, with every ſymptom of approaching death, he conſidered her caſe to be hopeleſs, yet omitted no means which ſeemed to give any chance for relief,

relief, but with the ſucceſs only of procuring ſome ſtools. Several days thereafter, when the uſe of all medicines was given up, a looſeneſs came on naturally, which continued four or five days, and relieved her of all threatening ſymptoms, excepting her extreme debility. On the laſt day of this looſeneſs, the ſeventeenth of her diſeaſe, ſhe voided by ſtool a piece of the ileum, connected with its correſponding portion of meſentery, eighteen inches in length. After this evacuation, ſhe became almoſt free from pain, but extremely weak, and lay continually in a ſupine poſture, until a day or two before ſhe expired, when ſhe became very reſtleſs, and toſſed much. She died on the thirty-ſixth day from her firſt attack. About the time of her death, ſhe mentioned, as the cauſe of her diſorder, her breakfaſting that day of its attack on cold turneps, which had been boiled the preceding day, and having eat them without pepper, and probably with peaſe or barley-meal bread.

As the piece of inteſtine had been ſent me, I had the curioſity to ſee the woman twice before ſhe died. She had a violent thirſt, with a ſmall contracted pulſe, about 120 in a minute. I directed lime-water with milk for drink, which

ſeemed to agree well with her, and quenched the thirſt; yet ſhe gave it up for wine and thin broths, which were daily ſent her by the Dutcheſs of Gordon, in her great humanity, who would have omitted nothing for her ſupport or comfort; but this was all her ſtomach could receive, and that in very ſmall quantity.

At the Duke's deſire, the body was examined by Dr Stephen of Elgin and me, when we took notice of the following preternatural appearances.

Before the body was opened, we obſerved it exceedingly emaciated, eſpecially the abdomen, which ſeemed to adhere to the vertebræ; but neither this, nor the ſtate of the omentum, almoſt ſhriveled to an empty membrane, could ſurpriſe us, when we knew the very ſmall quantity of ingeſta taken for ſeveral weeks paſt, and her expence by the diarrhœa. The ſtomach too was contracted nearly to the ſize of the inteſtine. But what ſeemed more extraordinary, the greateſt ſhare of the inteſtines were preſſed down into the pelvis, probably by the ſtraining of the diaphragm and abdominal muſcles in teneſmus. The liver, ſpleen, and pancreas, were all ſound; but the ſpleen was ſcarcely a third

part

part of its natural ſize. The gall-bladder was diſtended to more than twice its natural bigneſs; it was full of bile, but no ſtone or other obſtructing matter in it or its duct.

We traced the inteſtinal canal from the pylorus to the colon, dividing the meſentery as we proceeded, but found nothing to account for the phænomenon of the piece of gut evacuated. Many different parts of the inteſtines had a livid and almoſt gangrenous appearance, yet admitted of being blown up with air. At laſt we diſcovered a part of the ileum, about five or ſix inches, adhering ſo cloſely together as not to be ſeparated. This was within a few inches of its opening into the colon. Dr Stephen then cut open the inteſtines the whole length with ſciſſars, and with no ſmall caution diſcovered a very great conſtriction on the gut, where it appeared there had been an intus-ſuſception of the part carried off, whether in conſequence of gangrene, or the reverſe; whatever had been the cauſe, there ſeemed evidently to have been a diviſion of the gut, and an union of the two divided ends by inflammatory adheſion. The ſtricture at the union was ſuch as only to admit the paſſage of a little finger with difficulty.

XV.

XV.

Hiſtory of an uncommon Enlargement of the Abdomen, from an Affection of the Kidney. By Mr Philip Martineau, *Surgeon at* Norwich.

A Poor man was admitted into the Norwich Hoſpital, with a large tumour on the left ſide of the abdomen, in which there appeared a fluctuation. The man had been in the houſe two years before for the ſame complaint, according to his own account, and had been tapped. Since that time, till within two or three months, he had continued in very tolerable health. He was now however much emaciated, and had a very cadaverous appearance. After being a ſhort time in the hoſpital, it was thought proper to draw off the fluid contained in this ſuppoſed encyſted tumour. A puncture was accordingly made with a lancet, and a probe introduced. A ſmall diſcharge of a bloody liquor followed; but it evidently ſtopped when only a ſmall proportion of the contained fluid was evacuated. In the

the former operation, two years before, ten pints of a ſimilar bloody liquor were drawn off. I requeſted, when the man ſhould die, that I might open the body. This event happened in two or three days; and the following were the appearances diſcovered on diſſection.

Upon laying open the abdomen, I found a large tumour occupying almoſt all the left ſide, and conſequently puſhing the inteſtines to the right. The opening which the lancet had made was diſcovered, which muſt have paſſed into the abdomen, before it got into the tumour; conſequently any alteration in the external teguments muſt have varied the poſition of the opening through the tegument into the tumour. This accounted for the ſtoppage of the diſcharge, and alſo for a conſiderable extravaſation into the abdomen, which I found on opening it. This tumour received a covering from the peritonæum, which paſſed from the upper integuments half down the left hypochondriac and iliac regions; then it was reflected upwards over the tumour, and going over the other ſide, it took its uſual courſe over the ſpine, to form the meſentery. Upon the upper part of the tumour was the colon, attached over the whole length

length of it. The viſcera, in general, put on no very particular appearance. My purſuit now was, to diſcover what this very large ſwelling was. I therefore carefully diſſected it out, beginning where the peritonæum took its reflection. I now found no kidney; and a former caſe ſuggeſted to me the poſſibility that this very tumour might be the kidney itſelf; and ſo it proved; for I immediately paſſed ligatures on the aorta and vena cava, above and below the emulgents. I then traced the veſſels to the kidney on the right ſide, which I found in a perfect ſtate. Without making a ſeparation of the veſſels to the kidney, I left them all entire, and traced them on the diſeaſed ſide, and found them going to this tumour, which I diſſected out, and by this means I poſſeſſed the aorta, vena cava, and emulgents on both ſides, going in one to the kidney; and in the other to the kidney alſo, but in the diſeaſed and enlarged ſtate already mentioned, capable of containing about eight pints. It was my intention to have injected the veſſels, but buſineſs prevented my doing it for ſome days. When I made the attempt, they were in too tender a ſtate to contain the wax. I have, however, made a very tolerable

tolerable preparation, and one which ſufficiently evinces the diſeaſe. The ureter on the left ſide was quite obliterated; and what was aſtoniſhing to me, on the right not at all enlarged. The fluid ſeemed contained within the pelvis of the kidney; and where the artery divides, there was a conſiderable oſſification.

What was the remote cauſe of this diſeaſe, I can hardly venture to gueſs. I never ſaw the man, to inquire what were his firſt ſymptoms; and probably no queſtion I ſhould have aſked, would have led to any information. The man thought he had a dropſy, and every anſwer would probably have had a reference to this belief. But it is certainly uſeful to every practitioner, to be acquainted with every change that may take place in any viſcus. The one related is very extraordinary, and may be called *hydrops renis*. I do not recollect any inſtance of this affection mentioned, except by Lieutaud.

XVI.

XVI.

The Hiſtory of a Caſe of inveterate Dropſy, ſucceſsfully treated, with Obſervations on the Advantages from combining Cathartics and Diuretics, in a Letter to Dr Duncan, *from Dr* John Grieve, *Phyſician to the Ruſſian Army at Nigene Novogorod.*

THE obligations you laid me under, while I purſued my ſtudies at the Univerſity of Edinburgh, were of ſuch a ſort, that I ſhould eſteem myſelf very ungrateful, if I did not take an opportunity of expreſſing the ſenſe which I ſhall always entertain of them, and of communicating to you any medical obſervations which I have an opportunity of making.

The phyſician to an army, eſpecially in a foreign country, has, perhaps of all others, the beſt opportunity of improving medicine. By being converſant with diſeaſe in different climates,

mates, and in different temperaments, he becomes familiarly acquainted with the various appearances it aſſumes; and by comparing his own practice with that of others, he is furniſhed with ſuggeſtions and analogies, which, to a philoſophic obſerver, become the path to uſeful knowledge.

I will not flatter myſelf with having profited ſufficiently from this circumſtance; but as I have ſucceeded in the cure of ſome difficult caſes, I think it my duty to communicate the reſult of my practice to you, whoſe curioſity and ſucceſsful induſtry, in the ſearch of medical knowledge, are already conſpicuous over Europe. And though I cannot boaſt that the remedies I have employed are new, yet the particular combinations of them which I have made, and the difference in their action which from thence ariſes, have either been not at all, or not ſufficiently attended to.

The caſe I mean to make the ſubject of this letter, is one of *dropſy*, on which I was conſulted about ſix months ago. It was that of a lady of about fifty-two years of age, of a phlegmatic temperament of body. I found her labouring under *aſcites* and *anaſarca*, conjoined in their moſt

moſt advanced ſtages. Her belly, which reſted upon her knees, was ſwollen to ſuch a ſize, that her two arms, in compaſſing it, could not be brought to meet. Her extremities were diſtended in the ſame proportion, and the difficulty of breathing, palpitations of heart, threatenings of ſuffocation, and frequent ſtartings, accompanied with violent ſhrieks, gave me reaſon to believe, that beſides the load of mucus with which her lungs were charged, and of which the expectoration was extremely difficult, there was alſo a conſiderable collection of water in the cavity of the thorax.

This opinion ſeemed to be farther confirmed, by the congeſtions in her head. Her eyes ſeemed to be puſhed out from their orbits. Her face was of a deep red and livid colour; and ſo great was the comatoſe ſtate conſequent upon theſe ſymptoms, that ſhe could not prevent herſelf from ſleeping even while ſhe related to me her caſe. From theſe circumſtances, added to the deep ſnorting ſound which ſhe uttered in her ſleep, her friends, as well as the medical gentlemen who attended her, were in expectation every moment, that an apoplectic ſtroke would put a period to her ſufferings.

It

It would be ſuperfluous to enumerate the other ſymptoms which took place here, and which are common to this diſeaſe, ſuch as thirſt, ſcarcity of urine, ſtopped perſpiration, *&c.* It may be proper, however, to add, that her mouth and tongue were ulcerated in different parts, by the acrimony of the ſaliva; a circumſtance, which, while it rendered the uſe of food inconvenient, demonſtrated at the ſame time, to what a degree the general maſs of fluids in her body were corrupted. Her diſeaſe had been gradually advancing to its preſent ſtate for about three years, though for a conſiderable time before that, ſhe had been ſubject to uncommon corpulency and indolence. She had uſed various medicines of the diuretic kind, ſuch as *nitre*, *horſe-radiſh* and *parſley-roots*, &c. but without any advantage.

Before I proceed to the method of cure which I employed, I muſt beg leave to make a few obſervations on the influence of climate, and manner of life, in modulating diſeaſes.

In Great Britain, where the ſeaſons are generally of a moderate warmth, where frequent winds purify the atmoſphere from ſuperfluous humidity, and where the cuſtom of the country

diſpoſes even the ſofter ſex to exerciſe themſelves in the open air, perſpiration is ſeldom long interrupted, and conſequently the diſeaſes thence reſulting, though they may be equally frequent, yet they are neither of ſo long continuance, nor are accompanied with ſuch obſtinate ſymptoms as are to be ſeen in ſome countries on the continent. This is particularly applicable to Ruſſia. Here the cold weather, which continues for about nine months in the year, gives an effectual check to thoſe agreeable exerciſes which invite the inhabitants of more temperate climes to the open fields.

The people of rank, indolent from neceſſity, are ſhut up, during the greateſt part of that time, in ſtove-heated rooms, from whence the external air is induſtriouſly excluded, and where there is at once a ſurcharge of phlogiſton from the ſtoves, and from the *effluvia* of their own bodies. Even when they ride out, with the exception of a ſmall part of their face, they are every where accurately covered with furs. But the excretion of the perſpirable matter, and the evolution of the *phlogiſton*, can only be duly performed, when the air has free acceſs to abſorb them. Theſe people are therefore ſubject to all

thoſe

thoſe diſeaſes of which a languid perſpiration, and a defect in the evolution of the inflammable principle, are naturally productive.

Hence it is, that inveterate ulcers of different kinds, obſtructions of the *viſcera*, and the diſeaſes conſequent upon theſe laſt, ſuch as dropſy, *&c.* are more frequent among the people of rank in Ruſſia, than among thoſe of any other country. And were not the above cauſes, in ſome meaſure, counteracted by the frequent uſe of the *vapour-bath*, which gives a free evacuation to their corrupted humours, the diſeaſes which they produce, would, I have no doubt, be at once more univerſal, and more deſtructive, than they really are.

The influence of the above cauſes is equally conſpicuous in the diſeaſes of foreigners, before they are accuſtomed to the climate. Hence in youth, while the blood is yet ſtrongly determined to the lungs, they are ſubject to frequent *pneumonia*, *hæmoptyſis*, and their conſequences, while in the more advanced periods of life, when the balance of the circulation is changed, they become liable to *icterus*, *hypochondriaſis*, &c. according to the difference of their original conſtitutions; and the obſtinate attacks of

eryſipelas, to which even the ſtrongeſt are ſubject, ſufficiently demonſtrate a retention of acrid matter, and conſequently a defect of the general excretions.

But, to return to the caſe, my firſt, and what appeared to me to be the moſt important object, was to remove the congeſtions in her head and breaſt, and, at the ſame time, to mitigate the nervous ſymptoms. For theſe purpoſes, I employed the following medicines:

℞. Gum. aſſæ fœtid. drachmas tres.
Sapon. venet.
Extr. myrrh. aquoſ. ſingulorum ſeſquidrach.
—— aloes, drachmam unam.
Subigantur bene invicem, et cum aq. ſimp. q. ſ. ut ft. maſſa pilularum. Ft. pilulæ ſingulæ pond. grana quatuor. D. S. Capiat tres mane et veſpere, plus vel minus, ſic ut alvus bis ſaltem de die reſpondeat.

℞. Tinct. ſuccin. volat.
Liquor. anod. Hoff. ſingulorum drachm. tres.
Eſſent. aromat.
Extr. cort. Peruv. ſingulorum drachmam unam. M. ft. elixir.
D. S.

D. S. Capiat guttas triginta ex vino Rhenano, quandocunque palpitatio cordis vel ſuffocatio minantur.

For the ulcers of her mouth and tongue, I preſcribed the following gargle :

℞. Alum. crud.
Suc. japonic. ſingulorum drachmam unam.
Mel. roſar.
Tinct. roſar. cum acid. vitr. ſingulorum ſeſcunciam. M. ft. gargariſma.

D. S. Lavetur os hoc gargariſmate ſæpe ſæpius in die.

Theſe medicines were productive of the moſt happy effects. The pills, by at once looſening the belly, and increaſing expectoration, gave eaſe both to her head and breaſt, and they, at ſame time, united with the elixir in ſoothing the commotions of the nervous ſyſtem. This laſt indeed ſeemed to act as a ſpecific in theſe caſes. A few drops of it taken on the approach of the nervous flutterings, were effectual in preventing them.

Thus, in about a week from the firſt uſe of theſe medicines, the palpitations of her heart, the threatenings of ſuffocation, and the ſudden frights and ſtartings which were ſo peculiarly

alarming, had entirely left her. The ulcers of her mouth were healed up, and it remained only for me to turn my attention to the principal diſeaſe. My firſt deſign was to make a trial of *draſtic purges;* I even exhibited two of them; but the irregular movements they excited in the nervous ſyſtem contraindicated their farther uſe. I had therefore recourſe to *diuretic medicines* in the following form:

℞. Pulv. ſcill. arid.
Gum. camph. ſingulorum ſcrupulos duos.
——— ammoniac. drachmas duas.
Sapon. Venet. drachmam unam.
Subigantur invicem, et cum ſyrup. ſimp. q. ſ. ft. maſſa in pilulas ſingulas pond. grana quatuor dividenda. D. S. Capiat tres omni bihorio, ſi ventriculus ferre poteſt.

℞. Sal. abſynth. ſemunciam.
—— nitr.
Rad. calam. arom. ſingulor. drachmas duas.
Baccar. junip. unciam unam.
Vin. Rhenan. ſeſquilibram.
Speciebus prius conciſis et contuſis ſuperinfunde vinum; dein digere juxta fæcum per nyctheæmeram; cola. D. S. Bibat cyathum ſubinde,

ſic

ſic ut conſumat hanc quantitatem in ſpatio duarum dierum *.

In this manner ſhe took about ten grains of the ſquills a-day, without any other inconvenience than a conſiderable nauſea; and this, by acting as a diaphoretic, ſeemed to determine alſo the operation of the ſalts from the urinary paſſages to the ſkin. She obſerved that this was the firſt time, for ſeveral years, that ſhe had known herſelf to ſweat. But there was another effect of theſe medicines, which more remarkably demonſtrated their reſolvent powers. A number of warts which had overſpread different parts of her body, and which had reſiſted a variety of external medicines, during the uſe of theſe entirely diſappeared.

Great, however, as their efficacy may ſeem to be, though ſhe had now taken them for about

* You will perhaps think that the proportion of medicines employed here is large, eſpecially that of the alkaline ſalt. I have obſerved, however, that it may be given in phlegmatic caſes, with ſafety, in much larger quantity than it commonly is; and I have been aſſured, by an eminent practitioner, that he has uſed it with advantage in hydropic caſes, even to half an ounce a-day, diſſolved in a pint of Rhine wine.

three weeks without interruption, they had hitherto produced no ſenſible change in the ſtate of the hydropic ſymptoms. While the quantity of the urinary excretion continued the ſame, the ſize of her belly, as well as that of her extremities, ſeemed rather to be increaſed than diminiſhed. If not in a more dangerous, ſhe was now in a more miſerable ſituation than before. In place of the inſenſibility which had accompanied the comatoſe ſtate, ſhe was now even deprived of ſleep, by the exceſſive pain which the overdiſtenſion of the abdomen occaſioned. And this, by exciting inflammation, became an object of no ſmall alarm, leſt a gangrene might enſue. Theſe circumſtances, added to the febrile heats, which now began to give great uneaſineſs, and which, if not produced, were at leaſt aggravated by the medicines, obliged me to alter my plan, and the following, which I adopted, was attended with the moſt happy ſucceſs.

I had obſerved, from the trials already made, that the moſt powerful *diuretics* had not been able to produce any ſenſible increaſe of the urinary diſcharge. I had alſo learned that *draſtic purges* only added to the irritability of the ſenſible fibres, without making any conſiderable evacuation

evacuation of watery humours. I therefore attempted to compoſe a medicine, which, while it operated at once by ſtool and by urine, might, at ſame time, ſerve to ſoothe and fortify the nervous ſyſtem.

The formula I uſed was the following:

℞. Reſin. jalap. grana octo.
Sal. nitr. ſcrupulum unum.
—- ſuccin. volat. ſemiſcrupulum.
Solve reſinam in pauxillo mucilaginis gummi Arabici; dein adde
Syrup. ſimp.
Aq. cinnamom. ſingulorum ſemunciam. M. ft. hauſtus.
D. S. Sumat ſummo mane, regimine pro purgante adhibito, et repetatur alternis diebus.

I have never ſeen, in any caſe, the power of medicine more conſpicuous than in this. From the beginning of her diſeaſe, ſhe had not been capable of paſſing urine, unleſs when ſhe went to ſtool. Even the ſquill pills and diuretic ſalts had not produced any alteration in this reſpect. She no ſooner, however, began the uſe of this medicine, than her urine flowed copiouſly and with eaſe; and the diſcharge of watery humours, by this excretory, as well as by ſtool, was

was ſo conſiderable, that her belly each day ſhe took it, was diminiſhed more than an inch and a half in circumference.

In leſs than a month from the firſt uſe of it, all the ſymptoms diſappeared; her belly, as well as extremities, were reduced to their natural ſize; the pains, formerly ſo troubleſome, ceaſed, and ſhe walked out on foot with more eaſe than ſhe had done for ſeveral years before. It is now four months ſince the cure was performed. She continues in perfect health. The bloody piles, to which ſhe had been ſubject, and which had diſappeared during the diſeaſe, have ſince returned, and obſerve their uſual courſe.

It may ſeem worthy of remark, that though I increaſed the quantity of reſin in this medicine afterwards to ten, and even to twelve grains, yet its operation was always without pain; and that though the evacuations were very conſiderable, yet they were never accompanied with any ſigns of increaſed debility. On the contrary, ſhe ſeemed to acquire ſtrength during the uſe of it. I flatter myſelf it will be found equally uſeful in other ſimilar caſes; and though ſome part of the cure may be attributed to the previous uſe of the ſquills and ſalts, yet the hydropical

ſwellings

ſwellings remained altogether unchanged, till this medicine was employed.

It might now be expected that I ſhould attempt a theory of the manner in which this compoſition acts. This is difficult, but not unimportant. Speculative inquiries have the ſanction of ſound philoſophy, when they are circumſcribed within the limits of well eſtabliſhed facts and impartial obſervations. I ſhall only take the liberty of ſhortly pointing out what appear to me to be the principles upon which its ſuperior efficacy depends.

What muſt, at firſt ſight, ſeem remarkable, is, that the diuretic ſalts ſhould have their action increaſed by the addition of a reſinous purgative. And that a ſingle ſcruple of *nitre*, with half a ſcruple of ſalt of *amber*, ſhould, in this form, act with incomparably more effect by urine than three times the quantity of the ſame nitre had done, even when aſſiſted by a large proportion of alkaline ſalts and ſquills, which are both univerſally ranked among the firſt in the claſs of *diuretics*.

It has often been obſerved, that, of all the claſſes of medicines, none is ſo indeterminate as that of *diuretics*; that neither any of the individuals,

dividuals, nor any combinations of them, are to be depended upon in caſes where a diſcharge of urine is wanted. And it has been given as a reaſon for this opinion, that, as the proper action of *diuretics* is to evacuate the exceſs of ſeroſity in the blood, and as nature has provided two excretories for this purpoſe, *viz.* the urinary organs, and the exhalant arteries on the ſurface of the body, they promoted the one or the other of theſe excretions, according to the ſtate of the body and of the atmoſphere, at the time of their exhibition. And hence, by a change of circumſtances, *diuretics* became *diaphoretics*, and *vice verſa*.

If this be conſiſtent with truth, and there are many facts by which it ſeems to be confirmed, it follows, that, in order to give a certain and definite action to *diuretics*, we have only to find means of determining from the ſkin, during the time of their operation. This can, with certainty, be performed by *purgatives*. The paleneſs of face, and ſenſe of cold which accompanies their action, is a ſufficient proof of the derivation they cauſe from the ſurface.

By combining, therefore, theſe two together, as in the preſent medicine, a hydragogue is likely

ly to be produced of much greater efficacy than either of them taken ſeparately. The ſalts diſpoſing to a fluid excretion, and that of the ſkin being precluded by the action of the purgative, a flow is naturally made to the urinary paſſages, while that *action*, by ſtimulating the inteſtinal canal, and by conſent of parts, ſtimulating alſo the whole viſcera of the abdomen, at once evacuates the former, and accelerates the functions of the latter.

Perhaps too, in this compoſition, the ſalt of amber has a conſiderable effect. Independent of the action of its ſaline parts, the empyreumatic oil which adheres to it, may, by exciting the nerves, and thereby giving tone to the ſyſtem, at once promote the abſorption and the excretion of fluid matter.

How far this theory is juſt, I will not preſume to ſay. My wiſh will be gratified, if the *fact* ſhall be confirmed by future experience; and if the practitioner, who has hitherto been ſo often diſappointed in caſes of this ſort, ſhall find in this a medicine of a fixed character, in which he may confide as a certain, and, at ſame time, a mild *hydragogue*, the uſe of which even female weakneſs does not contraindicate.

At

At any rate, its peculiar efficacy, though but in one caſe of ſo deſperate a nature, may be a reaſon why ſome farther trials ſhould be made of it; and ſhould it even be found in the iſſue to require the previous uſe of reſolvent medicines, as in the preſent caſe, yet ſtill the advantages to be reaped from it in practice may be conſiderable.

I muſt now beg you will excuſe me for entering ſo much into detail in relating this caſe, and eſpecially for the liberty I have taken in offering my own ſentiments upon it. The freedom of inquiry, of which you have yourſelf given the example, is the beſt apology I can make.

XVII.

XVII.

Hiſtory of a Caſe in which Cataracts in both Eyes were removed by Electricity. By Dr William Knox *of the Northern Regiment of* Scots *Fencibles.*

R—— C——, aged forty-eight, a gunſmith, ſome time in the month of March found himſelf ſo much deprived of his ſight, that he was obliged to give over working. Upon examining his eyes, a cataract was perfectly viſible in each. The account he gave of himſelf was, that for ſome conſiderable time he had been ſenſible of a gradual loſs of ſight; that lately he had been employed in doing ſome nice work, but had been obliged to give over from an almoſt total loſs of ſight. At firſt I was greatly at a loſs how to apply the electric fluid. After trying ſeveral methods, I at length hit upon the following, which anſwered my expectations.

A director connected with the negative conductor was applied to the back part of his head, while

while the fluid was thrown through the pupil of the eye, ſometimes from a wooden, ſometimes from a metal point connected with the prime conductor. He has been electrified for ſome months, ſometimes twice, ſometimes three times a-day. A very ſenſible change took place in the cataracts about two months ago, and the poor man was able to return to his ordinary work. Since the change took place, the electricity was once interrupted about a fortnight, without being attended with any bad conſequence. There is ſtill in each eye the appearance of a light bluiſh cloud; ſo that it cannot be ſaid the cataracts are entirely gone. Upon this appearance no change has been made for upwards of two months, either by uſing or omitting electricity. It is proper to acquaint you, that, during the greateſt part of the time, he has had a drain in his neck; and, on account of a ſcorbutic eruption (as it is commonly called), which almoſt entirely covered one of his legs, he took every night a doſe of the pil. Plummeri, which entirely removed the eruption. During the whole courſe, he was put on proper regimen with regard to diet, *&c.* which ſeemed the more neceſſary, as he was of a very irritable habit,

habit, and formerly given to the uſe of ſpirituous liquors.

XVIII.

An Account of good Effects from the Vapour-bath in an Hydropic Caſe. Communicated to Dr Duncan, *in a Letter from Mr* Darbey, *Apothecary to the Infirmary at* Mancheſter.

S—— B——, aged twenty-nine, five months gone with child, was, in December laſt, ſeized with a cough and ſpitting of blood, attended with great difficulty of breathing. Several remedies were uſed, without the leaſt benefit, till the month of March, when ſhe was delivered of a dead child. After that time, her complaints increaſed; her belly, legs, and thighs, were ſwelled to a monſtrous ſize; and ſhe made little water. On the 9th of July, ſhe was brought to the Infirmary; but as ſhe appeared in a dying condition, was thought an improper object for admiſſion: but it being ſurmiſed, that

ſhe might die on the road, (as ſhe was ten miles from home), if refuſed, ſhe was received for a few days. An oily mixture, with pulv. e bolo comp. was preſcribed to be taken three times a-day. On the 12th, the powder was omitted, and ten drops of tinct. cantharid. were ordered in each doſe of the mixture. The 18th, ſhe took pulv. jalap. ſcrupulum unum, zinzib. pulv. grana decem. The 23d, the powder was repeated. At this time, ſhe continued much the ſame, except in the ſpitting of blood, which had left her ſeveral days. Auguſt 2. a mixture compoſed of equal parts of oxymel of ſquills and nutmeg water was ordered; a ſpoonful of which ſhe took three times a-day for ſeveral days, but without any apparent amendment. In the evening of the 14th, ſhe was put into the vapour-bath for fifteen minutes, where ſhe perſpired freely. In the morning of the 15th, her breathing was much better, and her ſwellings leſs, having diſcharged a large quantity of urine in the night. The bath was repeated three times a-week, till the 14th of September, when all her complaints were entirely removed. At this time ſhe is taking an electuary of bark, ſteel,

ſteel, and ginger, and continues to gain ſtrength.

XIX.

A Caſe of Angina Pectoris, from which it would appear that the Complaint is ſometimes hereditary. By Dr Robert Hamilton *of the* 10th *Regiment.*

IN the ſummer of 1781, while the regiment lay at Tynemouth, I met with a very curious caſe, which puzzled me not a little.

George Pretorius, from Berlin, a common ſoldier in the 10th regiment of foot, ſent for me in all haſte about five in the evening in the month of Auguſt.

On entering his barrack-room, I found him in a truly deplorable ſituation; two of his comrades ſtanding by him, holding back his head as he ſat on a bench panting for breath, and as if every gaſp would be his laſt, while the rattling occaſioned by theſe violent efforts made to di-

late the lungs could be diſtinctly heard ſeveral paces from the door of the room.

At firſt I did not know well what to do, but ſtood for near a minute a ſilent ſpectator of what I ſaw, even thinking it needleſs to make any attempts to relieve him, as he appeared to be in the agonies of death. But on his obſerving me preſent, and collecting as much ſtrength as he could to ſpeak, he uttered, in accents ſcarcely intelligible, *Bleed me, bleed me.* Taking hold of his hand to examine the ſtate of his pulſe, which my ſurpriſe and aſtoniſhment till now had prevented me from doing, I found it both weak and ſmall, nor more frequent than natural, though with a ſort of tremulous undulation not eaſily deſcribed; whereon I refuſed to comply with his requeſt. But, on hearing this, he attempted a ſecond time to ſpeak, and uttered in a broken tone the ſame words.

As I conſidered him a dying man, and this his laſt requeſt, I judged it proper to comply, though immaterial as to his recovery whether he ſhould loſe blood or not. Accordingly I bound up his arm, and opened a vein. He bled about ten ounces; and, during the time the blood flowed, he repeated twice with vehemence,

mence, *Bleed me much.* The vein ſtopping about this time, however, I did not chuſe to encourage a larger loſs of blood now, to ſee what might be the conſequence, thinking it a ſufficient trial. But, after ſecuring the orifice, I neither found the ſtate of his pulſe altered, nor the patient, as far as I could judge, any thing relieved; and ſeeing I could be of no farther uſe then, I left the room, determining to call ſoon after.

In the interim, the gentleman who is conjoined with me in the care of the ſick, coming paſt accidentally, and hearing him groan, went in, when gaſping for breath, he repeated to him, as he had done before to me, his requeſt of being largely bled, who, without farther inquiry, immediately opened another vein, and took from him upwards of a pound.

During this tranſaction, I had gone to the Hoſpital, to prepare an anodyne for him, provided he would be alive when I came back. On my return, which was not ſooner than an hour, owing to ſome other buſineſs which called me away, I found the fit conſiderably weakened, and the patient breathing ſomething freer, though ſtill ſupported in an upright poſition op-

poſite to the door. Underſtanding it now to be ſpaſmodic, I did not heſitate to adminiſter a pretty full doſe of laudanum, and left him for that evening, judging, from the quantity of his opiate, he would ſoon fall aſleep, and in hopes, from what I ſaw, of his recovery.

Calling next morning, I found the fit entirely removed, and him in perfect health, only fatigued as it were from the ſtruggles of the preceding evening.

It was now that I began to interrogate him concerning his late affection, when he gave me the following detail. He told me, this was no new complaint to him; he had ſuffered under it many times: That he remembers to have taken it for the firſt, when he was about twelve years of age; and ever ſince, two or more times a-year he is ſure of an attack: That theſe were ſeldom of equal duration; ſometimes remaining ten hours, twelve hours, and ſometimes not more than ſix, ſometimes even a much ſhorter time: That he feels it begin firſt low down in his abdomen, then riſes to his ſtomach, afterwards gets to his left ſide, when he feels his heart very much pained, being, as he terms it, like the cutting of a ſharp inſtrument. This

pain

pain does not draw his body down, but obliges him to ſit erect, or rather lean backwards, to take breath. As ſoon as it reaches the region of the heart, he ſays, he can no longer breathe. Along with it, he has always a violent headach: That he is ſcarcely ever entirely free from one, which always increaſes on getting cold: That, during the fit, he can ſwallow nothing; but on its leaving him, becomes thirſty; and ſometimes this deſire continues ſtrong for a conſiderable time.

As the fit begins to go off, a ſweat breaks out, and then he can bear to lie down.

It may not be out of place, perhaps, to take notice, that he is of a florid countenance, ſmooth complexion, a neck rather ſhort than otherwiſe, is ſomewhat inclined to corpulency, and is in the 24th year of his age.

Looking on it now to have been an attack of that diſeaſe known of late by the name of angina pectoris, I inquired whether he felt any pain in his left ſhoulder or arm of that ſide; for an affection of the deltoid muſcle is mentioned by ſeveral as a pretty conſtant attendant of this diſeaſe. But he denied ever to have felt any inconveniency or complaint there whatever.

He never remembers, he ſays, to have taken a fit at night. Its moſt uſual time of attack is in the afternoon. He has ſometimes been ſeized while ſtanding.

On inquiring why he ſo earneſtly deſired to be bled, his anſwer was, he knew that it would cure him; for this was no new thing, it was a diſeaſe of his family; that he had a brother-in-law, an apothecary in the city of Berlin, who diſcovered the cure; that not only his father had been ſubject to it, but two of his brothers, and a ſiſter, (this apothecary's wife), who all took it about the ſame age with himſelf, and all of whom it carried off. His eldeſt brother was twenty-five when it killed him; the next ſeventeen, and his ſiſter eighteen, who had married the apothecary about a year and an half before her death; and this method was practiſed he ſaid on her, by which ſhe had been often relieved; that his brother-in-law gave him the preſcription, with directions, which he loſt coming to England; but he remembers he was always bled firſt, then got a vomit, and afterwards ſomething in a ſmall phial; this laſt I judged to be an opiate. He added, that he knew

knew himſelf when he was bled enough, for he felt, to uſe his own words, *as freſh at the ſtomach as can be.*

It may appear ſingular to ſome, that it ſhould attack perſons ſo early as twelve years of age, relying on what Dr Heberden ſays, that it is moſtly in an advanced period of life that it commences, *viz.* about fifty; yet he, at the ſame time, himſelf acknowledges that he had heard of two or three young men who had felt its ſeverity.

All the patients which the Doctor attended died ſuddenly; and this was the caſe with the unfortunate perſons mentioned above. The ſame author adds, that he ſaw one patient where the fit laſted ſeveral days, all which time he was in imminent danger. Our patient has had it for twelve hours and upwards, all which time he is likewiſe in the greateſt diſtreſs, as well as danger. The Doctor likewiſe allows it to be a chronic diſeaſe, continuing for twenty years and more. In the caſes pointed out here, it is evidently ſo. In one it continued from the twelfth to the twenty-fifth; in another, from about the ſame age to the ſeventeenth; in a third, to the eighteenth;

eighteenth; and in our patient already to his twenty-fourth.

Our patient had no pain about the middle of his left arm. Dr Heberden acknowledges that this is not a conſtant attendant, nay, he allows it to happen but ſometimes. According to the ſame ingenious and accurate obſerver, the pain inclines moſt to the left ſide, though, in ſome caſes, it appears ſituated under the ſternum. In our caſe it was evidently in the left ſide, *viz.* in the region of the heart.

Wine and ſpirituous cordials have been obſerved to afford it relief; and the Doctor praiſes opiates given at night, to thoſe troubled with night fits, as a preventative; but he denies ever to have ſeen any advantage follow from bleeding, vomits, or other evacuations.

The late Dr Smith of Dublin, however, who, from his extenſive practice in that city, ſaw ſeveral caſes of it, permitted Dr M'Bride to publiſh one in the ſecond edition of his Theory and Practice of Phyſic, where the evacuation made by iſſues greatly relieved, if not altogether cured the diſeaſe.

In ſome caſes, perhaps, the complaint may depend on two or more cauſes combined, where evacuations

evacuations may not, from the nature of theſe combinations, always ſucceed. But in the caſe mentioned here, which would appear to be purely ſpaſmodic, from the relief afforded by antiſpaſmodics, evacuations made with this intention were extremely ſerviceable. This remark would appear to be juſtified from the ſucceſs attending veneſection, emetics, and opiates, in the relation of thoſe other caſes we have mentioned.

One thing worthy of notice in theſe caſes is, that the diſeaſe ſeems to be, on ſome occaſions, hereditary. This is a hint which no author, as far as my memory ſerves, ever threw out before. If, from future obſervations, it be found a fact, this, like other hereditary diſeaſes, may have its ſeminium laid in the firſt formation of the ſtamina of the body, and hence the difficulty of making a radical cure may be as great here as it is acknowledged to be in other diſeaſes entailed on us by our anceſtors.

Whether it be allowed by the learned a hereditary complaint or not, this is ſurely one memorable inſtance of its deſcending from a parent to his children, and may ſerve at leaſt to remind us, when we meet the diſeaſe, to make

ſtrict

ſtrict inquiry, as far as we are able, into thoſe diſeaſes that were moſt general in the patient's family.

Since this happened, the patient came to me threatened with a ſecond attack, when, at his requeſt, as a preventative, I took from him about a pound and a half of blood, and gave him an opiate to ſwallow at bed-time. This might be at the diſtance of two months from his former attack. I imagine this proved effectual, for I have heard nothing of him ſince with regard to it.

XX.

XX.

Account of ſingular Convulſive Fits in three Children of one Family. By Dr F. Armſtrong, *Phyſician at Uppingham.*

THE following account of three children belonging to Henry Wilmott, carpenter of Manton, in the county of Rutland, an induſtrious and creditable man, is ſo ſingular as to deſerve ſome notice. The eldeſt daughter, Sarah, aged thirteen years, John, aged eleven years, and Suſannah, aged eight years, at this time labour under a very extraordinary ſpecies of epilepſy. The boy was ſeized with it on the 22d of October 1780, the eldeſt daughter fell ill on the 12th of November, the youngeſt daughter was ſoon after removed from home, leſt her ſeeing the others in fits might be attended with ill conſequences. She was accordingly removed to Hambleton, a village about two miles from Manton, where ſhe remained for a fortnight in perfect health. On Tueſday the 28th of November,

vember, ſhe was brought home by her father, upon account of a feaſt that was to be held in the village of Hambleton. On Sunday the 3d of December, ſhe was ſeized with moſt violent fits, which continued ſo long and ſtrong upon her, that her parents thought ſhe would die. Alarmed for her preſervation, and for ſome time not knowing what to do, the father at laſt reſolved to carry her back to Hambleton. He accordingly took her up in his arms, and carried her out of the houſe in ſtrong convulſions, in which ſhe continued all the way through that part of the town of Manton which he muſt go through, being about two hundred yards. As ſoon as he got her into the fields, the fits left her, and ſhe was from that moment in perfect health, and run before her father all the way to Hambleton. Since this time ſhe has had conſtant returns of the ſame fits. The children are all fine healthy looking children, and do not, from their looks, betray the leaſt appearance of diſorder.

The boy miſſed his fits from January the 8th, till March the 9th, and the eldeſt girl miſſed her fits for near ſix weeks; but what is very ſurpriſing, as ſoon as one falls, the others in general fall, but more eſpecially the youngeſt, Su-

ſannah,

ſannah, who conſtantly fell with the others, till within theſe three or four days.

They are not ſeized with ſuch appearances as generally attend common convulſion or epileptic fits, no farther than from the violent and involuntary motion, the conſtant attendant of every ſpecies of convulſion; no cough, vomiting, or diarrhœa; no delirium or ſleepineſs; no blueneſs appears about their eyes and upper lip; no twitchings or ſtartings, as forewarners of the approaching fit. They never fall ſuddenly proſtrate on the ground, as is uſual in the common epilepſy, neither do they complain of wearineſs; no pain in their heads, or interrupted ſleep; no paleneſs of countenance, ſtupor or drowſineſs; no unuſual terror, palpitations, or diſturbed reſpiration; no rumbling in their bowels; no diſcharge of fœtid ſtools; nor have they a copious diſcharge of urine. Their jaws are never fixed, nor do they froth at the mouth; but, on the contrary, when ſeized with a fit, they ſpring from their chair, their arms and limbs are in conſtant agitation, and in irregular motions, as quick as poſſible, and their tongues in continual action, ſinging, ſhouting, and hallowing, with as much vehemence as if a huntſman was giving

ving the view hollow. The boy ſometimes gives the moſt ſurpriſing ſprings, which could not be believed without being ſeen. One morning, ſitting by the fire, he was ſuddenly ſeized with a fit, upon which he made a ſpring acroſs the floor, and jumped upon a large table, upwards of three feet high, the diſtance being no leſs than three yards. Upon this he danced for ſome time, making the moſt ghaſtly faces that were ever beheld, his noſe being quite drawn into his face, and ſeemed as if mocking every perſon round him. So altered, at times, are their countenances, that their parents are not able to know their children. The fits, after they leave them, affect their limbs and ſpeech in a moſt extraordinary manner. They loſe the uſe of their ſpeech and limbs ſometimes for five days, though perfectly ſenſible during the whole time; but have perfect uſe of their hands and arms.

They have been ſent from home for a fortnight together, and have not had the appearance of a fit. No ſooner do they enter their father's habitation, than they are thrown into the moſt diſtreſsful ſituation human nature can conceive.

They

They at times, during the fits, will twiſt their legs round the chairs, ſo as to make it hardly poſſible to unlooſe them. Their parents can aſſign no cauſe for theſe fits, nor can I trace any taint of ſuch a nature, either in Wilmott's or his wife's family.

The whole family was afflicted with the ſcarlatina anginoſa in autumn laſt; and immediately before the children had theſe fits, they had the hooping cough, but in a very favourable manner.

This is the account I received from the parents and others who had ſeen them in the fits. They have been for ſome time under the care of a judicious apothecary, Mr John Smith of Uppingham, at the particular requeſt of Thomas Barker, Eſq; of Lindou, a man no leſs diſtinguiſhed for his piety, than he is for a moſt charitable and benevolent diſpoſition. Mr Smith has uſed every judicious means to relieve theſe children, but as yet nothing has proved effectual; nor have the parents been ſatisfied with this, but they have conſulted the famous Mr *Stanger*, who has made no ſcruple to pronounce it *witchcraft*.

About ten days ago, I heard from ſome of my friends the melancholy ſituation this family was in, and at their requeſt I viſited them. What I wiſhed moſt for, was to ſee one or more of the children in a fit, by which I might be convinced that I was not impoſed upon in the accounts I had received, which in this paper I have moſt faithfully related; and I muſt confeſs, I was ſtimulated not leſs from curioſity, thinking at the ſame time that I might, in future, by ſome means, relieve this diſtreſſed family, by a well timed and proper application of medicine. I accordingly called on the 6th of March 1781, but was for that time diſappointed, the eldeſt girl being from home. The mother told me then, that ſhe was almoſt certain to have a fit, ſhould ſhe be brought into the houſe. I therefore told her, I ſhould certainly call in three or four days. I accordingly called on Saturday the 10th. She informed me her daughter was not at home, but in a houſe in the town where they had ſent her, as they thought this would be the means of preventing her fits. She had been there for eight days, during which time ſhe had been in perfect health.

I therefore begged the mother to ſend for her home, which was accordingly complied with. Being ſeated in a chair, I perceived an elderly woman coming in at the door, and cloſe after her came the girl. As I had never ſeen her before, I did not know whether this was the perſon I wiſhed to ſee. However, ſhe did not keep me long in ſuſpenſe. No ſooner had ſhe croſſed the threſhold of the door, than ſhe ſet up the moſt hideous cry I ever heard. Her arms, legs, head and body were all at once diſtorted and agitated in a moſt ſurpriſing manner. She kept continually jumping, dancing, hollowing and ſinging, ſtruggling very little, her eyes were wide open, her mouth open, and her tongue moving as quick as thought. During the whole fit, I kept myſelf as collected as poſſible, though I was a good deal alarmed, as well at the ſudden, as the ſurpriſing noiſe ſhe made, and the figure ſhe diſplayed. I took out my watch, found her pulſe very little altered from the ſtandard of health, beating about eighty in a minute, her temporal artery throbbed very much, and her countenance became florid.

I tried many things, to ſee whether ſhe could poſſibly feign the fits, but nothing had any effect.

fect. Wiſhing ſhe might be relieved from the moſt miſerable ſituation I ever ſaw any perſon in, I begged the mother to inform me what they did on ſuch occaſions. She informed me, removing her into the air would very likely give her relief, which was immediately complied with. I followed her attentively all the way, looking on her, and now and then on my watch. As ſoon as ſhe came into the air, I perceived a ſerenity of countenance I before had not ſeen; in leſs than two minutes the fit ſubſided; and in leſs than two more, the girl walked off in perfect health, the fit leaving no drowſineſs nor ſtupidity; nor had ſhe the leaſt complaint remaining, excepting a ſlight pain in her head, which was but momentary.

By what I can learn, theſe children fall commonly about the full, change, or quarterings of the moon. The boy fell into theſe fits a day after the laſt quartering of the moon in October. The eldeſt daughter fell on the 12th of November, being the day on which the moon was at the full. The youngeſt daughter was ſeized with fits on the 3d of December, being the day on which the moon firſt quartered. The ſon miſſed his fits from January the 8th, till

till March 9th, and the moon was at the full on the 10th, at ſeven in the morning; and I happened to ſee the eldeſt daughter in a fit on the day the moon fulled, the 10th of March, and ſhe had had no fits for ten days before that. I called upon the family on Sunday laſt, and inquired after the health of the children. This was upon the 8th of April. The mother informed me, they had no fits from the time I ſaw them, which was on the 10th of March, till Friday the 6th of April, on which day they had been all taken very ill, and continued ſo ever ſince, having ſeven or eight fits in a day. They were ſeized with theſe fits a day before the moon laſt fulled, *viz.* on the 6th of April, and the moon fulled at twelve o'clock at night on the 7th.

From theſe circumſtances, I think there is not the leaſt doubt of their being truly epileptic, though they put on a different aſpect as to appearances.

Query. Might not theſe fits be brought on by the hooping cough diſappearing ſo very ſuddenly.

XXI.

A Caſe of a Flap Operation united by the firſt Intention. By Mr Thomas Jones, *Surgeon at Bingley, near Bradford, Yorkſhire, late Surgeon to the Leeds Infirmary.*

JOSEPH JAGGER, aged ſeventeen, was admitted into the Infirmary at Leeds, April 6. 1782, for a ſcrophulous ankle, and caries through the whole of the metatarſal bones. On a conſultation with my colleagues Mr Hey and Mr Lucas, amputation was judged expedient. Intending to make a flap, as Mr Bromfield recommends, and reſolving to replace it immediately, and heal it by the firſt intention, April 11. I with a yard-band divided into inches, firſt took the circumference of the leg where I meant to introduce the catlin, and marked it with ink; it was nine inches: from this I meaſured three inches downward, and marked it; at which place I propoſed bringing the catlin out.

The

The tournequet being tightened, and integuments drawn up by an aſſiſtant, I thruſt the catlin through at the upper mark on the back ſide of the fibula, between the gaſtroenemii and ſoleus muſcles, carrying it down, and rather obliquely out at the loweſt mark, which formed the flap. After, by a ſemicircular inciſion with the amputating knife (the integuments being again drawn up), I uſed the double inciſion, and finiſhed the operation in the uſual manner. There was a ſmall portion of the tendo Achillis on the extremity of the flap, which I cut off. I ſhould mention, that, after ſuch an operation, the flap will appear ſomewhat longer than is neceſſary to reach and cover the ſuperior edge of the ſtump; but it will retract; and, if properly ſupported, the proportion of one to three will be found generally to anſwer exactly.

Three arteries were taken up by the tenaculum with ligatures; after which, the integuments (a good deal being ſaved) were brought down by one of the gentlemen, whilſt I paſſed a *ſwan-ſkin* flannel roller, beginning on the thigh, and carrying it downwards; the flap being now applied, was retained by the interrupted future on each ſide of the ſtump, and the upper part

ſupported by long ſlips of cloth ſpread with cerat. alb. Then the roller was continued lower down near to the end of the ſtump, and back again over the linen plaſters, to keep them firm. The dreſſing conſiſted of a compreſs of dry tow and a flannel cap.—The boy took only one opiate after the operation, and no other medicine, except a little opening ſolution ordered occaſionally; neither had he any pain or ſymptomatic fever worth mentioning.

As the diſcharge was ſmall, and the ſtump not in the leaſt offenſive, I did not open it till the 16th, when I found the lower part of the flap and ſides adhered. There being no inflammation where the ſutures were paſſed, I let them remain; it was rolled afreſh, and dreſſed as at firſt; two of the ligatures came away.

18th, I dreſſed it again; the remaining ligature came away; the ſutures were ſuffered to remain; but, to keep the flap firm, I made uſe of a long ſlip of adheſive plaſter ſpread on leather, carried it from below upwards, another acroſs, and on the middle of the ſtump; on each ſide pledgets of lint were applied, ſpread with cerate.

19th,

19th, I cut out the ſutures; the flap was firmly united, and the diſcharge very inconſiderable; pledgets of lint ſpread thin with cerate were put on every day, and the plaſters continued till the 25th, at which time the ſtump was perfectly healed, and the cicatrix not broader than a quarter of an inch.

I flatter myſelf, the above recited fact will ſerve the purpoſe of confirming in ſome degree ſo excellent a practice.

Every one will readily acknowledge his obligation to the ingenious Mr Allanſon of Liverpool, for his late publication on amputation. He ſeems to be the firſt that has diſcarded the application of dreſſings to the ſurface of the ſtump, and recommended healing by the firſt intention. This hint will certainly prove of great advantage in a variety of other operations.

Extract of a Letter from Mr Jones *to Dr* Duncan.

Three months after I tranſmitted to you the caſe of flap operation healed by the firſt intention, a ſecond caſe occurred, in which I operated in the ſame manner, and with equal ſucceſs.

There

There were three veſſels taken up, and a ſtitch made uſe of to ſupport the flap, as before. No opiate was required after the operation; the ſtump was not opened till the eighth day, when one ligature came away, and the ſtitch was cut out. In two days, it was dreſſed again, and the remaining ligatures came away. From the day of this operation till his diſcharge from the Infirmary, was exactly a fortnight. The flap was ſo firm, and made ſo good a cuſhion, as to bear any preſſure upon it.

XXII.

Hiſtory of a Caſe of Imperforated Hymen cured by Inciſion. Communicated to Dr Duncan *by Mr* David Niven *Surgeon.*

M—— C——, aged twenty, of a ſlender make, and yellowiſh complexion, very much pitted with the ſmall-pox, was affected with a firm circumſcribed tumour, diſtinguiſhable upon preſſure, which occupied a part of the

the umbilical, and almoſt the whole of the right hypogaſtric region.

About the middle of the left hypogaſtric region, or nearer the ileum of that ſide, was felt a tumour harder than the former, and about the bulk and figure of a gooſe egg.

The external parts of generation were natural, both in ſize and ſituation; but where the vagina ought to have been, there was a ſmall foſſa, about half an inch deep, and wide enough to admit the tip of the little finger. The under brim of it was ſurrounded by a ſemilunar membranous fold, evidently the hymen. At the upper ſide of the foſſa, and near to its bottom, the urethra had its uſual termination. The bottom was firm and tenſe to the touch; and no foramen could be diſcovered, either by inſpection, or ſearching with a ſmall probe.

She complained of laſſitude and debility, a ſenſe of weight and bearing down at the bottom of the belly; pains of the back, haunches, and thighs; ſqueamiſhneſs, and loſs of appetite; her pulſe was quick; reſpiration hurried, upon any quick or laborious motion of the body; and her belly commonly coſtive. She had never menſtruated; had a frequent deſire to make urine, but

but voided it with pain, drop by drop, and in ſmall quantity, while ſhe preſſed upon the perinæum. Upon attempting to introduce a probe, an inſuperable reſiſtance was felt about an inch beyond the orifice of the urethra.

Theſe ſymptoms now returned with violence every third or fourth day; and although, upon the intermediate days, ſhe was not entirely free from them, they ſuffered a conſiderable remiſſion, ſo that ſhe was able to walk about. While the ſymptoms continued ſevere, the tumours increaſed in ſize; and when theſe abated, they ſenſibly ſubſided.

The patient firſt diſcovered theſe tumours about eighteen months before; ſince which, they had gradually increaſed, and the other ſymptoms had kept pace with, and always been in proportion to their augmentation. Previous to the commencement of this affection, ſhe enjoyed a ſtate of perfect health. About three or four months ago, ſhe made application to a practitioner in medicine for relief, who judging all her complaints to proceed from the emanſio, and being ignorant of the cauſe of that, gave her emmenagogues in vain; till at laſt, from its obſtinacy, he began to ſuſpect that the retention might

might be owing to a malconformation of the genitals; and, upon examination, was confirmed in his conjecture.

There being here little doubt that the tumour inclining to the right ſide was the uterus diſtended with menſtrual blood, while that on the left ſide ſeemed likely to be the ovarium preternaturally enlarged, it was agreed that an operation ſhould be performed, as affording the only probable chance of relief. Accordingly, a lancet was entered at the bottom of the foſſa, and puſhed forwards more than a couple of inches, in the courſe of the vagina as near as could be gueſſed. It was then drawn out, on purpoſe to introduce a ſcalpel, with which it was intended to dilate, and continue the inciſion farther if neceſſary. But the inſtant it was withdrawn, blood ruſhed out, of a reddiſh brown colour, about the conſiſtence of molaſſes, and free from any ſmell. As it continued to flow pretty freely, the dilatation of the inciſion was agreed to be referred till next day, preſuming the parts would not reunite before that time; and, in the interim, with a view to encourage the diſcharge, ſhe was directed to take moderate exerciſe, ſit for ſome time over the ſteams of warm water,

and

and to have the parts fomented with it frequently. About ten o'clock that night the diſcharge ſtopped. After between three and four pounds of this inſpiſſated blood had been evacuated, the tumours of the abdomen, eſpecially that on the right ſide, were now conſiderably fallen, but not altogether. Next day a probe was tried to be paſſed up the opening made the preceding day; but, about half its depth, a reſiſtance was felt, which by moderate force could not be overcome. A directory was then ſlipped up, and a biſtory run along its groove, by which the opening was dilated ſo as to admit the finger. This was introduced, and afterwards a probe, to ſearch for the aperture which communicated with the cavity whence the blood was diſcharged. But this could not be diſcovered. The operator and phyſician preſent did not, however, it ſeems, think it adviſable to cut any deeper at that time. The patient, whoſe complaints had been greatly alleviated by the evacuation, began the ſecond day after the operation to complain of pains of the back, loins, and abdomen, which laſt began to ſwell. Three days thereafter, febrile ſymptoms ſupervened, for which a vomit of ipecacuanha was given. The night

night after its operation, a matter reſembling the former in colour, but of a thinner conſiſtence, and having an intolerably fœtid ſmell, was poured forth from the mouth of the artificial vagina in great quantity. It ran through the bed-clothes, and upon the floor, ſo that the exact quantity could not be aſcertained. In a few hours, this diſcharge diminiſhed, but continued to drill in ſmall quantity, at irregular intervals, for ſome days. During that time ſhe was ſeized with a general ſoreneſs and diſtenſion over the whole abdomen, which, by gentle laxatives and cooling diet, went gradually off; and, in the ſpace of eighteen days after the operation, ſhe was in tolerable health, though neither of the tumours were entirely ſubſided.

I afterwards learned, that ſufficient care not being taken to preſerve the opening from cloſing, the parts again united, and two or three menſtrual periods elapſing when in this ſtate, ſhe was again ſeized with ſymptoms of retention to a violent degree. The ſurgeon was ſent for, and the operation again repeated with ſucceſs. Proper care being afterwards taken to preſerve the opening, ſhe continued to menſtruate at the ordinary periods, and enjoyed tolerable

rable health, laſt time I heard of her, which was eight months after the laſt operation.

XXIII.

A Caſe of encyſted Sarcocele. *By* William Gourlay, *M. D. Phyſician in the Iſland of Madeira, and Member of the Medical Society of Edinburgh.*

P—— C—— J—— de A—— aged fifty years, deſired my aſſiſtance on the 20th April 1784, for a large ſwelling he had in the ſcrotum.

I found the whole left ſide of it, and part of the right, as large as a new born child's head, of a ſomewhat oblong ſpheroidal ſhape, red duſky colour, with diſtended veins, accompanied with conſiderable inflammation and violent twitching pains. Its feel was ſomewhat elaſtic, and retained for ſome time the impreſſion of the fingers. I could diſcern an evident collection of matter on its moſt depending part, which ſeemed

ed to be in the cellular ſubſtance of the ſcrotum. And, upon preſſing the reſt of its ſurface with freedom, a fluid was diſtinctly felt, deeper ſeated, which I conjectured to be an hydrocele of the tunica vaginalis. I could feel very diſtinctly the whole ſpermatic cord; but, upon the moſt accurate examination, could not trace the ſmalleſt veſtige of the teſticle. Upon inquiry concerning the origin of this complaint, I was informed, that, fourteen years ago, he felt a ſlight hardneſs at the bottom of the left teſticle, which had increaſed in a gradual manner, without any pain, till within this twelvemonth, when, in conſequence of ſome external application, it began to make very rapid progreſs, attended frequently with moſt ſevere lancinating pains, reſembling the pricking of needles, which he principally felt about the epididymis; and, eight days before I was conſulted, having received ſome injury, a violent inflammation ſucceeded, attended with ſymptomatic fever, frequent ſtartings, and ſhivering fits, with pains in the belly, nauſea and vomiting.

Two years previous to its firſt appearance, he was infected with a gonorrhœa, of which he had never got cured. He had been alſo fre-

quently ſubject to a variety of venereal complaints.

I put him on the antiphlogiſtic regimen, and applied a large emollient poultice over the ſwelling, and gave him an opiate at night, from which he ſoon obtained conſiderable relief.

Two days after, Meſſrs Oliphant, Forbes, Mair, and Bowman, ſurgeons, being here for a few days on their way to Jamaica, we, upon conſidering his caſe, were clearly of opinion that an operation was neceſſary; and, from the circumſtances of it, we judged it very complicated, and ſuſpected the teſticle to be the primary ſeat of the diſeaſe.

Upon delivering our opinion to the patient, I warned him, that in caſe we ſhould find the teſticle much diſeaſed, it would be neceſſary to extirpate it, in order to make a complete cure. He conſented to every thing that ſhould be deemed neceſſary. I accordingly, next day, performed the operation. It was firſt propoſed that the external abſceſs ſhould be laid open: A puncture being made, there was diſcharged a conſiderable quantity of laudable pus; and, upon accurately examining with the probe and fore-finger, I could find no communication

nication between this and the diſorder in the tunica vaginalis. It was therefore propoſed to perform the radical cure of hydrocele; which I accordingly did, by making an inciſion the whole length of the tumour, beginning from the moſt ſuperior to its moſt inferior and anterior part. After laying the vaginal coat bare, I made a puncture at the upper part, and, with the curved probe-pointed biſtouri, the fore-finger of my left hand being the conductor, I dilated the vaginal coat the whole length of the firſt inciſion, and gave diſcharge to a conſiderable quantity of water and black fœtid matter, reſembling the grounds of chocolate. In ſome parts the water and matter were intermixed; at other places, they came out in ſeparate jerks, with conſiderable force; and there immediately protruded a large bag of cyſts, from which the greateſt part of the matter and water immediately ſprang. This was the ſize of a large ſheep's bladder diſtended, the cyſts about a dozen in all, and ſome of them as large as a hen's egg, and of various colours and conſiſtence; ſome were almoſt black, ſome more or leſs livid, and others of a pellucid appearance; ſeveral of them contained nothing but water; others black fœ-

tid matter, and a number of them matter of a tough viſcid conſiſtence, reſembling putrid ſloughs. I took out a large handful of this ſubſtance from the bottom of the ſac, intermixed with a conſiderable quantity of matter and water, ſuppoſed to have proceeded either from a rupture or diſſolution of the cyſts. They all had a very delicate and tender ſtructure, for as ſoon as the ſac was opened, moſt of them broke ſpontaneouſly. After having removed all the cyſts, we next examined for the ſituation and ſtate of the teſticle, but, after the moſt ſcrupulous ſearch, could not find the ſmalleſt veſtige of it remaining. Its whole texture was entirely obliterated; and, inſtead of it, I found the tunica vaginalis very much diſeaſed. It was conſiderably indurated, and thickened to two inches, with ſeveral ſpots of evident eroſion, and ulcerations on its ſurface, ſome of them as broad as a ſhilling, which had penetrated entirely through the ſubſtance of the coat. We were therefore of opinion that theſe hydatides muſt have been originally formed in the ſubſtance of the teſticle, and, from the long continuance of the diſorder, had deſtroyed its texture

ture in ſuch a manner as to occaſion the appearances I have deſcribed.

Such being the ſituation of the parts, it was thought adviſable to perform the operation of ſarcocele. I fortunately found the whole ſpermatic cord entirely free from diſeaſe, and in a perfectly natural ſtate. I paſſed a ligature round the cord, and, after cutting it, found conſiderable difficulty in detaching the vaginal coat from the ſurrounding cellular ſubſtance, the adheſions were ſo great all round it. The whole being removed, I found the greateſt part of the ſcrotum almoſt in a mortified ſtate. It was quite deſtitute of feeling, remarkably cold, black and livid, and of a ſpongy doughy feel. The patient's extremities became extremely cold, his countenance pale, and his pulſe hardly perceptible. I dreſſed the wound, put him to bed, and ordered an anodyne draught, with forty drops of the thebaic tincture, to be repeated occaſionally. It ſoon procured him a ſound ſleep. Next day, I applied a large emollient poultice over all, and the day following dreſſed him, when a plentiful ſuppuration of laudable pus appeared. The ſcrotum had greatly recovered its tone. The ſymptomatic fever never ran high;

and I immediately put him on a liberal courſe of wine and bark, joined with an invigorating diet; and in the courſe of ſix weeks the cure was completed.

From conſidering the riſe, progreſs and ſtate of the parts, during the courſe of this very ſingular diſorder, I think I cannot affix a more proper name to it than *encyſted ſarcocele.*

From the hiſtory of the caſe, at its incipient ſtate, it put on the appearance, and had moſt of the characteriſtic ſymptoms of ſchirrous teſticle; it increaſed in a very gradual manner, without any pain or diſcolouration, till a very advanced period of the diſeaſe. The feel of it correſponded with ſchirrus, and it aroſe from a venereal taint, the patient being for a long time previous to its commencement, ſubject to a gonorrhœa, and to a variety of other modifications of ſyphilis. From his own account, it began in the under part of the teſticle; but when the diſeaſe increaſed rapidly, he felt the twitching and lancinating pains firſt in the epididymis; and what confirmed more the idea that it was firſt a ſchirrus, the vaginal coat was evidently in a diſeaſed ſtate; it was very much indurated, thickened and ulcerated, and all the ſurrounding

ing parts put on a morbid appearance. It is more than probable, that in its progreſs it was of a real cancerous nature, and that from the debility of the parts, occaſioned by the long continuance of the diſeaſe, it gave riſe to the formation of theſe cyſts. It is likewiſe known, that a diſeaſed teſticle, from a venereal cauſe, gives riſe to ſchirrus of the very worſt kind; and it is highly probable, that the water and matter found extravaſated within the vaginal coat, had been occaſioned by a rupture of theſe cyſts; for we have frequent inſtances of ſimilar effuſions happening in the progreſs of ſarcocele.

There is likewiſe reaſon for ſuppoſing, from the pathology of diſeaſes, that cyſts may form in any part of the animal body, but more eſpecially in the glandular. We read of inſtances of their formation in the kidneys, the female ovaria and mammæ. And although phyſiologiſts are yet divided in opinion concerning the theory of hydatides; yet, when we conſider the ſtructure of the teſticle, are there not plauſible grounds for adopting the hypotheſis, that they may be formed from ruptured lymphatic veſſels?

XXIV.

Account of an uncommon Diſcharge, from an opening made into a large Tumour in the under-part of the Belly and Back. By Mr Thomas Collingwood, *Surgeon at Alnwick.*

I Was called in July 1777, to viſit a ſon of P. B. nine years of age. He had complained for two years, taken many medicines, and different advices, without being bettered thereby. His complaints were dyſpnœa, cough and groſs expectoration, pulſe quick, appetite bad, belly regular, and body much emaciated. Add to theſe, he had formerly been ricketty, his ſpine was diſtorted, the lower end of the ſternum much elevated, the diſtortion was in the uppermoſt lumbar vertebræ, which bulged outward and toward the left ſide, the left ilium ſank inward to the os ſacrum, and the right ſtood out in proportion. I ordered a large bandage to be kept over the protuberance, gave

pectoral

pectoral medicines, and put him on a milk and vegetable diet.

In Auguſt and September he appeared much better, his appetite returned, his hectic abated, and he was able to run about among his play-fellows.

In the middle of October an inflammation appeared on the right ſide, a little higher than the region of the kidney. I applied antiphlogiſtics, about two weeks; but finding it daily increaſe, a reſolution was deemed impracticable. I next attempted ſuppuration, although I ſuſpected the event might be dangerous.

I ſhall not ſay whether the poultices that were applied till November were of ſervice, or hurtful. They were, however, continued. I propoſed making an inciſion into it in the month of March; but my doubt of the reſult, deterred his friends from allowing me. The boy continued weaker every day till the 30th of May, when, in conſultation with another ſurgeon, I was deſired to open it at all events. It was then as large as a hat-crown, and much inflamed, ſtretching from the lumbar vertebræ to the muſculus pyramidalis abdominis, down over the os ilium. An inciſion was made three inches long,

through

through the integuments and abdominal muſcles, toward the moſt depending part. In about half an hour it diſcharged ſeven pounds of matter, of the colour and conſiſtence of new cream, without any bad ſmell or taſte. I dreſſed it with lint and baſilicon ointment. I dreſſed it every morning for the firſt weeks; but from the warmneſs of the weather, and conſtant diſcharge, I afterwards cauſed it to be dreſſed twice a-day. The firſt fortnight the boy ſeemed to recover faſt; but on the fifteenth, the hectic fever returned, accompanied with diarrhœa, his fæces yellowiſh and fœtid. I ordered a few doſes of rhubarb, and a glaſs of port-wine thrice a-day. He continued in a debilitated ſtate for twenty days, although the diarrhœa was carried off. I then gave him the Peruvian bark, with bitters. In a few days his febrile ſymptoms abated, his appetite returned, and he began to walk on crutches. From the time that the operation was performed, he had an inſatiable deſire for acids. I did not reſtrict him from them. The diſcharge increaſed in proportion to his appetite. Having from time to time examined the matter diſcharged at the orifice, I could not account for its appearance. It had no bad taſte,

was

was rather ſweetiſh, had a ſour or acid ſmell. I often kept it three or four weeks in a cloſe corked phial, without ſuffering any alteration in its conſiſtence, ſmell or taſte; but if I left it with the cork out twenty-four hours, it ſmelt very ſour; and in a few hours more, highly putrid. I ſuggeſted to the ſurgeon already mentioned, that we had made an inciſion into the receptaculum chyli, which, (according to the learned and candid Profeſſor, the late Dr Monro), in its natural ſtate, "is a ſmall pyriform "bag, two-thirds of an inch long, one-third of "an inch over, in its largeſt part, ſituated on "the firſt vertebra lumbarum," which correſponds exactly with the ſituation of the cyſt above mentioned. What reaſon can we aſſign for this phænomenon, but that the tranſverſe proceſs of the laſt intercoſtal vertebræ, preſſed upon the thoracic duct, obſtructing that tube; and that inſtead of the chyle being conveyed into the blood, it was diſcharged by the orifice.

What confirms me in this opinion is, that the boy's appetite continued good, while his ſtrength gradually declined. The quantity diſcharged, at an average, was two ounces in a day. It was greater in the morning than in the evening. I often

often cauſed the boy to make a preſſure, by exerting the diaphragm and abdominal muſcles, four hours after a hearty meal, which always produced a greater quantity. I prevented it from flowing ſpontaneouſly by a tent, with a deſign to determine how long it took from the food being taken into the ſtomach, before it was converted into chyle. I often cauſed the cyſt to be emptied before a full meal, four hours after it contained a very ſmall quantity; but in ſix hours it diſcharged almoſt an ounce. I propoſed making an inciſion to the vertebræ, and cutting off the tranſverſe proceſs. This, however, his friends would not allow.

Having tried the matter diſcharged by evaporation, three-fourths of it went off a ſimple watery fluid; there remained in the bottom of the crucible a ſtraw-coloured earthy ſubſtance, which had neither ſmell nor taſte, nor could it be acted upon by acids or alkalies. I tried it with acids and alkalies, without the action of fire, but no efferveſcence took place. This exactly agreed with what the celebrated Boerhaave and Haller ſaid of the chyle, when mixed with the other juices in the inteſtinal canal and meſenteric glands, before it enters the ductus thoracicus.

thoracicus. The boy continued gradually waſting, dropſical ſwellings appearing over ſeveral parts of the abdomen, proceeding, no doubt, from a want of nouriſhment in the vaſcular and nervous ſyſtem, and he died on the 20th of November, a mere ſkeleton.

XXV.

Hiſtory of a Diabetes ſucceſsfully treated by the Uſe of Dover's Powder. By Dr Samuel M'Cormick, *Phyſician at Antrim.*

MR W—— M——, of a florid complexion, and a groſs corpulent habit of body, very ſubject to frequent and violent fits of the gout, but in other reſpects an healthy man till about the age of ſeventy years, was ſeized with an unuſual thirſt, which however was not for ſome weeks much noticed by him, or apprehended as the forerunner of any diſorder. He was ſometimes much ſurpriſed at his being obliged to ſteal out of company, and privately ſwallow a pint

pint of porter; a thing very unuſual with him, as he was in general a temperate man. The next thing he took notice of, was the large quantity of urine he made, eſpecially in the night, which raiſed him out of his ſleep every hour or two; but neither did this greatly alarm him, as he imputed it to the large quantity he drank through the day; for as yet he had no bodily complaint, the thirſt only excepted. But at length he began to perceive his bulk to decline faſt, eſpecially his legs and belly, ſo that it was taken notice of by his neighbours. Now, finding both his appetite and ſtrength beginning to decline, he applied to me for advice. I found his urine large in quantity, even in proportion to his drink, and almoſt as limpid as common water, ſweetiſh to the taſte, or rather ſomewhat of the flavour of the laſt liquid he had taken. His florid complexion turned to a ſtrange ſallow hue; the muſcles of the face relaxed and ſunk; his ſkin dry as a piece of parchment, and withered; the fauces, tongue, and lips dry beyond conception. Add to this, that he had not the command of the organs of ſpeech ſo properly as formerly. But no deſcription can delineate, nor is it in the power of language to convey an idea of what he

he ſuffered by thirſt. He was quite unhappy, but juſt the inſtant that the liquid was paſſing down his throat; and next minute after ſwallowing it, his thirſt was as violent as before. At the ſame time, his tongue was not foul, nor furred; neither was his pulſe much changed from its natural ſtate, only ſomewhat lower. His ſtrength greatly declined; ſo that it was with ſome difficulty he could walk a few ſteps unſupported, and all this happened in a few weeks. In ſhort, his caſe ſeemed to be deſperate. Beſides his unconquerable thirſt, he was tormented with a tough phlegm in his mouth and throat, that could only be got off by retching and puking; for which a puke was ſometimes taken with ſome little advantage for a ſhort time.

From all his ſymptoms it was inconteſtably evident, that his diſorder was a real diabetes; and as he had a livid braſſy colour in his face, ſomewhat reſembling jaundice, it was proper to inquire minutely, whether Dr Mead's opinion, that in that ailment the liver is always faulty, would hold true in this caſe. But on the ſtricteſt ſcrutiny that could be made on a living ſubject, there appeared no foundation for ſuch an

an opinion, which the ſubſequent part of this hiſtory will confirm.

The firſt injunction was for the patient to drink as little as poſſible. This, to him, was a moſt ſevere, almoſt an inhuman prohibition; but with this he complied for ſome time. What he did drink was a compound lime-water, or ſometimes ſimple lime-water; and, to allay his thirſt, ſome drops of the following: ℞. Elixir. vitriol. acid. drachmas duas, Tinct. cort. Peruv. unciam unam. M. Theſe drops were taken in a ſmall glaſs of water, three or four times a-day. The following electuary was preſcribed, and continued for ſome time: ℞. Pulv. cort. Peruv. unciam unam; Alum. Rup. drachmam unam; Limat. mart. Pulv. Gum. tragacanth. utriuſque drachmas duas; Syr. e cort. aurantior. q. ſ. m. f. elect. Cap. molem nuc. moſch. ter die. Superbib. uncias ſex ſeri aluminoſ. After taking theſe medicines for about a fortnight, the following was taken every night, in place of the laſt doſe of the electuary, *viz.* ℞. Sang. dracon. G. maſtic. Alum. Rup. ſingulorum ſcrupulum unum. In chart. ii. divid. As he was ſubject to coſtiveneſs, a doſe of rhubarb was now and then given in the pulp of tamarinds, and ſometimes

times a puke of tartar emetic, dry friction in the mornings, and cold ſpring-water poured on the ſmall of the back, were often repeated. In ſhort, this courſe ſtrictly purſued from March 10. to April 13. was of no avail; he was now reduced to a ſkeleton, and all hopes of recovery over. He was then indulged to lay aſide the uſe of the medicines, as they had proved quite ineffectual, and to drink more freely than what he had been formerly allowed. The drink he took, however, for the moſt part, was lime-water, alum-whey, or water that a hot iron had been quenched in. Briſtol water could not be had.

As there was ſuch a total ſtoppage of perſpiration, that it much reſembled a ſkin taken off and dried for ſome time, it was probable, if this evacuation could be by any ſafe means promoted, it might leſſen the diſcharge by urine. For this purpoſe, he was put under a courſe of the pulv. Doveri. The doſe at firſt directed was twenty grains every night, which was gradually augmented, till in the courſe of three weeks he took ſeventy grains at night. At that period, he fell into a moſt profuſe ſweat, which continued without intermiſſion for thirty-ſix hours. Du-

ring that time, he thought himſelf in a comfortable ſtate, and had leſs frequent calls to make urine; and, notwithſtanding the great diſcharge by ſweat, his thirſt abated, his ſkin came to a natural feel. In ſhort, every ſymptom from that time wore a more favourable aſpect. In a few weeks, he was ſo far recovered, that he had in ſome meaſure regained his fleſh, and his former florid complexion.

I have had another in the ſame diſorder ſince the above, and treated him much in the like manner, with Dover's powder, with the ſame good ſucceſs.

XXVI.

Account of the good Effects of Peruvian Bark and Madeira Wine, in an obſtinate Ulcer of the Leg. By Mr William Rait, *Surgeon.*

B—— F——, a private ſoldier in Lord Charles Montague's regiment, aged about twenty-ſeven, of a thin aduſt temperament, and ſcorbutic

ſcorbutic habit of body, had (by his own account) his leg run over by a heavy-laden waggon wheel, when on a march in North America, which was cured, but upon any fatigue or irritation, always broke out in ulcuſcules.

He embarked on board his Majeſty's ſhip Neſtor, to act as a marine, on the 16th Auguſt 1782, but was ſoon rendered incapable of duty by his old ſore.

I tried almoſt every method licenſed by modern practice, as well with regard to external dreſſings, as with a view to meliorate his general habit; but in vain; for, notwithſtanding all my care and attention, it ſpread ſo much, and the loſs of ſubſtance became ſo great in the courſe of a fortnight, as to lay bare the tendons on the exterior and back part of the leg, as alſo the tendo Achillis, with an evident enlargement of bone, which I had from the beginning ſuſpected.

The diſcharge at laſt became ſo great, and the ulcer put on ſo ſordid an appearance, that I entertained but a very faint hope of ſaving my poor patient's life. However, I continued to ply him with bark and cordials occaſionally, till the 19th September; when, that no effort or aſ-

ſiſtance might be wanting which I could procure, the captain, at my requeſt, ſent on board his Majeſty's ſloop Fury (our conſort) for the ſurgeon and mate, who conſulted, and concurred with me in opinion, that my patient was at that moment in too low a ſtate to ſuffer amputation, which we then thought the only means of giving him any chance of recovery. Even ſomething of a gangrenous glaſſy appearance, with leſs matter than uſual, had then taken place on the ſurface and edges of the ſore. I was reſolved, however, not to give him up, while the leaſt glimpſe of hope remained.

We had ſome excellent old Madeira on board; and I mixed in a bottle of it a large proportion of powdered bark, of which I gave him as his ſtomach would bear, without any regard to time or quantity.

This I began to do in the morning; and before night his pulſe was ſomewhat better, and his languid eyes began to have a little meaning. At bed-time I gave him a grain of opium.

21ſt, He reſted much better than he had done for many nights before; and this morning I was agreeably ſurpriſed to find him much better, and ſomewhat talkative. He intreated me

to

to amputate; and I encouraged him, by telling him, I would, ſo ſoon as he gained a little ſtrength; and continued the cortex and Madeira, with opiates occaſionally, till the 23d, when he was really ſurpriſingly better; the diſcharge mended, and ſome appearance of ſeparation took place at the edges. His ſore was however ſo great a nuiſance, that he continued very ſolicitous about amputation, and told me he could muſter up ſtrength to bear it very well. Although I had my doubts about this, yet I conſidered it to be too favourable an opportunity to let ſlip. The generous uſe of the cortex and wine evidently brought about this remarkable change; and I am well convinced, that nothing elſe could have lengthened out his exiſtence. The loſs of ſubſtance was ſo great, that I believed it irreparable, even allowing his conſtitution to admit of a total change for the better; I therefore (although I have no great faith in amputations in ſuch caſes and habits, in warm climates particularly) thought proper to riſk an amputation. For that purpoſe, I communicated my ſentiments by letter to the ſurgeon of his Majeſty's ſloop Fury. But her ſignal being made to chace ſoon after, I was obliged to diſpenſe with his aſ-

ſiſtance. On the 24th, I amputated below the knee; but although he loſt very little blood by the operation, he was ſo weak, with no pulſe at the wriſts, and a degree of coldneſs, that I could not venture to move him from the cockpit till the evening. He had ſeveral cordials occaſionally; and about ten at night I gave him twenty-five drops Thebaic tincture in a glaſs of Madeira.

He continued rather in a doubtful ſtate till the 27th, when I dreſſed the ſtump for the firſt time; little or no ſuppuration had at that time taken place. At four afternoon, he had a very copious natural ſtool of black very fœtid hardened fæces. 28th, The ſhip rolled deep, which diſturbed his ſtump a good deal. I gave a few drops Thebaic tincture, which procured a gentle dozing, and relieved him. 29th, He continued weak, but began to have a good appetite and ſpirits. At two afternoon, he had a natural black hardened ſtool. 30th, Dreſſed the ſtump. An excellent diſcharge of very laudable pus had taken place, attended with large maggots, which occaſioned a ſlight but rather troubleſome degree of irritation. Pulſe, ſpirits, and appetite good. 2d October, The

diſcharge

diſcharge copious, but very laudable; replete with maggots, which generated very quick. He had a natural ſtool yeſterday, and another in the night. 4th, Had a natural ſtool. 5th, Had a natural ſtool. His appetite is very keen, and he has a little indulgence from the captain's table and officers meſs. He has had an allowance of wine all along in lieu of rum. 6th, The ſtump continued to ſuppurate and incarn well and faſt. 7th, The end of the bones was completely covered with granulations of new fleſh. From that to the 13th, dreſſed the ſtump regularly every day, when I diſmiſſed him, in good health, to his regiment, at Kingſton, Jamaica. I never had an opportunity of ſeeing him afterwards.

I cannot help mentioning, as a proof of his vigour, that, a few days before he quitted the ſhip, to the aſtoniſhment of every body, he hopped from his cradle in the main hatch-way, to the top of the cockpit ladder, to wrangle with the purſer's ſteward about his allowance.

XXVII.

Hiſtory of a ſingular Caſe of Purulent Aſcites, cured by Tapping. Communicated to Dr Duncan, *in a Letter from Glaſgow. By Dr* Alexander M'Lachlan.

M—— K——, aged twenty-ſix, a few days after delivery, when under the diſcharge of the lochia, in the month of February 1779, was accidentally expoſed to cold, in conſequence of which they ſtopped. She was then ſeized with an acute pain in the hypochondriac region of the right ſide, preceded by coldneſs and ſhivering, together with debility and other marks of a febrile paroxyſm, denominated a weed by the vulgar. To this, which laſted twenty-four hours, ſucceeded thirſt and ſcantineſs of urine, with a perceptible ſwelling in the under-part of the abdomen; and though its progreſs was ſomewhat impeded by medicines adminiſtered to her at that time, and the thirſt with paucity of urine removed, yet it continued

to

to increaſe gradually, till towards the end of ſummer 1783, but without any inconvenience to her, ſaving that every ſpring, (the laſt excepted), a ſimilar pain ſeized her, which had its ſeat lower in the abdomen, immediately above the haunch of the ſame ſide, continuing a fortnight each time, and going off without the help of medicines, as ſhe never called in aſſiſtance, though it confined her to her bed for that ſpace of time. Her menſes during the whole time were regular as to period, but ſmall in quantity, continuing only a ſingle day, and the fluid evacuated ſcarcely tinging linen. In July 1783, ſhe was expoſed to cold, and got wet while waſhing, when ſhe ſuffered a return of the feveriſh paroxyſm, with the ſymptoms above enumerated, and a conſiderable enlargement of the abdomen already very much diſtended. Her thirſt was now conſiderable, urine diminiſhed in quantity, and her legs, which ſhe had never before obſerved, ſwelled towards evening, if not kept the moſt of the day in a horizontal poſture. She at this time applied for aſſiſtance, and upon examination, the above appearances were obſerved, with an evident fluctuation when the abdomen was ſtruck.

After

After making trial of the different diuretics and purgatives to no purpoſe, ſhe was tapped on the 19th Auguſt, by Mr Charles Wilſon, ſurgeon in this place, and twenty-eight Engliſh pints drawn off, of a fluid, ſerous to appearance, and which coagulated by ſpirit of wine and the application of heat. She found herſelf after this conſiderably relieved, ſo much ſo, that ſhe went to the country for a little time, but ſoon came back, being threatened with a return of the aſcites, and having been ſeized with a pain in the right ſide, ſo acute as to impede reſpiration. For this ſhe was blooded to the quantity of eight ounces, which was ſizy; and ſhe had a bliſter applied to her ſide, to which the pain yielded. She was then put upon a courſe of calomel and ſquills, with purgatives intermixed; but this failing, the abdomen having again become conſiderably ſwelled, ſhe was tapped a ſecond time on the 24th of September, and thirty-two pints of fluid drawn off; the firſt half of which was real pus, ſank to the bottom of the veſſel, and had whitiſh membranous films mixed with it, reſembling the pellicle which is found on the ſurface of boiled milk, frequently cauſing ſuch a ſtoppage of the canula, as to require the introduction

introduction of a probe, tinging it of a dark purple colour, and emitting an intolerable fœtor. Her urine was now ſecreted in greater quantity, and the third day after the operation, ſhe diſcharged half a pint, which though limpid when made, grew gradually turbid, and depoſited a copious white ſediment, appearing, upon examination, to be ſimilar to the purulent matter drawn off in the operation. This ſediment appeared in her urine in conſiderable quantity, ſix different times in the courſe of eight days; and upon its diſcontinuing, there appeared over all her body a ſcabby eruption, beginning with an inflammatory ſpot, ſuppurating and diſcharging a conſiderable quantity of matter, which it continued to do till the abdomen began to ſwell a third time, when it dried up.

The enlargement of the abdomen becoming conſiderable, the operation was repeated a third time, on the 28th of November, when twenty pints of purulent matter came away, without any mixture of ſerum, but with the ſame membranous films as before. This did not appear ſo acrid as the laſt, as it neither tinged the canula, nor had any perceptible fœtor. Her urine was now again voided in proper quantity,

and

and her thirſt conſiderably abated. She experienced a return of the eruption, ſimilar to the former; but the puſtules were of a ſmaller ſize, ſomewhat reſembling the puſtules in the diſtinct ſmall-pox, from which a conſiderable quantity of matter ouzed. This, like the former, has dried up; but there is no appearance of a return of the aſcites. Her appetite is keen, pulſe and belly natural, thirſt not unuſual, and urine equal to, if not in greater quantity than her drink. She takes a good deal of exerciſe, is upon a courſe of bark and limatur. mart. præp. and, to uſe her own expreſſion, is ſwamper than the day ſhe was pierced, though her menſes have not appeared ſince ſhe was firſt tapped, which is now three months ago.

XXVIII.

XXVIII.

Extract of a Letter from Mr William Grieve, *Surgeon in Grenada, to Mr* Kellie, *Surgeon in Leith, on the Uſe of the Bark of the Angeline Tree, as an Anthelmintic.*

I WILL now give you a few medical obſervations, which I believe I did not give you in my laſt. This laſt autumn, almoſt all the children were ſeized with a dyſenteria verminoſa, which proved fatal to a great number. After having tried every medicine of the anthelmintic kind that I was acquainted with, to no purpoſe, I had recourſe to a decoction of the bark of the angeline tree, with aſtoniſhing ſucceſs, ſo that not one child died of that diſorder, after having taken a doſe or two of this decoction. About four ounces of the bark were put into three quarts of water, and boiled down to two, then a large table ſpoonful was given to children under two years old, and one and a half, or two, to children above that age. It is given early

early in the morning. They muſt eat or drink nothing till mid-day. It occaſions a degree of griping, ſuch as jalap would give. Next day a purge is given, and it is aſtoniſhing to ſee the quantity of worms that come away. In one child, in particular, no leſs than twenty-ſeven worms of the teres kind were voided at one ſtool.

This medicine I had from an old experienced nurſe. There is a large tree of it on this eſtate, ſo that I can procure enough of it, ſhould you incline to try it. At any rate, I will ſend you a parcel of it by the firſt ſhip I can find for Leith.

Some time ago, I had a boy under my care, afflicted with a monſtrous aſcites, attended with a general anaſarca. He was about fourteen years of age, and had been ill about two years. Had taken a great many medicines to no effect. When I firſt ſaw him, I attempted to give him relief by diuretics, hydragogues, *&c.* but they rather increaſed his complaints. At laſt I tapped him, and let off about ſeven gallons of clear water. Next morning I ordered him to be plunged in a cold bath, and had him afterwards well rubbed with flannel cloths, and gave him a grain of opium, with ſeven of camphor. In the

the evening the cold bath was repeated, with the camphor and opium. I purſued the ſame method for ſeven or eight days ſucceſſively, and ſupported him at the ſame time with proper nouriſhing food, and a pint of Madeira every day; then I had recourſe to the ſal Martis. I began with giving him three grains a-day, diſſolved in a large proportion of water, to uſe for common drink, and increaſed the quantity of ſal Martis gradually; ſo that towards the end of the cure, he took no leſs than forty grains a-day. At the expiration of two months he was completely cured, and has remained in perfect health for theſe eighteen months paſt.

XXIX.

XXIX.

The Hiſtory of two Caſes of Dropſy. Communicated to Dr Duncan *by Dr* Arthur Broughton, *Phyſician to the Hoſpital at Briſtol.*

J—— P——, aged forty, mother of ſeveral children, was, on the 10th of June 1780, admitted an in-patient to the Infirmary. She had then a conſiderable tenſe tumour over the whole region of the abdomen, in which there was an evident fluctuation. Her legs and thighs were very much ſwelled, and the ſkin ſo tenſe that it was with difficulty the finger could be made to leave an impreſſion. At times there were ſlight ſwellings in her face, arms and hands. She alſo complained of a bad cough, great dyſpnœa, with orthopnœa, intenſe thirſt, great ſcarcity of urine, and a coſtive belly. She had been an out-patient for ſome time, and uſing the oxymel colchicum, a decoction with broom aſhes, wormwood, juniper berries, *&c.* but without relief.

Her

Her complaints were of three months ſtanding, and ſhe thinks they originated from cold.

11th, She was ordered an electuary, with two ounces of cream of tartar, to be taken till it has produced three or four ſtools; and the ſucceeding evening half a drachm of Dover's powder.

13th, The electuary purged her, and the powder ſweated her profuſely. Belly not fallen. Parts equally tenſe. Paſſes only half a pint of urine in twenty-four hours. The powder was ordered to be repeated at bed-time; and ſhe was directed to take half a drachm of cream of tartar three times a-day.

16th, Sweated with the powder. Swellings not fallen, nor leſs tenſe. Urine not increaſed in quantity. Dyſpnœa and cough ſtill very troubleſome. ℞. Argenti vivi, Mann. utriuſque drachmam unam; tere optime ſimul, donec mercurius apparere deſinat; dein adde gumm. Arab. q. ſ. f. maſſa. ℞. Maſſæ mercurialis ſemidrachmam, pil. ſcillitic. ſeſquidrachmam; m. et in pil. viginti quatuor divid.; cap. duas omni nocte et mane.

19th, The pills keep her body gently open. Swellings as uſual. No ſleep for the dyſpnœa.

The pills to be repeated, and to take every ſecond night an anodyne draught.

22d, Has three or four looſe ſtools every day. Has, for two days, paſſed four pounds of urine. Belly fallen. Legs and thighs as uſual. To repeat the pills, and to take every ſixth hour thirty drops of dulcified ſpirit of nitre. The legs and thighs to be well rubbed with camphorated oil.

26th, Belly ſtill diminiſhing in ſize, but no alteration on her legs and thighs. Paſſes urine in great plenty. Other complaints as before. All her medicines to be repeated.

29th, Belly ſtill leſs. Legs and thighs as uſual. Chuſes to become an out-patient.

July 3d, Much as at laſt report. Medicines to be repeated.

6th, Has for ſome days omitted her medicines. Belly larger than when ſhe went out. Great dyſpnœa. No ſleep. Is very anxious to be tapped. To have an anodyne draught with ſpirit of nitre every ſixth hour; and to repeat the pills.

10th, Has taken no medicine. Belly much increaſed in ſize.

14th,

14th, Was this day again admitted, and tapped, when eight quarts of water were drawn off. To take half a drachm of bark powder in a glaſs of water, with a tea-ſpoonful of the tincture every third hour.

21ſt, Has taken the bark regularly. Does not obſerve her belly increaſing in ſize. Legs and thighs ſomewhat fallen. To repeat the bark every third hour.

24th, Belly not increaſing in ſize. Legs and thighs much fallen. Medicines to be repeated every four hours.

30th, Belly not increaſing in ſize. Legs and thighs almoſt of their natural ſize. To take the bark four times a-day.

Auguſt 4th, Swellings entirely gone. Has no complaints. Ordered to be an out-patient; to uſe gentle exerciſe, and to take the bark three times a-day.

20th, Has uſed the bark and exerciſe as directed. Finds no return of the ſwellings. Is in perfect health. To be diſmiſſed with medicines to laſt her for a fortnight.

II. W——— T———, aged fifty. About eighteen weeks ago, his legs began to ſwell; and

in a few weeks after, he observed his belly gradually to increase in size. At present there is a considerable tumour of that part, with an evident fluctuation; and his legs and thighs, are considerably swelled, and pit on pressure. He complains of frequent cough, with copious viscid expectoration; of dyspnœa, and thirst; and passes his urine in small quantity. He has been taking for some time the oxymel colchicum, and a variety of diuretics and purgatives, but without any good effect. He imputes his complaints to hard drinking.

12th July, To have two ounces of the syrup of buckthorn to-morrow morning, and two spoonfuls of the following mixture every three hours. ℞. Sperm. ceti, V. O. sol. drachmas duas; Aq. cinnamom. uncias duodecim; Spir. Jamaic. Acet. scillit. utriusque unciam unam. M.

15th, Cough and dyspnœa somewhat easier. Purge operated well. Swellings not fallen. To repeat the mixture.

19th, The cough and dyspnœa worse. Belly increasing in size. Urine in very small quantity, and high coloured. To have the mercurial pills and spirit of nitre, as prescribed for the former

former patient, and a common pectoral linctus for his cough.

22d, Has had two or three ſtools every day. Thinks his belly fallen. Dyſpnœa very ſevere. To have a bliſter applied to the ſternum, and to continue the medicines.

26th, Belly fallen one inch and a half. Legs and thighs much as uſual. Dyſpnœa ſomewhat eaſier. Medicines to be continued.

30th, Belly one inch leſs than at laſt report. Thighs and legs much fallen. Cough and dyſpnœa much eaſier.

Auguſt 4th, Belly rather leſs. Legs and thighs much fallen. Cough and dyſpnœa gone.

8th, Belly ſtill growing leſs; but there is ſtill an evident fluctuation in it. Legs and thighs almoſt of their natural ſize. Medicines to be continued.

12th, Belly ſtill falling. Has no particular complaints.

15th, Thinks his belly almoſt of its natural ſize. Swelling of legs and thighs quite ſubſided. Has no complaints. Medicines to be continued. To be an out-patient; and recommended to uſe gentle exerciſe.

19th, Thinks he has no ſwellings about him,

except in his feet towards evening. To continue his medicines.

22d, Has no complaint, but a ſlight cough. Diſmiſſed to the country, to uſe gentle exerciſe.

XXX.

Hiſtory of a Caſe of Tetanus ſucceſsfully treated by the Uſe of large Doſes of Opium. By Mr William Chavaſſe, *Surgeon at Burford, Oxfordſhire.*

SEPTEMBER 27th 1780. Mr T—— B——, about ten years of age, by a fall from a tree, fractured his leg, a few inches above the articulation with the tarſus. By the violence of the ſhock, the tibia was forced through the integuments. In a ſhort time after the accident, the fracture was reduced, the limb laid in a proper poſition, the wound dreſſed ſuperficially, and the patient put upon the antiphlogiſtic plan. From the day of the accident to the 16th of October,

ber, every thing went on favourably; the wound ſeemed diſpoſed to heal, the fractured limb was perfectly at eaſe, and his general health promiſed a ſpeedy and happy recovery. However, on this day, the patient complained of a ſlight ſtiffneſs of his neck, with a ſcarce perceptible rigidity of the muſcles ſubſervient to the motion of the jaw, but ſo trivial as to be little noticed by him; and as every other circumſtance went on favourably, I attributed it to a cold which the patient had caught by frequently ſitting up in his bed without proper covering. The rigidity and ſtiffneſs increaſing the two following days, made me apprehenſive of the attack of a tetanus; which opinion was ſtrengthened by that of Mr Bradley, a very ingenious ſurgeon now ſettled at Hartford, and whoſe kind aſſiſtance during the progreſs of the cure I ſhall on all occaſions be happy to acknowledge. The continuance of theſe ſymptoms demanded the uſe of opiates. Therefore, on the 18th, I ſent him an embrocation, with Liniment. ſapon. Tinct. Thebaic. utriuſque par. æq. directing it to be uſed with freedom five or ſix times a-day. But as topical applications alone were not to be truſted here, I gave him three camphorated draughts in

twenty-four hours, with twenty drops of the Thebaic tincture in each. On the following day, the ſymptoms were ſomewhat alleviated, and the medicines were continued. The wound, during this period, was not in the leaſt altered; nor was there any other untoward ſymptom, excluſive of thoſe already enumerated. On the 20th, there was a little dyſpnœa: a phyſician was called in; who made no other alteration in the patient's medicine, than in reducing the Thebaic tincture to twelve drops to be taken four times a-day, leaving, however, diſcretionary power to increaſe the opiate according to circumſtances. On the 21ſt, anodyne cataplaſms and fomentations were occaſionally applied to the fauces: the rigidity and difficulty of breathing increaſing, the laudanum was augmented to twenty-five drops, to be taken every ſix hours; and as the patient was coſtive, an enema was thrown up, but without effect. The ſucceeding day, the jaw was more fixed, deglutition nearly impeded, and his reſpiration more diſtreſſingly operoſe; added to theſe, we had frequent and ſevere ſubſultus tendinum, and the bowels ſo obſtinately coſtive as to require the ſtimulus of two very active clyſters before any effect

effect was produced. The Thebaic tincture was increaſed five drops to each draught, and the anodyne cataplaſms and fotus were frequently applied. The 23d, the jaw remained as on the preceding day, but the ſubſultus tendinum recurred with additional violence; the wound ſtill retained its former healthy appearance; the laudanum was reduced to twenty-five drops every ſixth hour, the patient being rather comatoſe; a ſtimulating clyſter was adminiſtered, which brought away a ſmall but extremely fœtid ſtool. He continued much the ſame on the 24th, when a terebinthinate clyſter was given, which not only diſpoſed the bowels to be more ſoluble, but likewiſe induced a very large ſecretion of urine. As the coma had now left the patient, we had again recourſe to thirty drops of the Thebaic tincture for each doſe. The 25th, 26th, and 27th, he continued the uſe of his medicine, without any variation of the ſymptoms. On the 28th, the right ſide (the fracture being on the left) became paralytic; the opiate was increaſed to thirty-five drops every ſix hours; and though the ſubject was ſo young, this doſe ſcarcely produced any ſenſible effect. This plan was purſued to the 31ſt, throwing up occaſionally

occaſionally a purgative clyſter. The evening of this day, our patient complained of nauſea, and, after conſiderable efforts, vomited a large quantity of pus. November 1ſt, he took a ſaline purgative draught, to remove any purulent colluvies that might be lodged in the primæ viæ. This did its duty: the diſcharge from the wound till this period had been favourable, but was now converted into a corroſive ichor; in conſequence of which, I increaſed the Thebaic tincture to forty drops, and to each doſe added two ounces of a ſtrong decoction of the bark. The rigidity of the jaw was much augmented on the 2d, and the ſubſultus tendinum conſiderably increaſed; forty-five drops of the laudanum were now given with the bark, and this plan perſiſted in till the 14th, without any the leaſt variation, taking care to keep the body ſoluble by a free uſe of clyſters. On the 15th, the patient complained of a moſt excruciating pain in his thigh; the difficulty of breathing was much increaſed, and the ſubſultus tendinum ſo violent as to threaten immediate diſſolution. Under ſuch a complication of dangerous ſymptoms, the opiate in a large doſe appeared the unicum remedium; ſixty drops of the Thebaic

tincture

tincture were therefore immediately given. The eventual ſucceſs of the medicine juſtified the practice; for, in leſs than half an hour, the pain and ſpaſms were effectually removed, and the patient thrown into a refreſhing ſleep. At the expiration of ten hours, he awoke, without ſtupor, without fever, and with a viſible diminution of his late alarming ſymptoms. The rigidity of the jaw inſenſibly abated, reſpiration became perfectly eaſy, and the wound regained its former favourable ſtate. The opiate was gradually diminiſhed to the 30th, when the ſubſultus tendinum and every other diſagreeable ſymptom had left him. The wound healed in a ſhort time, and the patient began to walk about with very little inconvenience, only finding at intervals a pricking ſenſation near the fractured part. This, however, was exceedingly trivial, and but of ſhort duration; for, in about eighteen weeks after the accident, a conſiderable piece of the tibia exfoliated; ſince which to this time, he has been perfectly well, and the deformity, the conſequence of the fracture, ſo very little as not to be diſcovered but by a very cloſe examination.

XXXI.

XXXI.

An uncommon Caſe in Midwifery, accompanied with a Luxation of the Maxilla Inferior, occaſioned by Convulſions. *By* Fielding-Beſt Fynney, *Eſq; of Leek, in Staffordſhire.*

ABOUT eight o'clock on Sunday morning, September 7. 1783, a midwife was called to Ann Stonehewer of this town, who not only had ſlight pains for many weeks, but alſo the membranes were ruptured before ſhe arrived. She continued with her until Tueſday morning, when ſhe was ſent for to another woman in the country. At four o'clock in the afternoon of the ſame day, I was applied to, and was told, the waters had been continually drivelling from her ſince Sunday morning. Upon examining her, I found her child preſented the right way, and was far advanced in the paſſage; but as her labour-pains had deſerted her, I waited ſome time, in hopes of their return, at leaſt in ſome degree; but being too

trifling

trifling to afford any material relief, joined to my beſt manual aſſiſtance, I was obliged to apply the forceps about nine o'clock, and delivered her of a large female child. I found there was another, but as it lay in the natural poſition, I did not aſſiſt her until pains came on, which happened about two o'clock on Wedneſday morning; and the head had no ſooner ſlipped through the os uteri into the vagina, than ſhe was immediately ſeized with convulſions, to ſuch a degree, that her head was drawn in a moſt extraordinary manner backward, and at the ſame inſtant, the round heads of the os maxillare inferius were thrown out of the glenoid cavities of the os petroſum. Under ſuch dreadful ſymptoms, I had no time to loſe. I inſtantly applied the forceps, but they did not anſwer my purpoſe ſo ſpeedily as I could have wiſhed, therefore I opened the head, to leſſen its bulk, and made uſe of the crotchet, by which I immediately gained my ends; and as ſoon as I had brought away the two placentas, which were uncommonly large and connected together, my next buſineſs was to reduce the luxated jaw, which was done in the common manner, by introducing my two thumbs far into the mouth,

and

and preſſing it downward and backward. All this diſagreeable buſineſs was done with the moſt collected ideas, and the firmeſt reſolution; but my beſt endeavours to reſtore her were fruſtrated. She died before four o'clock in the morning.

XXXII.

The Hiſtory of two Caſes of the fractured Olecranon, with ſome Remarks. By Mr J. Haighton, *Surgeon, London.*

I. A Woman about forty years of age, in walking along the ſtreet, ſlipped down backwards, and ſtruck her elbow againſt a ſtone, with ſuch violence as to render her unable to move it, without exceſſive pain. Suſpecting ſomething amiſs at the bone, ſhe applied inſtantly to a perſon who practiſed ſurgery; and as no tenſion had yet taken place, it was very eaſy to aſcertain the real ſtate of the parts. On examination, a fracture of the olecranon was diſcovered,

covered, nearly about half the diſtance between its extremity and the coronoid proceſs of the ulna; and as the fragment admitted of a very ſenſible degree of motion from one ſide to the other, it put the caſe beyond the reach of doubt.

The ſurgeon was preparing to place the arm bent, (what he called the relaxing poſition), as is uſual, and indeed proper, either in fractures of the os humeri, or of the bones of the cubit; but on whiſpering to him the diſadvantage of ſuch a poſition, in the preſent caſe, he deſiſted. Having then placed the arm ſtraight, and applied a roller with paſteboard, to confine the parts in a proper ſituation, it was laid on a pillow. No tenſion ſupervened, nor any thing that could interrupt the cure, which was effected in a few weeks, the patient now enjoying the free motion of her arm.

II. A boy about fifteen years of age, fell down and broke the olecranon. An apothecary in the neighbourhood being ſent for, pronounced it only a contuſion, and accordingly treated it as ſuch. As ſome degree of tenſion had already taken place, he applied a poultice, and

and perſiſted in its uſe about ten days. This application was then changed for an embrocation, compoſed of vinegar and ſpirit of wine, in which was diſſolved a ſmall quantity of crude ſal ammoniac. With this the part was bathed ſeveral times in the day, for the ſpace of a fortnight. During this treatment, the elbow was kept bent; and indeed he was unable to ſtraighten it, without aſſiſtance, from the time of the accident. At this period I ſaw him accidentally, and, upon examination, I found the caſe was but too obvious. Several attempts were made to reſtore the parts to their proper ſituation, but without ſucceſs. And notwithſtanding a variety of means were made uſe of to recover the motion of the arm, and to perform a proper extenſion, I had the mortification to ſee every endeavour without effect.

Remarks. In the preceding caſes, we have an opportunity of obſerving very different effects to ariſe from the ſame kind of accident, according to the particular treatment made uſe of in each.

In the firſt, the patient is able to perform all the motions to which the arm is appropriated: in

in the laſt, it is exceedingly limited, and attended with a total incapacity to ſtretch the elbow.

If we conſider the mechaniſm of the joint, with the attachment of the muſcles by which it is moved, we ſhall find theſe phænomena admit of a very ſimple and eaſy ſolution. The elbow is a joint admitting of flexion and extenſion, (pronation and ſupination I ſhall paſs over, as having little connection with the preſent caſe), for which purpoſes the rounded and pulley-like extremity of the os humeri is received, and moves in a correſponding cavity of the ulna, called *ſigmoid*. The two proceſſes by which this cavity is in ſome degree formed, are its anterior, called *coronoid*, and its poſterior, called *olecranon*. In order the better to regulate the degree of flexion and extenſion, there are two cavities ſituated at the inferior extremity of the os humeri; one on the anterior, the other on the poſterior ſurface; into theſe the two proceſſes of the ulna are occaſionally received. When the joint is in its greateſt degree of flexion, the coronoid proceſs is received into the anterior cavity or foſſe; and when in the great-

eſt degree of extenſion, the extremity of the olecranon occupies the poſterior foſſe.

In order to communicate motion to this arrangement of parts, muſcles are ſituated in various directions; but the muſcle by which extenſion is chiefly performed, (the triceps extenſor cubiti), being inſerted into the extremity of the olecranon, has an attachment peculiarly advantageous and mechanical, as it is thereby at ſome diſtance from the centre of motion, conſequently leſs exertion will be neceſſary to accompliſh extenſion.

When by any accident this proceſs is broken off, two very important changes are induced upon the part. Firſt, the lever that enabled the muſcle to act ſo advantageouſly is removed. Secondly, the ſpace in which the muſcle acted is now ſhortened. Hence that bony arrangement that was before ſo favourable to motion is now deſtroyed, and the muſcle by whoſe agency this effect was produced, has its influence exceedingly limited, at leaſt for a conſiderable time; and even admitting time to accommodate itſelf to act in the new and ſhortened ſpace, as well as to become obedient to the impulſe of the

the will, ſtill the ſtate of the bone will continue an inſuperable impediment.

Note. The anconæus aſſiſts in extending the arm, but being inſerted below the olecranon, is not importantly concerned in the preſent caſe.

Theſe conſiderations naturally lead to a judicious and ſucceſsful practice, the rational intention being to reſtore the parts to their natural ſituation, and to preſerve them in it. To accompliſh theſe ends, we have to conſider what that poſition of the arm is, that ſuffereth the two extreme points of the muſcle to approach the neareſt; or, in other words, what poſition relaxes the extenſor muſcle in the greateſt poſſible degree? The extended one is indiſputably that poſition, conſequently every judicious ſurgeon will pay due attention to this in practice; and by the aid of a bandage applied from above downward, with other mechanical means tending to keep the fragments in oppoſition, and as near contact as poſſible, he will have every reaſon to hope for, and expect ſucceſs.

XXXIII.

Caſe of Paralyſis Rheumatica, cured by Tinct. Guaiac. Volatil. and the application of Cauſtics. By the late James Johnſtone, *M. D. of Worceſter.*

T—— N——, aged thirty, by trade a baker and maltſter, came to our Infirmary on the 5th of November 1774. He complained of having entirely loſt the uſe of his right arm, in conſequence of a cold which he had taken in April 1766, when, after having been wet to the ſkin by a ſhower of rain, he lay down in his wet clothes, upon a malt-kiln, ſoon after the malt had been put on, and whilſt there was a fire under it. In this ſituation he continued three hours, and ſlept during the greateſt part of that time; but being awaked by one of the family, he felt a violent pain in his ankles and knees, and had loſt the uſe of his legs, ſo that he was not able to ſtand. This pain continued

a month, without abatement; but after taking Daffy's elixir, and rubbing the dew gathered from graſs upon the pained parts, in two months more he was able to work again, and did not feel any pain for a quarter of a year, except a little tingling in the elbow, attended with a cracking whenever it was moved. The elbow became afterwards more and more painful, and he continued to work with great difficulty, till old Michaelmas-day 1773. His arm then dropped down, he could not raiſe it without aſſiſtance, and it gave him much pain. He then applied to ſeveral of the moſt eminent of the faculty at Birmingham, by whoſe advice he was twice bled, took ſeveral medicines, and applied fomentations, ſteams, poultices of bread and yeaſt, liniments and bliſters to the part, without any relief. He was afterwards recommended to St Bartholomew's Hoſpital, where he had bliſters applied round the arm, at the elbow-joint, for three weeks, uſed the cold bath for a month, put his arm into the paunches of bullocks newly killed, three or four times in a day, for three weeks, and rubbed on different liniments without any benefit. When he returned to Birmingham, a farrier promiſed to cure

him in a month. He tried him three months, gave medicines, and applied plaſters, which, the patient ſays, burnt the ſkin off.

After this he was recommended to the Infirmary at Bath, and ſtaid there ſome time before he was admitted, during which time he pumped upon his ſhoulder, which had no effect but making the joint ſwell, with much pain. When admitted into the Infirmary, he drank the waters, and bathed once a-day, was twice vomited, once bled, and had a lime-poultice, without any effect; and afterwards the water mixed with a liniment applied to the joint every four hours for a fortnight, produced no better conſequences. He was diſmiſſed, becauſe not a Bath caſe. When he came here, he had entirely loſt the power of moving that arm, and could not lift it from his ſide, without the aſſiſtance of his other hand. He complained too, of pain both in the ſhoulder and elbow. The arm was much emaciated, and the pulſe ſenſibly weaker than in the other. The ſenſe of feeling was not impaired in it. In all other reſpects the man was perfectly well. Having juſt then ſeen the volatile tincture of guaiacum recommended in large doſes by Dr Dawſon, I thought this a good opportunity

portunity to try it, and ordered him immediately to begin with tinct. guaiac. volat. Ph. Lond. half an ounce every morning and evening. On the 7th, the pain in his ſhoulder was ſomewhat abated; and from that time, he perceived that the part was gaining ſtrength; and in a week more, he could move his ſhoulder with tolerable eaſe. He now complained moſt of the pain in his elbow, which was quite ſtiff; and he ſaid, if the pain could be drawn out of that bone, he ſhould do very well. My very ingenious and worthy friend, Mr Ruſſell, who attended him with me as his ſurgeon, propoſed a drain from that part, as a means of facilitating the cure; and we agreed, that as bliſters had been ſo often tried in vain, the application of a cauſtic would be the moſt eligible method of procuring it. Accordingly, the next day (November 14th) a cauſtic was applied to the outſide of the joint; and when this came to diſcharge freely, the pain was conſiderably diminiſhed.

November 23d, he complained, that he had not ſweated ſo much for two or three nights paſt, as he had uſed to do ſince he had begun to take the medicine; and that ſince the ſweat-

ing had gone off, his arm had not mended ſo faſt. I then ordered it to be taken three times in a day, and this was ſufficient. He was ordered to continue this method, had a cauſtic applied to the inſide of the joint on December 4th, and continued gradually to grow better, till December 17th, when he complained of heat, thirſt, and ſome ſoreneſs in his throat. His pulſe was very full and ſtrong. Theſe ſymptoms probably were occaſioned by the long uſe of a powerfully ſtimulating medicine. I ordered the tinct. guaiac. volat. to be omitted, the tinct. roſar. to be uſed for a gargle, and the following electuary to be taken, ſo as gently to looſen the belly.

℞. Chryſtal. tartar.
Sal. polychreſt. utriuſque unciam unam.
Syr. e ſucc. limon. q. ſ. f. electuarium.

By the uſe of theſe remedies, with cooling and diluting drinks, his complaints were entirely removed in two or three days; and on the 24th of December, as he could move his arm freely in any direction, and felt no pain, but the little ſoreneſs remaining in conſequence of the cauſtic, he was diſmiſſed cured.

SECT.

SECT. III.

Medical News.

THE remarkable epidemical catarrh which prevailed ſo generally in Britain during the ſummer 1782, has engaged the attention of many able writers, and has given riſe to many different publications. That our readers may have an opportunity of comparing the form which this diſeaſe put on at different parts of the country with its appearance on a former occaſion, we ſhall here reprint the account of a ſimilar epidemic which appeared in winter 1775; and at the ſame time ſubjoin accounts of the late epidemic, as it appeared in London, in Devonſhire in the ſouth, and in Northumberland in the north of England.

I. *Account*

I. *Account of the former Epidemical Catarrh or Influenza, by Dr* John Fothergill, *dated London, Dec. 6. 1775.*

About the beginning of the laſt month, it was mentioned to me in many families, that moſt of the ſervants were ſick; that they had colds, coughs, ſore throats, and various other complaints.

In the ſpace of a week, theſe complaints became more general; few ſervants eſcaped them, eſpecially the men, who were moſt abroad; many of the other ſex, likewiſe, and people of higher condition were attacked; nor were children wholly exempted.

The diſeaſe, which had hitherto been either left entirely to itſelf, or had been treated with the uſual domeſtic medicines appropriated to colds, now claimed the attention of the Faculty, and, for the ſpace of near three weeks, kept them for the moſt part univerſally employed.

Moſt of thoſe whom I ſaw, were ſeized (and often ſo ſuddenly as to be ſenſible of the attack) with a ſwimming or ſlight pain in the head, a foreneſs of the throat, and all over the body, with a ſenſe of coldneſs, particularly in the extremities.

tremities. A cough ſoon followed, a running of the noſe, watery eyes, ſlight nauſea, frequent calls to make water, and ſome were ſeized with a diarrhœa.

More or leſs of feveriſh heat, inquietude, pain about the breaſt, præcordia, and in the limbs ſoon ſucceeded, but in various degrees. Many were capable of continuing in their uſual occupations, under theſe ſymptoms; others were obliged to ſubmit to confinement; and not a few to their beds.

The tongue was always moiſt; the ſkin ſeldom remarkably hot or dry; the pulſe often full, quick, and harder than one would have expected from ſuch a temperature of the ſkin.

Several were ſeized with a diarrhœa: the ſtools were always black, or of a deep yellow colour; and ſo were thoſe, for the moſt part, which were procured by purgative medicines.

In a few days, every complaint abated, except the cough; this continued the longeſt of all the ſymptoms, and, in the fore part of the night, was exceedingly troubleſome and vexatious; towards morning generally came on a ſweat and eaſy expectoration.

Thoſe

Thoſe who were ſeized at firſt with very copious defluctions from the noſe and the fauces, or had a plentiful and ſpontaneous diſcharge of black bilious ſtools, or made large quantities of a high-coloured urine, or ſweated profuſely, of their own accord, a night or two after the ſeizure, ſooneſt grew well.

In many caſes, it was neceſſary to take away ſome blood, the condition of the pulſe and vehemence of the cough making it neceſſary. The blood was almoſt uniformly ſizy, repreſenting a flat cake of yellowiſh tallow, floating in a deep yellow ſerum. Very few inſtances occurred where the ſize formed that cup-like appearance which occurs in moſt of the genuine inflammatory diſorders.

By warmth, diluting, cooling liquids, mild diaphoretics, gentle and repeated purgatives, the diſeaſe for the moſt part ſoon gave way, in ſubjects otherwiſe healthy. Sometimes it was neceſſary to repeat the bleeding; ſometimes bliſters became neceſſary, and were ſerviceable in abating the cough, which was the laſt of all the ſymptoms that gave way: after the neceſſary evacuations, anodynes for the moſt part had very ſalutary effects.

In

In many inſtances, the diſeaſe aſſumed the type of an intermittent towards its decline: the bark, however, did not generally ſucceed in curing it. The ſymptoms, as often happens in bilious diſorders, were ſometimes aggravated by this medicine. A few doſes of ſome mild cathartic moſt commonly removed it effectually.

Many who neglected themſelves, and went abroad with the diſtemper upon them, frequently got additional colds, and brought on a fever of the moſt dangerous kind; a few died phrenitic.

Ancient aſthmatic perſons were likewiſe great ſufferers for the moſt part: a peripneumonic fever came gradually on, which often terminated fatally. And of thoſe who did recover, their amendment was ſlow, and medication difficult.

And indeed it appeared that very few perſons wholly eſcaped the influence of this morbid conſtitution; for it ſeemed to aggravate every preſent malady.

It proved fatal likewiſe to ſeveral very young children, diſpoſing them to violent coughs or diarrhœas.

Perhaps, however, there is ſcarcely an inſtance to be met with, of any epidemic diſeaſe in this

this city, where ſo many perſons were ſeized, in ſo ſhort a time, and with ſo little comparative mortality.

Though attempts to aſcertain the cauſes of epidemics are for the moſt part more ſpecious than ſubſtantial, it may not be improper to mention a few facts that gained my attention; to others many more may have occurred, and worthy to be recorded. During the greateſt part of the ſummer, in that part of the country where I then was (Cheſhire), the air was of the moſt equal temperature I ever knew. In the ſpace of two months, the quickſilver in the thermometer once roſe to 68, once fell to 56; but for ſix weeks together, it kept between 60 and 66 continually, day and night.

The barometer did not vary much more. The weather was during this time very changeable, much inclining to wet; and though it rained more or leſs almoſt every other day for ſix weeks, yet upon the whole no unuſual quantity of rain fell: it ſunk into the ground as it fell, and made the earth very ſoft and miry, but ſeldom ſwelled the brooks, or occaſioned floods.

During this time, horſes and dogs were much affected, thoſe eſpecially that were well kept. The horſes had ſevere coughs, were hot, forbore eating, and were long in recovering. Not many of them died that I heard of, but ſeveral dogs.

To the conſideration of the Faculty in this city is this ſketch of the late epidemic ſubmitted, with all due deference; and with a requeſt, that, if the obſervations they have made do not correſpond with this recital, they will be pleaſed to communicate their remarks while the remembrance of the facts are recent, in order that as exact an account of this diſeaſe as poſſible may be tranſmitted to our ſucceſſors.

If thoſe phyſicians in the country, into whoſe hands this eſſay may come, will be ſo obliging as to mention the time when this epidemic made its appearance in their neighbourhood, and wherein it differed from the preceding ſketch, either in the ſymptoms, or the method of cure, they will likewiſe contribute to the ſame good purpoſe. The united obſervations of the Faculty at large, muſt greatly exceed the utmoſt efforts of any individual, however warmly

ly he may be diſpoſed to promote the utility of his profeſſion.

II. *Account of the late Influenza, by Dr* D. Monro, *Phyſician to the Army, dated May* 30. 1782.

This diſorder has been epidemical in many parts of the continent for ſome time paſt. But it is only about ten or twelve days ago that I ſaw any people ill of it here in London, and only within theſe few days that it has been ſo frequent.

It commonly begins with a ſneezing and running at the noſe, and more or leſs cough, attended with fever, a heavineſs, and with many a pain of the head and back, or with a wearineſs and pain in all the bones.

The feveriſh ſymptoms have been at firſt ſo ſtrong, that moſt people, except thoſe who had it in a very ſlight degree indeed, have imagined they were in for a continued formed fever. But generally, when they took immediate care of themſelves, in about twenty or twenty-four hours, a kindly moiſture, or a profuſe ſweat, came out on the ſkin; which either carried off entirely or leſſened the fever greatly, and the cough

cough began to abate. Thoſe who attempted to ſtruggle with the diſorder at firſt, generally continued longer ſubjected to the fever, and the cough was more troubleſome, and attended with tightneſs and uneaſineſs at the breaſt, and many of them were obliged to be blooded before they found relief.

Moſt people have got well within the week, though thoſe of weak lungs, or whom it had affected in a violent manner, are ſtill in a convaleſcent ſtate.

The blood of every perſon from whom I have ordered blood to be taken on account of a tightneſs and pain of the breaſt, threw up a ſtrong tough inflammatory buff.

Hence it appears, that this diſorder is of the inflammatory kind, and ought to be treated in the antiphlogiſtic method, as the ſymptoms are more or leſs violent.

Where the diſorder has been ſlight, it has ſeldom required bleeding, and all that has been neceſſary was to make the patients keep in bed while the fever continued, and to uſe the mild cooling and gentle diaphoretic medicines, ſuch as the wormwood draughts, the pulvis e chelis with nitre, juleps with ſpirit. Mindereri, and a

few drops of antimonial wine; ſmall doſes of a ſolution of tartar emetic in a cupful of any tepid mild drink, and ſuch like, at the ſame time that they lived on a mild vegetable diet, and drank balm tea, or lintſeed tea, or light lemonade, or barley water, and eat of ſweet oranges, which are the only fruit the preſent ſeaſon affords; and it was recommended to the ſick, if they found a ſweat come on, not to check it, but rather to encourage it by the uſe of ſome mild tepid liquor.

If there was a nauſea or ſickneſs, it was ſometimes uſeful to give a gentle puke; and, if coſtive, to give ſome mild opening medicine.

Where the fever ran high, eſpecially if it was attended with a cough and tightneſs and pain at breaſt, it was found neceſſary to bleed, which generally gave relief; and I have ſeen but three caſes where it was neceſſary to repeat bleeding, and apply bliſters.

I have not ſeen one caſe where the diſorder proved fatal; and, on inquiry, have heard but of one or two people who died of it in town. Yet I am afraid, that many who have tender lungs, or who have coughs remaining after it, may fall into conſumptions, if proper care be not taken

taken to prevent it. I ſhould therefore recommend it to the ſurgeons of regiments to attend particularly to their men recovering out of this diſorder; and if they find that they have bad coughs, to make them live on a mild ſoft diet, and recommend to them to drink new milk, or whey, or butter-milk, where they can get it eaſily; if they cannot, to make them drink an infuſion of common lintſeed, with a little liquorice-root ſliced in it, or ſome ſuch ſoft mild liquor; and if the men complain of pain and tightneſs about the cheſt, to give them ſome of the mild pectoral remedies; and to take a ſmall quantity of blood from them from time to time, as their caſes may ſeem to require it.

The diſorder has attacked people in different forms, and it has been attended with a variety of ſymptoms in ſeveral individuals. But it would be both tedious, and anſwer but little of my preſent purpoſe, to enter into particulars, as the intention of this ſketch is to give the regimental ſurgeons, who have not ſeen this diſorder, a general idea of it, of the means which have been found moſt ſucceſsful in treating it, and of the precautions proper to be uſed to prevent bad conſequences.

III. *Account of the Influenza, as it appeared in Devonſhire in May* 1782. *By Dr* B. Parr. *Phyſician at Exeter. Communicated in a Letter to Dr* Duncan.

I have not forgot your queries; but the experience of a ſingle practitioner in a large city was ſcarcely ſufficient to afford you ſatisfactory information: I have therefore extended my inquiries; and as this has occaſioned ſome delay, ſo I hope it may be compenſated by the more enlarged view and repeated obſervation. I muſt acknowledge my obligation to my brethren of the Faculty for their very candid and obliging aſſiſtance; and I ſhall purſue the ſubject in the order of your queries, without interrupting it by ſpecifying them.

The influenza appeared firſt in the Poor-houſe, ſituated on the north-eaſt ſide of the city, on an elevated and healthy ſpot. The firſt patients were ſeized on the 23d of May laſt, and ſix were affected the firſt night. On the 24th and 25th, a few individuals were attacked in the town; the complaint increaſed, and by the 4th of June it became general. It proceeded rapidly about three weeks; in which period, almoſt every

every inhabitant felt its influence, though the elder and more experienced practitioners think it neither ſo violent, ſo putrid, nor ſo univerſal as the epidemic of 1762. Towards the end of June, it began to decline; and about the beginning of July, its conſequences were only perceived, and a few who had hitherto eſcaped or neglected it, were affected. I cannot perceive any freſh attack after the 12th or 14th of July.

The autumn of laſt year was remarkably dry. In the whole month of October, 0.128. of an inch of rain only fell on the ground. The greater part of January was ſhowery, with ſcarcely any froſt. The rain was 3.015. The thermometer, without doors in the ſhade, from 36. to 54. The barometer, from 28. 39. to 30. 17. Wind chiefly weſt and ſouth-weſt. The rain in February was only 1.360.; but there was more froſt, and ſometimes ſleet. Thermometer, from 27. to 54. but commonly from 36. to 46. Barometer, from 28. 36. to 30. 12. Wind frequently north-eaſt, at other times weſt. In March, the weather was, as uſual, variable. The rain 4.029. Thermometer, from 39. to 55. commonly from 44 to 50. Barometer, from 28. 33. to 30. 7. Wind chiefly north and ſouth-weſt.

In April, the weather continued variable. Rain 4.460. Thermometer from 43. to 53. commonly from 44. to 48. Barometer from 28. 36. to 29. 36. Wind chiefly at eaſt.

May. The firſt week was fair, but the remainder very variable and uncertain; there was but one day afterwards thoroughly fair, *viz.* 20th. The rain, in the whole month, was 4.174. which, as it entirely fell in the laſt three weeks, was a greater quantity than had yet occurred. Thermometer from 46. to 64. chiefly from 50. to 60. Barometer from 29. to 29. 37. Wind very variable.

The beginning of June was chiefly fair; the latter end entirely ſo. On the 17th, we had a ſtorm of thunder and lightning. It was however at a great diſtance; and I remember to have obſerved flaſhes of lightning in the north-eaſt and ſouth-eaſt at the ſame time, and they were often alternate. The rain in June was but 1.153. Thermometer from 57. to 76. Barometer from 29. 16. to 30. 15. Wind variable.

In the firſt fortnight of July, the rain was 2.275. Thermometer about 65. Barometer about 29. 30. Each with very few variations. Wind

Wind variable. Thunder and lightning again on the 15th.

I have thus endeavoured to give you a ſhort abſtract of the weather, from the beginning of the year, becauſe its influence is uſually ſlow, and becauſe it probably rather prediſpoſes to than excites diſeaſes. If however I have been too profuſe, it has not taken much room. We had no epidemic ſince the autumn of laſt year, when a putrid fever was very frequent. In the winter and ſpring, we were unuſually healthy; the ſmall-pox ſporadic. In the ſpring, the inflammatory diſeaſes were not ſo frequent as uſual; and I thought that we did not meet ſo many pulmonary hectics as we were accuſtomed to. Previous however to the influenza, an experienced practitioner, who is himſelf gouty, obſerved, that arthritic paroxyſms were very frequent; and that thoſe conſtitutions which had irregular flying pains, and a gouty diſpoſition, then firſt experienced a regular fit.

I have already obſerved, that its progreſs was rapid. It continued about ſeven weeks, though its greateſt violence was from about the 4th to the 24th of June.

Patients were commonly attacked with irregular ſhiverings, a weight and confuſion of the head, with indiſtinct viſion, and, in ſome caſes, with a low delirium, which continued twenty-four hours. There was ſoon a conſiderable flow from the eyes and noſe; a harſh ſhort cough; a ſenſe of excoriation through the fauces and larynx and œſophagus; and ſometimes an aching pain *externally* down the throat and breaſt. The languor and debility were conſiderable, and the attack often ſo ſudden, that there was not an hour's interval between perfect health and extreme weakneſs. Theſe complaints were ſometimes preceded, and ſometimes accompanied, by bleedings at the noſe, mouth, and anus, by pains in the ſide, fluſhed face, and ſlight peripneumonic ſymptoms; but the pulſe was very quick and low, and often irregular; urine generally high coloured. If the patient went to bed, theſe ſymptoms were generally relieved in about twenty-four hours, by a very profuſe and long-continued ſweat, and a free expectoration; but, without ſome irregularity, they ſeldom continued more than double that period, and always left an extreme debility and languor. In one patient, the complaint began with

with a violent hiccup, which laſted ſome hours; in another, by deliquium and delirium, which continued with little intermiſſion for twenty-four hours. If the patient did not yield to the attack, and retire to bed, the complaint was generally longer in its continuance, and more ſevere in its ſymptoms. It has then continued three or four days, and ſometimes it has been protracted, by frequent relapſes, to ten or twelve. In theſe caſes, the ſymptoms of peripneumony have been much increaſed, and the diſorder has become highly inflammatory and dangerous. Even thoſe who wiſhed to be careful, were miſled by the continuance of the ſweat; for to be completely critical, it required to be kept up two or three days; and, after the diſeaſe had vaniſhed, the tendency to ſweating, on the leaſt exerciſe, was conſiderable. In no caſe were there petechiæ or any other eruptions.

Sweating was the univerſal criſis. The expectoration ſometimes aſſiſted it, but never entirely ſuperſeded its neceſſity. Towards the end of the diſorder, there was a ſlight cloud in the urine, but no critical depoſition.

The

The diſeaſe was in general uniform. There was little variety, but in the degree of the attack, and in the addition of the few ſymptoms formerly mentioned. The moſt material conſequences were hæmoptyſis, aſthmas and conſumptions. The others, great and long-continued debility and languor of ſpirits. The diſorder ſeemed ſometimes to be followed with inflammatory pains in the limbs, and exquiſite peripneumonies, which required, and were relieved by bleeding; but as theſe were alſo the conſequence of miſconduct during the diſeaſe, they can ſcarcely be arranged among the ſequelæ.

Few died of the diſeaſe alone. Two men and two women were attacked with pain of the ſide, and other ſymptoms of peripneumony, but attended with a very low pulſe, and conſiderable proſtration of ſtrength. On this account, they were not bled. Bliſters were applied to the ſide, and they were cautiouſly ſupported with cordials; but they were at laſt ſuffocated with the ſputum, which they had not ſtrength enough to diſcharge. In one of theſe caſes, there was an evident combination of typhus; and probably the ſame coincidence may have happened in the

the others. They were of middle age, and ſufficiently ſtrong and healthy before the attack. Another man, between fifty and ſixty, was attacked with the influenza, which, on the next day, increaſed with much pain in the head. He was bled to about ſix ounces. The blood was covered with a greeniſh cruſt, but its texture was looſe. He ſoon after grew inſenſible, and, notwithſtanding every effort, died the ſame evening comatoſe. A paralytic man, who was obliged to be ſhifted, when ſweating, never recovered the conſequences of the diſeaſe, and an elderly lady, ſunk under the languor and debility which it left. Neither of theſe people were diſſected.

The diſeaſe often yielded to light diluting liquors, and confinement in bed. Emetics, however, haſtened the cure. Emetic tartar, or the vin. antimon. with the ſpiritus Mindereri, aſſiſted and promoted the ſweating. The ſpiritus corn. cerv. with an equal quantity of ſpiritus nitr. dulc. had a ſimilar effect; and when, from negligence or miſconduct, the peripneumonic ſymptoms were increaſed, ſaline draughts, with nitre and bliſters were frequently employed. Emulſions, ſpermaceti mixtures and lac ammoniacum were preſcribed

preſcribed for the cough; and a quiet night ſometimes procured by the elix. paregoric. without any impediment to the expectoration. Where the proſtration of ſtrength was conſiderable, the conf. card. was employed; and, in my own caſe, as I was obliged to go about, I uſed to drink Port wine, or porter, even in the mornings, with evident advantage. Purging was not much employed in the ſimple caſes of the catarrh. When uſed, the beſt that can be ſaid of it was, that it did no harm. It ſometimes protracted the diſeaſe, and impeded the recovery. A gentle laxative, however, frequently relieved the load in the head.

I have not been able to learn any caſe of a ſecond attack, after a complete criſis. Many ſuch inſtances are indeed related, but they are probably imaginary; for every one that I have been able to trace has appeared ſo. A common cold, either previous or ſubſequent to the diſorder, has been the occaſion of ſome miſtakes; and a relapſe, from checking the ſweat too ſoon, of others. No practitioner in this town, that I have converſed with, has attended two diſtinct attacks of the influenza in one patient.

We

We very ſeldom bled our patients in the original and ſimple diſeaſe. When there was a conſiderable difficulty of breathing, and pain in the ſide, it was ſometimes attempted; but though it did not always relieve theſe ſymptoms, it certainly increaſed the debility, and ſeemed to retard the recovery. The appearance of the blood was inflammatory, but it was in appearance only. The cruſt, which was ſometimes greeniſh, was very thin, and the texture of the whole maſs was commonly looſe. In the relapſes of thoſe who expoſed themſelves too early to the air, the pains were very acute, and relieved by bleeding. In thoſe caſes too, the blood was really inflammatory. A lady who had the influenza, complicated with an ophthalmia, was, on account of the latter, bled three or four times, and purged daily. She, however, was not much weakened, and recovered as ſoon as uſual.

The bark was very uſeful, after the fever had vaniſhed, but was never uſed during its continuance. Even on the recovery, the caſcarilla was ſometimes preferred, on account of the cough, and appeared equally ſerviceable.

If

If in an epidemic ſo very general, we endeavour to diſtinguiſh thoſe who particularly felt its influence, we might ſay that it chiefly attacked perſons of a middle age. Old people ſometimes eſcaped it. Young children had it very ſlightly, and, on that account, were ſuppoſed to be equally fortunate. It was, however, obſerved with ſome violence in a child of ſix weeks old. There was no particular mode of living which ſeemed a ſecurity from its attack. Perhaps living freely, or rather drinking a little more Port wine than uſual, had ſometimes that effect. Camphor bags were worn at the pit of the ſtomach, but I never heard any boaſt of their efficacy.

During the progreſs of the epidemic, the horſes were affected with a cold; but thoſe which were bled, and had nitrous maſhes, were ſoon relieved. Homer tells us, that the beaſts were affected with the plague before the human ſpecies; and thoſe who ſee every kind of learning concealed in his mythology, have gravely told us, that it is really true, in general, and owing to their prone poſition. But this fact ſeems, at leaſt, to contradict the commentary.

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The uſual diſeaſes, both of men and brutes, were much more ſevere during the progreſs of this epidemic. I have not been able to find, that either the dogs or cattle were affected.

IV. *An Account of the Influenza, as it appeared in Northumberland, in the months of June and July* 1782. *By* William Scott, *M. D. at Stamfordham.*

The epidemic diſeaſe, commonly known by the name of *influenza*, has appeared under two, or rather three different ſhapes, in this neighbourhood. It was firſt obſerved at Newcaſtle upon Tyne, on or about the 1ſt of June laſt, and in a very few days ſpread over all this country. At its firſt appearance, vaſt numbers were ſeized with it, almoſt at the ſame time; and it appeared at firſt with ſymptoms ſomewhat like what ſome authors call the *catarrhal fever;* ſuch as ſneezing, running at the noſe, heavineſs, heat, fever, pain of the head, back, breaſt, *&c.*; and, at times, patients complained alſo of pains and wearineſs over all the body, with a very troubleſome cough, attended often with tightneſs and uneaſineſs

uneaſineſs at the breaſt; and ſome few, at its firſt appearance, had alſo ſtitches in their ſides.

While it continued to have theſe appearances, which was for betwixt three and four weeks, it was treated ſomething in the common antiphlogiſtic manner; that is, by bleeding more or leſs, as the ſymptoms ſeemed to indicate; cooling neutral medicines, ſuch as nitre, the common neutral ſaline draughts, the vin. antimon. and tartar emetic, in ſmall doſes, *&c.* together with drinking plentifully of warm diluting liquors, which generally produced ſweating, which often was obſerved, under the above circumſtances, and at this time, to be of the greateſt uſe. The cough was treated with the common pectorals and oily emulſions; but I could not obſerve they had almoſt any good effect, unleſs after proper evacuations, *&c.* I found gentle opiates at bed-time, in general, anſwer beſt for the cough; and to the few who at this time had ſtitches, bliſters applied to the part affected, after bleeding, anſwered well. Some had alſo at this time a conſiderable degree of nauſea and ſickneſs at the ſtomach, towards the beginning of the diſorder. To theſe it was common to give a gentle puke, which ſeemed to do good.

While

While the diſeaſe continued in this form, few or none died, and moſt of the people had it ſlightly, and ſoon got well; and it was in this form, when moſt here were ſeized with it. The blood taken away at this time often had ſomething of a buffy appearance; but the diſeaſe ſeldom required a ſecond bleeding; and by far the greateſt number were not blooded at all.

In about three or four weeks from its firſt breaking out here, the diſorder gradually began to put on, in a great many caſes, a different kind of appearance; for, together with ſeveral of the above mentioned ſymptoms, patients had the appearance of ſomething pleuritic, as many of them had ſtitches in their ſide, and often alſo through their breaſt and trunk of the body. However, then, their pulſe was ſeldom or never hard, or even very firm; and it was ſoon obſerved, that they did not bear bleeding well, as they ſeldom could bear a moderate bleeding above once, or in a very few caſes twice, with advantage. Nor was it obſerved in general, that bleeding much relieved any of them, under the above circumſtances; but bliſters applied upon the parts affected, together with opiates at night, to moderate the cough, gave relief. The neu-

trals they beſt bore at this time were ſomething very mild, ſuch as the common ſaline draughts, the decoct. ſalin. *&c.*; and it was obſerved in thoſe who even had the pleuritic ſymptoms the moſt, that although ſome of them had a little buffineſs upon their blood at the firſt bleeding, yet that it generally diſappeared the next bleeding, although commonly without any abatement in the diſorder; and in ſome few caſes, I obſerved in the ſecond, or perhaps third bleeding, that not only the buffineſs diſappeared, but that the blood, after ſtanding ſome time, had a dark grumous or blackiſh appearance, particularly towards its bottom, upon its being turned upſide down in the baſon in which it had been taken.

I obſerved alſo ſome of my patients about this time to have, along with the above pleuritic ſymptoms, a certain flatneſs, lowneſs, oppreſſion and anxiety, not eaſily deſcribed in our language, but what ſome Latin medical writers ſeem to call "oppreſſio et anxietas circum præ-"cordia." While the diſorder continued in this way, I loſt three patients in it, two of whom were about ſeventy years of age, the other a young woman of about twenty. They died, as far

far as I can now remember, in or about the twelfth or fourteenth day of the diſeaſe. Whilſt the diſorder was in this ſtate, ſome few here were alſo ſeized with ſore throats, which had a good deal the appearance of the common inflammatory ſore throat, (the cynanche tonſillaris of Dr Cullen). But bleeding, in general, in this caſe, did not anſwer. Bliſters, however, applied to the back of the neck, mild detergent gargles, and the vapour of warm water received into the fauces, did good; and in ſome caſes, where the ſwelling appeared externally, poultices were alſo applied with advantage.

We are now arrived to about the laſt week of July, when the diſorder here ſeemed ſtill gradually to run more towards the low and flat, and to verge ſomewhat ſtill more and more towards the putrid; ſo that from this time I bled none, or next to none of them; and although ſeveral ſtill had ſtitches, bliſters were applied, and opiates given at night. If the cough was troubleſome, and when very low and flat, which many of them now were, I gave wine and cordial medicines, ſuch as the following. ℞. Decoct. ſalin. libram unam; Confec. cardiac. drachmas duas; Tinct. aromat. ſeſquidrachmam; cap. unciam unam tertia quaque

hora; or ſomething of the ſame nature, making it more warm and cordial, or more of the common mild neutral or antiſeptic, juſt as the pulſe and vis vitæ ſeemed to require. It continued pretty much in the way laſt deſcribed, till about the ſecond week of Auguſt, when it, in a great meaſure, began to diſappear here; and during this laſt period I loſt no patient in it, although ſeveral of them were ill for a conſiderable time. At this laſt period, and indeed all along from the beginning, ſeveral people were very apt to have returns of the diſorder at times, when they thought themſelves in a good meaſure free from it, or at leaſt in a fair way of ſoon being ſo; and many had relapſes of this kind, two or three different times, and were generally worſe and worſe in every return.

This epidemic appeared in Edinburgh in the beginning of June 1782. In a very ſhort time, at leaſt three-fourths of the inhabitants were affected with it. The rapid progreſs which it had was nowhere more remarkable than in the Caſtle. Almoſt the whole of the regiment of Southern Fencibles who were in garriſon there being affected with it, in the ſpace of a few days.

days. The ſymptoms with which it appeared, correſponded very exactly to the deſcription given by Dr Monro. In general, however, it was very ſlight, and almoſt no medicines were employed, excepting gentle diluents to promote the natural diaphoreſis, which commonly terminated the ſevere febrile attack at its commencement. It was remarked, that theſe patients, from whom it ſeemed neceſſary to draw blood, had the ſloweſt recovery, and that too, although the blood drawn was covered with a thick buffy coat. But whether this was a conſequence of the evacuation, or proceeded from the diſeaſe being in theſe caſes the moſt violent, we will not pretend to ſay.

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The Reverend Dr Adamſon of St Andrews, in a letter to Dr Duncan, gives the following account of a large pointed piece of lead being ſwallowed by a boy of ſeven years of age, and remaining in his ſtomach for upwards of forty hours.

On Thurſday the 21ſt of October 1784, at twelve o'clock noon, my ſon Robert, about ſeven years of age, came home from ſchool, cry-

ing and coughing inceſſantly. He told me, that he had put a lead pencil into his mouth, and another boy having made him laugh, he had ſwallowed the pencil. He complained of pain under the ſternum; and this, he ſaid, made him cough. The courſe of the pain deſcended quickly, and the cough ceaſed. From this, it was, I thought, evident, that the lead had got down into the ſtomach.

As from the accounts given me, I ſuppoſed the pencil to be of a conſiderable ſize, another boy having ſhewn me one, which, he ſaid, was of the ſame ſhape and ſize with what Bob had ſwallowed, I durſt not venture to direct an emetic. Nor did I think it ſafe to accelerate the motion of this pointed body through the ſmall inteſtines. What occurred to me as moſt expedient, was to keep the bowels as full as poſſible, that the lead might have a chance of ſlipping along, without injuring the inteſtinal canal. As he was fond of oat-meal porridge, I made him frequently eat as much of theſe as he was able; and as motion hurt him, he was laid on a bed. He had no difficulty either of reſpiration or deglutition, nor any complaint of any kind, excepting only a little ſoreneſs now and then

then about the region of the ſtomach; and he ſlept well during the night.

On Friday the 22d, he went to ſchool as uſual, took at intervals plenty of porridge, and told me that he ſometimes felt a ſoreneſs about the umbilicus, from which I concluded, that the lead had paſſed into the inteſtines. His pain was not conſiderable, and he ſlept well all the night.

On Saturday the 23d, a little after ſeven in the morning, he came to me with great joy, bringing the lead in his hand. His account of the matter was, that when he awaked, he felt ſomething ſore juſt at the pit of the ſtomach; that after a full inſpiration, he made a great effort in the way of coughing, which brought the pencil up into his mouth. He eagerly caught it with his fingers, and threw it upon the bed. I meaſured the pencil carefully. It was a piece of ſolid lead, about a quarter of an inch ſquare, and about an inch and an eight in length. It had been forty-three hours in his ſtomach. In the diſcharge of it, the parts through which it paſſed had not been injured in the ſmalleſt degree, as he had no inconvenience afterwards.

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In the month of June laſt, there was read at a meeting of the Royal Society, an account of ſome experiments upon cold, made at the Macfarlane Obſervatory of Glaſgow College, by Patrick Wilſon, F. R. S. Ed. and aſſiſtant Profeſſor of Aſtronomy there.

From theſe experiments, it appears, that the ſeparation of hoarfroſt from the atmoſphere, in the night time, during intenſe froſts, is attended with a conſtant production of cold. Several different ſubſtances were expoſed to the open air, upon round boards, two feet in diameter, placed ſome feet from the ground. Upon theſe thermometers were placed near to the leeward ſide, whilſt another thermometer was hung at the ſame elevation in the open air, a foot to windward. Mr Wilſon found, that when the ſky was ſerene, all theſe ſubſtances attracted hoarfroſt, but ceaſed to do ſo as ſoon as clouds or any other general foggineſs formed over head. In the firſt caſe, the thermometers on the boards pointed always lower by ſeveral degrees, than the one in the air to windward. But in the ſecond caſe, when the heavens were overcaſt, they

they all quickly came to the ſame common temperature.

The remarkable exceſs of cold at the ſurface of the ſnow, which ſometimes is found in intenſe froſts, and which was firſt obſerved by Mr Wilſon in 1780, owes its exiſtence, in Mr Wilſon's opinion, to the ſeparation of hoarfroſt alſo, and not to evaporation.

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Mr William Kinnaird, apothecary in Edinburgh, an ingenious and intelligent chemiſt, has of late made a great number of experiments and obſervations on the temperature of the atmoſphere, and on the viciſſitudes to which it is ſubjected from different cauſes. He read a paper upon this ſubject in the Natural Hiſtory Society of Edinburgh, on the 12th of February 1784; and he has ſince proſecuted his experiments on this ſubject with uncommon induſtry during every ſeaſon of the year. Among many important concluſions which he has drawn from theſe experiments, we ſhall here preſent our readers with the following.

1ſt, When the general temperature of the atmoſphere is at or below the freezing point, the

the ſurface of the earth, and of moſt other bodies, is for the moſt part ſome degrees lower than that of the open air, at the diſtance of one or two feet, or even of a few inches.

2d, This difference is greateſt when the cold is moſt intenſe, the air clear and calm, and the general heat decreaſing, or at leaſt the cold of the ſurface increaſing, which moſt frequently happens between the ſetting of the ſun and a little after it riſes.

3d, It is moſt remarkable on the ſurface of ſnow, when covered with hoarfroſt, and on other bodies where hoarfroſt moſt abounds. In ſuch caſes, I have often found the ſurface to be ſeven degrees colder than the air at the diſtance of two feet; and, in one inſtance, the difference was no leſs than fourteen degrees at the diſtance of eight or nine feet.

4th, The difference between the temperature of the air and the external (or at leaſt the upper) ſurface of ſolid bodies is generally in proportion to their capacity for attracting hoarfroſt; *e. g.* the ſurface of dead wood, or the decayed parts of vegetables, is, in ſuch caſes, apt to be colder than that of living vegetables.

5th,

5th, The ſurface of wood, and other ſolid ſubſtances, which attract and imbibe water when expoſed to the open air, is, in ſuch circumſtances as mentioned in prop. 1. ſometimes three or four degrees colder than the air, even when there is no hoarfroſt viſible; while glaſs, reſinous ſubſtances, and metals, ſeem to produce little or no difference in the temperature from that in the air.

6th, But an additional cold takes place on the ſurface of ſtones, glaſs, bodies covered with reſinous matter, woollen cloth, ruſty or tarniſhed metals, and even poliſhed metallic plates when hoarfroſt happens in any degree to be depoſited on them; which ſometimes is not inferior to that produced on the ſurface of ſuch bodies as attract or abſorb water.

7th, Even the glaſs of the thermometer is liable to produce this change; for when hoarfroſt is collected to be ſeen upon the bulb, I have always found that a thermometer was lower than others in ſimilar circumſtances which had none adhering to them; and that this difference was greateſt where the bulb was largeſt, and the hoarfroſt thick. In like manner, when the hoarfroſt was carefully wiped off,

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the mercury of the thermometer never ſunk ſo low as it had done, till the hoarfroſt again began to appear.

8th, When the atmoſphere is perfectly clear, thermometers ſuſpended in the air are not liable to be affected with hoarfroſt, even when ſuch as lie upon the ground are entirely covered with it; but when ſomewhat foggy below, and clear above, the thermometers in the air are apt to be encruſted with it, in like manner as thoſe on the ground, though in an inferior degree.

9th, In ſuch caſes, although the cold be ever ſo intenſe, the difference between the temperature of the ſurface of the earth or ſnow, and that of the air, is not ſo great (at leaſt in ſo far as we can judge by the thermometer) as when the air is perfectly ſerene.

10th, A thermometer covered with an amalgam of mercury ſtood ſome degrees above others, whoſe bulbs were expoſed naked, and in the ſame ſituation, whether hanging in the air, or laid upon the ſnow.

11th, If a piece of the thinneſt cloth or paper be ſpread on the ſurface of the ſnow or hoarfroſt, or if covered with a thin metallic plate, a thermometer laid upon them will not ſink

ſo

ſo low, by ſome degrees, as it would do if placed on the naked ſurface.

12th, When any part of the ſurface is excluded from the external air, it immediately becomes warmer, and continues to be more ſo, than thoſe parts that are freely expoſed, and frequently acquires nearly the ſame temperature with the external air. Thus, if a glaſs bell, or any other concave body, be placed over a thermometer lying on ſnow or hoarfroſt, which is colder than the air, it immediately riſes, whether in the day or night.

13th, The internal ſurface of many bodies, even when expoſed during the moſt intenſe and increaſing colds for any length of time, is conſiderably warmer than the air in which they hang, the bodies on which they may be laid, or their own external ſurface; and their internal heat is nearly as much above the temperature of the air as that of the external ſurface of moſt other bodies is below it.

14th, The bodies whoſe internal ſurface I have found to be in their temperature moſt above the air, were thoſe that are leaſt apt to attract moiſture, *viz.* metallic veſſels, when well poliſhed within, ſuch as pewter tankards, candle moulds,

moulds, white iron caſes, woollen, ſilk, cotton, or linen cloth, bladders, wooden caſes, *&c.* when dry.

15th, The order in which the interior parts of theſe ſubſtances retain heat, or reſiſt the cooling proceſs which is going on without, is nearly the ſame as enumerated above. Flannel or woollen cloth was in many caſes equally efficacious as poliſhed metals for a good many hours; but none of them are permanently ſo, excepting metallic ſubſtances, as above deſcribed, at leaſt when the temperature of the air is near or below the freezing point. For which reaſon, moſt of the experiments I made with a view to ſhow the nature or cauſes of the variations in the heat of the atmoſphere, have been by placing the thermometer within metallic veſſels, excepting what related to the difference between the air and ſurfaces of moſt other bodies.

16th, Metallic veſſels loſe this property in a great degree, if not entirely, when they become tarniſhed or ruſty; and in like manner, cloth and other ſubſtances, as ſoon as they imbibe moiſture to a certain degree, loſe it altogether. In ſuch caſes, theſe ſubſtances readily acquire the

the ſame temperature with the common air, or other bodies with which they may be in contact.

In time of froſt, the temperature of the ſurface of bodies is raiſed, or the difference between that of the earth and the air diminiſhed, by the following circumſtances.

17th, By a fall of ſnow or hail.

18th, By a fog not accompanied with a clear atmoſphere above, and eſpecially if it be general, or precede a fall.

19th, By a clouded atmoſphere, or even by a ſingle cloud, if vertical, or nearly ſo.

20th, By wind, eſpecially if conſiderably ſtrong, though the atmoſphere be perfectly clear.

21ſt, By a rapid increaſe of the general heat, though ſtill below the freezing point, and likewiſe ſerene.

22d, In the above circumſtances, the temperature of the ſnow is ſometimes higher, even for the greateſt part of a day, than that of the air; and on ſuch occaſions, the hoarfroſt diſappears very quickly.

23d, When the general heat is increaſing faſt, eſpecially in the time of thaw, and in the

ſummer

ſummer ſeaſon, the phænomena which take place in regard to the heat of the air, the ſurface of ſolid bodies that attract moiſture, and a variety of other ſubſtances, moſt of which have been already ſpecified, are conſiderably different, or oppoſite to what has been narrated above.

24th, Such bodies as are, on their external ſurface, colder during the night, or while the cold is on the increaſe, are, during the heat of the day, ſome degrees hotter than the circumambient air; examples of which I have perceived in the ſurface of the ſnow itſelf, as formerly mentioned; but the moſt ſtriking and numerous inſtances are what I have obſerved, during the courſe of many months, on the ſurface of a fir board placed on the outſide of a window expoſed to the north. This board, though ſoaked with rain, viſibly moiſt on the ſurface, or even covered with water, was frequently warmer in the day than the ſurrounding air at a little diſtance, though colder than the air throughout the night.

25th, The difference which moſt commonly takes place in regard to the ſuperior heat on the ſurface of a thin piece of wood in ſummer, or in the warmeſt days in winter, is not leſs than

what

what takes place between the air and ſurface of the ſnow, *&c.* in winter, when the cold is upon the decreaſe.

26th, In calm weather, either when the clouds are low, or when there are no clouds at all, but more eſpecially if there happens to be a fog in the morning, which is diſperſed in the forenoon, the atmoſphere becoming clear, the ſurface of the board frequently comes to be ſix or ſeven degrees warmer than the air by mid-day, and the difference gradually diminiſhes towards ſunſet, when the heat of the air and board come to be nearly the ſame.

27th, In hot days, when the night is conſiderably lengthened, eſpecially towards the autumnal equinox, the ſurface of the board is generally as much colder than the air through the night as it was hotter in the day, which is frequently two or three degrees of difference on either ſide; and in thoſe days that are accompanied with a fog in the morning and evening, the difference between the day and the night is always the greateſt. In ſuch caſes, I have ſeen the glaſs of the thermometer ſo much covered with dew, that the mercury could not be ſeen till wiped; and then I have obſerved it four degrees

below the temperature of the air, though ſomewhat above the freezing point.

28th, There are however various days in ſummer, when the ſurface of the board is never hotter than the air; and ſometimes, in clear days, I have obſerved it one or two degrees colder than the air; but this is ſeldom the caſe, and it moſt readily happens after a day of continued rain, or when there has been previouſly thunder in the neighbourhood.

29th, This alſo happens more readily when there is a conſiderable breeze of wind, and the day cold in regard to the ſeaſon, or natural influence of the ſun.

30th, When the heat of the ſurface is greater than that of the air, clouds have always a tendency to bring them nearer to an equality; and, immediately before a ſhower, if a thick cloud has continued a conſiderable time, the temperature in both is, in general, if not quite equal, at leaſt almoſt ſo.

31ſt, In the evening, about ſunſet, or a little before and after it, the air and ſurface are juſt of the ſame temperature; and different thermometers, which vary conſiderably, though in the ſame ſituation, throughout the day, frequently ſtand

ſtand exactly at the ſame degree when the ſun ſets.

32d, Although the ſurface is generally colder in ſummer as well as winter during the night, if the atmoſphere be ſerene and clear, yet, when cloudy, there is no difference. So remarkable is the effect of clouds in this reſpect, that I have almoſt conſtantly been able to know, by looking at two thermometers thus differently ſituated in the night, whether the atmoſphere was clouded or not, and whether the clouds were partial or univerſal, before looking out from the window.

33d, Water, either on the board, in a baſon, or in a bottle, whether open or ſtopped, for the moſt part cauſes a diminution of heat; but this is more remarkably the caſe in cold than in hot weather, in the night than in the day, and, if in a bottle, when open than when corked. However, on various occaſions, it is productive of heat during the day in all theſe circumſtances, and moſt frequently when incloſed, whether in a metallic caſe, or glaſs bottle; and the difference is occaſionally from one to four or five degrees in the forenoon, it being then found to heat faſter than the air.

34th, Spirits of wine had little effect in altering the ſtate of the thermometer in one way or other, though ſhut up either in glaſs or metallic veſſels, at leaſt as far as I have obſerved. The experiments were made when the air was nearly about the freezing point.

35th, On particular occaſions, when the heat was increaſing faſt, the thermometer placed in a metallic veſſel was obſerved to riſe five or ſix degrees above the temperature of the air, while it was eight or ten above that of the ſurface. Thus, I have ſeen the temperature of the air at mid-day 32, ſnow 29, and the metallic tankard 37; all of which continued nearly the ſame about three quarters of an hour: the heat of the air about one o'clock was $33\frac{1}{2}$, ſnow 32, and the metallic veſſel $39\frac{1}{2}$. On other days, ſimilar differences took place when the thermometer was wrapped in flannel, which always happened towards mid-day, or when the temperature was advancing uncommonly faſt.

N. B. In the former of theſe days, the ſurface of the ſnow did not exceed 24 degrees at half paſt eleven, and in leſs than an hour and a half it roſe to 32.

General

General Obſervations.

When there is the greateſt difference between the temperature of the air and the ſurface of ſolid bodies which attract water, the greateſt extremes either of heat or cold, or the moſt ſudden changes of the temperature of the air, take place. Thus, we have the moſt intenſe and permanent cold when the ground is covered with ſnow cruſted over with hoarfroſt. In a foggy evening, whether the temperature be above or below the freezing point, the cold generally increaſes very faſt after ſunſet, if a general ſerenity enſues: in like manner, the moſt ſudden increaſe of heat takes place when a morning fog is clearing up; and ſo ſoon as it is entirely diſpelled, which is frequently before ten or eleven o'clock, if not ſucceeded by any clouds in the higher regions; the heat of the air is then frequently at its greateſt height, though the atmoſphere ſhould afterwards continue ſerene.

2d, When the difference between the temperature of the air and ſurface is leaſt, the heat of the atmoſphere either comes neareſt to its medium ſtate, or is the leaſt variable. In winter, when

the air is conſiderably below the freezing point, and the cold increaſing, the formation of clouds immediately renders it conſiderably hotter; and when a fall takes place, the temperature is for the moſt part raiſed to 32. or near it. But, on the contrary, in ſummer, or when the heat is conſiderably above the freezing point, clouds and rain generally cool the air from two to eight, or ten degrees, more or leſs, according to their extent and denſity, or ſudden formation of the clouds, and their being ſucceeded by rain or not. When a drizzling and continued rain takes place, the temperature of the air is exceedingly uniform, ſometimes not varying two degrees during a whole day and night, even in ſummer: in like manner, there are many days, when neither clouds nor fog appear, during which the temperature is but little more variable.

3d, As the temperature of the air is almoſt conſtantly varying when fogs take place in the morning and evening, and when clouds are partial through the day, ſo the air ſeems to be equally ſubject to variation in regard to its taking up or giving out water. If we continue to inſpect ſuch clouds for a few minutes, we will

readily

readily perceive them to be growing thicker and darker, or more rare and whiter; forming and increaſing in ſize, or decreaſing and entirely diſappearing; all of which are very much connected with the changes in the temperature of the air. During the courſe of the day, when a continued fall does not take place, there is almoſt a conſtant ſolution of water or evaporation from the ſurface; and in the night, a ſeparation or depoſition is nearly as general, at leaſt when the weather is cold, or only of a medium heat. In ſummer, eſpecially during the day, clouds, while they diminiſh heat, check what is called evaporation; but in winter, when the temperature is below the freezing point, both evaporation and heat are increaſed, at the ſame time that they appear or are forming. In cold weather, eſpecially after ſunſet, the atmoſphere becomes generally ſerene, while the cold is on the increaſe, in like manner as, in the warmer ſeaſons, it becomes ſerene and warm at the ſame inſtant, during the forenoon. In the former caſe, the clouds appear to fall gradually to the earth, in fog, dew, or hoarfroſt; in the latter, they firſt riſe, and then diſappear.

From theſe experiments and obſervations, it appears, 1ſt, That the viciſſitudes in regard to the temperature of our atmoſphere, in moſt caſes, do not depend on the emanation of heat or cold from bodies at a diſtance, but have their origin in thoſe parts where they are moſt ſenſibly felt, and depend upon the inſtantaneous operation of ſome local cauſe, which we ſhall call a heating or cooling proceſs.

2d, That thoſe heating and cooling proceſſes chiefly operate upon the ſurface of the earth, where it is fully expoſed to the open air, though ſeemingly in ſome degree alſo in thoſe parts of the atmoſphere where clouds are formed, and where vapours are recent or firſt ſeen; and conſequently that it is intimately connected with ſome peculiar arrangement or ſtate of water in regard to the air.

3d, The facts narrated in the firſt eight propoſitions, obviouſly ſhow, that the ſeparation of water from the air, is on many occaſions either the immediate cauſe of the local cold, or very intimately connected with that cauſe. The two propoſitions which follow theſe, contribute to render it more obvious, ſince the cold did not generate ſo faſt when the depoſition was retard-

ed,

ed, or the ſeparation totally prevented, for want of the aid of the attraction of ſome body which has a great affinity for the particles of water contained in the air. The ſucceeding experiment ſerves to ſhow, that the cooling proceſs could not go on, although a part of the air was in contact with the ſurface, when a communication with the atmoſphere at large was cut off, ſeemingly becauſe the incloſed air having precipitated all the water it was diſpoſed to part with, muſt have a freſh ſupply from that which ſurrounds it in a ſuperſaturated ſtate, in order to keep up the cooling proceſs.

By the 13th, 14th and 15th experiments, it would appear, there muſt either have been a heating proceſs going on in the interior cavities of theſe bodies, or that the ſuperior heat in them depends on their being excluded from a free communication with the external air, while the cooling proceſs is operating, or it may depend in part on both. But in whatever way this is effected, we ſee by propoſition 16th, that a mixture of water with the internal air, or ſome communication with the external air, through the medium of water, deſtroys the property

perty which ſuch bodies have, of reſiſting a cooling, or aiding a heating proceſs.

By the 17th, 18th and 19th propoſitions, it is rendered probable, that the general heat of the atmoſphere can only be reduced to a certain degree; for when one part is much cooled, another would ſeem either to be heated, or at leaſt not to be cooled in the ſame proportion. Since cold is produced in ſummer by clouds, we need not doubt but they have a direct tendency to generate cold; yet in winter, though they cool the upper regions, we find they ſometimes warm the ſurface of the earth, ſeemingly by removing the ſeat of the cooling proceſs, *i. e.* by attracting the water of the atmoſphere upwards, in like manner as the ſnow, when it is ſerene, has a tendency to bring it down, and ſo leaving the lower ſtratum in a capacity for taking up what had formerly been precipitated, would ſeem to bring on a heating proceſs.

The twentieth and five following experiments ſerve, in a conſiderable degree, to prove the converſe of this general propoſition, which we have endeavoured ſo far to explain, *viz.* that the chemical ſolution, or an intimate union of water with the air, is as much either the mediate or immediate

immediate cauſe of heat, as the diſſolution of this union is productive of cold.

The facts mentioned in propoſitions 28th and 29th may readily be reconciled to this hypotheſis, providing we ſuppoſe, that evaporation may take place, or that water may be mixed with air, when there is no proper chemical ſolution, which is rendered probable, by what is mentioned in the 30th, 31ſt, 32d and 33d propoſitions. Nothing is more ſtriking, than the different, and even oppoſite effects of evaporation, in regard to heat, as it happens to take place in different days, in the day or in the night, and when the heat of the air is great, or otherwiſe.

The changes which take place in regard to the general temperature of the air, *&c.* as ſpecified in our general obſervations, perfectly correſpond with the view which we have taken of theſe that are more particular, and will alſo, along with the former, ſerve to lead us to a theory, which we think may ſuffice to account for moſt of the phænomena, or at leaſt may ſerve to direct us to ſome further uſeful experiments and obſervations.

Here it will be proper to obſerve, that the moſt remarkable changes of temperature in bodies,

dies, are intimately connected with ſome other change, either in regard to their conſiſtence, or the number or proportion of their component parts.

Although we generally conſider theſe bodies which are called homogeneous, to be exactly the ſame, whether in a ſolid, fluid, or permanently elaſtic ſtate, yet ſtrictly ſpeaking, this is by no means the caſe; for we may readily perceive, there is a conſiderable change in regard to many of their properties, in each of theſe different ſtates, which we may alſo affirm in regard to the different intermediate degrees of conſiſtence; therefore, in all caſes where a change of temperature takes place, independent of a direct and regular communication from a heated body, to any other, we are inclined to conſider it as the immediate effect of compoſition, or decompoſition, which are the reſult of the different powers of attraction, which various kinds of bodies, or the different parts of the ſame kind of matter, have for each other.

Some bodies attract others in ſuch a manner as to adhere together, and to retain their power of coheſion, while they remain entire, and continue in every reſpect, excepting what relates to their

their ſize and figure, the ſame as formerly. Others, while they mutually attract one another, are, at the ſame time, entirely decompoſed, ſo that neither of them remain the ſame body after as before mixture: in this caſe, they are frequently united more cloſely, or by a much greater force, than that by which the particles of either were combined in their former ſtate. Between the moſt perfect chemical attraction, and that which entire bodies have for each other, there are a great many intermediate degrees; and all compounds or mixed ſubſtances differ from each other, in reſpect to their relation to heat, ſeemingly as much as they differ in regard to the force of attraction or coheſion by which they are united and continued in a ſtate of mixture or of ſimple aggregation.

Heat or fire, we ſuppoſe to be a primitive element, or at leaſt a body ſui generis, which has the property of expanding, and ſeemingly of ſeparating the conſtituent parts of all homogeneous bodies; and likewiſe, in many caſes, their component parts conſidered as chemical mixts. It would alſo appear, in various reſpects, to be ſubject to the ſame general laws, with regard to mixture, as other fluids are, eſpecially thoſe which

which are permanently elaſtic or volatile. It diffuſes or expands itſelf in all directions, and penetrates all bodies in ſuch a manner, as to bring thoſe which are contiguous, very ſoon to an equal temperature; yet all are not equally affected in the ſame time, or by the ſame quantity of fire, ſome requiring vaſtly more than others, to bring them to the ſame degree of ſenſible heat. This difference is often the effect of a change of the texture and conſiſtence of the body; but it alſo frequently depends on a peculiar property which ſome bodies may be ſaid to have, of combining with, or counteracting the ordinary powers of elementary fire, independently of any change as to their former conſiſtence.

Homogeneous bodies, the ſenſible heat or temperature being given, univerſally contain more latent or abſolute heat, when fluid, than when in a ſolid form, and ſtill more when converted into an elaſtic vapour, providing theſe changes are effected by heat alone. This was firſt diſcovered, and has been fully illuſtrated by Dr Black.

From many experiments which I have made, I have always obſerved, that theſe bodies which

are

are commonly called elementary ſubſtances, ſuch as air, water, acids, pure calcareous earths and metals, contain much more elementary fire, (or have a greater capacity for heat), than moſt of the compounds into which they enter, at leaſt where an intimate and durable chemical union takes place.

All compounds which are mechanical, imperfect chemical mixts, or theſe in which the component parts have a weak attraction for each other, ſo far as I have ever obſerved, contain more elementary fire than theſe where the component principles are united by the ſtrongeſt chemical affinity.

Hence we are led to ſuppoſe, in general, that bodies, the more denſe they are, and the more intimately their parts are united, either conſidered as aggregates or chemical mixts, the leſs elementary fire they contain; and, on the contrary, the more rare and leſs durable they are, the more they poſſeſs, or the greater is their capacity for containing heat, in a combined or latent ſtate.

In order to apply theſe obſervations to the viciſſitudes which take place in regard to the temperature of the air, it may be obſerved, that

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our atmoſphere is a compound fluid, conſiſting of dephlogiſticated, and other kinds of air, water, electric matter and light, beſides elementary fire. But we ſhall at preſent confine our obſervations chiefly to the properties of water and atmoſpheric air.

Since water, in the form of a pure elaſtic vapour, contains much more heat than when in the form of an incondenſible fluid, or in a ſolid ſtate, the greater degree of cold which ſo often takes place on the ſurface, has generally been ſuppoſed to be the immediate effect of evaporation; becauſe the vapour, when formed, its capacity for heat being much greater than that of water, muſt abſorb a quantity of ſenſible heat from the bodies with which it comes in contact, in order to bring them to the ſame temperature.

This we are well aſſured is the caſe, in regard to vapour produced by a boiling heat; and we have no doubt, that inſenſible evaporation is alſo productive of cold; but we have no proof, that the effect of the latter proceeds from the ſame cauſe which operates in the former. Why ſhould water, in general, require 212 degrees of heat in the air, and 90 at leaſt in vacuo, to give

give it this increaſed capacity, if on other occaſions it acquires the very ſame when the heat is even below the freezing point? We know, that heat is the cauſe of the formation of vapour, produced from boiling water; for we ſee it forced into the water ab extra; and when it can receive no more, the ſurplus is exhauſted in the formation of the elaſtic fluid; but here we ſee no ſuch cauſe applied. When water boils, it is not rendered colder by the ſteam that is formed, it being only prevented from receiving an additional heat; but here the water muſt be robbed of part of its heat, in order to form the vapour even when its former temperature is otherwiſe diminiſhed; for it was often found, that the greateſt cold was produced ſeemingly by evaporation, when the temperature of the ſurrounding bodies were decreaſing, as well as that of the water. This therefore ſeems rather to be the effect of a cauſe ſomewhat more general, or a different kind of cooling proceſs; for it is not very likely, that the effect of a heating power applied, and alſo of a cooling proceſs, ſhould be exactly the ſame, merely becauſe they agree in producing an inviſible fluid which ariſes from water. It is probable, that vapour,

in the former caſe, is formed by the intervention or mixture of fire and water alone; but, in the latter, as there is a deficiency of fire to convert the water into vapour, we preſume it muſt be aſſiſted by the interpoſition of ſome other fluid, to ſeparate and carry it off from the general maſs; conſequently we have equal reaſon to ſuppoſe, that the vapour being materially different in the latter caſe, it may be productive of cold from a very different principle. Beſides, we ſee from the preceding experiments on the temperature of the air, that evaporation is often accompanied with an increaſe of heat.

But, allowing this doctrine all its ſuppoſed force in regard to its power of cooling the ſurface, it would follow, that the condenſation of the ſame vapour muſt be productive of heat; whereas the reverſe is often, if not for the moſt part, the conſequence. The freezing of water, when the temperature of the air is two degrees above it, which is ſometimes adduced as an inſtance of the power of evaporation in producing cold on the ſurface, is certainly the effect of a very oppoſite cauſe; for this frequently happens, when the body upon which the water freezes is attracting it from the air. Beſides, we ſtill want

facts

facts to prove, that vapour can rob a body of more heat than what is neceſſary, to bring that body to its own temperature. Steam is never ſenſibly hotter than the water from which it comes; and beſides this, the conſolidation of the water in the act of freezing ought to raiſe its temperature; whereas the fact is quite analogous to many others which have been mentioned, and may be accounted for upon the ſame principles which we mentioned, and now proceed to illuſtrate.

I was firſt led, ſome years ago, to ſuſpect the generality of the doctrine concerning evaporation and condenſation, from an inaccuracy I had often perceived in the mode of explaining this doctrine, where the effects of ſimple liquefaction and condenſation were applied to illuſtrate theſe, which took place in conſequence of mixture, ſuch as the heat produced by mixing vitriolic acid, and the earth of bones, or the cold produced by a ſolution of ſal ammoniac in water, the heat produced by a ſolution of cauſtic alkali in water, which I always conſidered as leading to a different and more general principle, being only conſidered as an exception to this hypotheſis. What I frequently obſerved

to happen in the diſtillation of the cauſtic volatile alkali, and in the production of other kinds of gas, where heat is produced, when cold would rather have been expected, together with various remarkable effects on the temperature of many other mixtures, led me to conſider the doctrine of heat in a more general point of view. When the alkaline gas paſſes firſt into the receiver, a degree of heat is produced far greater than what is employed to bring it over, which chiefly takes place in the upper part of the receiver, however large it may be, or before any of the alkali is condenſed; and when the condenſation is begun, by means of a little water coming along with it, it is much colder below than above; but vitriolic æther, as ſoon as it comes into the receiver, always heats its under part, and that of the neck of the retort, while the upper part of both remains cold. The former of theſe mixes readily with atmoſpheric air, at leaſt with ſome part of it, thereby forming a chemical compound, but the latter is only mechanically diffuſed in it; therefore the heat produced by the one, ſeems to be entirely the effect of mixture, while that of the other is the effect of condenſation.

Water,

Water, when raiſed in an inviſible form, by inſenſible evaporation, may be ſuppoſed, in many caſes, to reſemble the pure cauſtic alkali; and when raiſed into vapour, by a boiling heat, to reſemble the æther.

I ſaw, upon mixing any of thoſe bodies, which are commonly called ſimple or elementary, with any other of that kind, that in all caſes a greater heat was produced than in any other caſe; and was conſequently led to ſuppoſe, that all ſuch, not only contained moſt elementary fire, but that the capacity of the compound formed by their mixture, muſt be leſs in proportion to the heat given out when mixed. In this I was the more confirmed, when I found that cold was produced by diſſolving each of the neutral ſalts in water, one only excepted, which might be eaſily accounted for on our principles.

We ſuppoſe that air unites with, and diſſolves water very readily, from being always found to contain more or leſs of it, and alſo from the difficulty with which it is ſeparated. We likewiſe conceive them to be united in very different degrees, according to the quantity of water previouſly in the atmoſphere, the temperature and purity of the air, *&c.* Each are capable of containing

taining more latent heat than any other kind of body we have examined; therefore, if they really do unite in a chemical manner, there is little doubt, that heat will be given out at the time the union takes place, which ſeems to be highly probable, from ſeveral of the facts already mentioned.

Now, ſuppoſing heat to be given out on mixture, it follows, that the air containing this water, muſt again abſorb part of the heat of the contiguous bodies, at the inſtant they are ſeparated, in order to bring the whole to an equilibrium, by means of which, that part of the air or of the earth where this ſeparation takes place, is cooled in proportion. We can perceive no other cauſe upon which this ſingular effect depends, than the temporary increaſe of the capacity of the air and water for abſorbing heat after ſeparation, unleſs we ſuppoſe ſome other inviſible fluid to be ſeparated at the ſame time, or combined with each, or with both, in ſome manner different from what took place before.

This no doubt may alſo be the caſe, and the ſeparation of a third fluid may even aſſiſt the cooling effect of the other two; but of this we

ſhall

ſhall not venture to offer even a conjecture at preſent. However, we muſt allow, that many of the phænomena reſpecting the temperature of the atmoſphere, though not contradictory, are not eaſily accounted for on the principles we have now mentioned; but muſt defer giving any further explanation, till we have examined more minutely the laws of electricity and light, and the manner in which the pure part of the air may come to be phlogiſticated, as well as ſeveral other particulars.

We ſhall therefore now only add, that as the air ſeems to have a power of diſſolving water, and forming with it a true chemical mixt, ſo it ſeems at different times to be loaded with it in very different degrees, independent of the difference of temperature; and that different degrees of heat, or even cold, are produced by this mixture with water, according to the nature of the union, and the proportion of the various component parts of which the atmoſphere, for the time, conſiſts.

Evaporation, we know, is aſſiſted by means of electricity, as well as by heat; and the electric matter, water and air, may be ſuppoſed to make a different compound, or at leaſt to have

different properties, when the former is redundant or deficient. When we ſee evaporation productive of heat at one time, and cold at another, eſpecially if the cold thereby produced, be greateſt when the temperature of the air is decreaſing, we muſt ſuppoſe the component parts, at different times, either to be differently proportioned, or combined in a different manner, which may ſerve to account for many of theſe ſeeming exceptions, or at leaſt to render our theory not improbable, till more facts are collected, which may either confirm or refute it.

* * * *

The Phyſical Society of Edinburgh, inſtituted in the year 1782, by the junction of the Chirurgo-medical, and Phyſico-chirurgical Societies, having been in a flouriſhing condition from that time, the members, during the laſt winter, reſolved on building a hall, that they and their ſucceſſors might enjoy, in future, a comfortable and ſettled habitation, and that their library might be lodged in a ſafe and convenient repoſitory. The foundation-ſtone was accordingly laid on the 24th of June, immediately

ately after the graduation, by Dr Monro, near the Diſpenſary, in Richmond-ſtreet. The building, though neat and large, has been raiſed with ſuch rapidity, that the hall was made ready for the reception of the members on the 4th of December laſt. On this day, an elegant and ſpirited Latin oration was delivered by Dr Thomas Addis Emmet of Dublin, one of their annual preſidents, in preſence of the Principal and Profeſſors of Medicine of the Univerſity, with a crowded and reſpectable meeting of the phyſicians and ſurgeons of the place, in addition to the ordinary and attending members. He pointed out in a very able manner, the utility which had been derived, not only by the members, but by the Univerſity itſelf, from inſtitutions of this nature; and recommended, that the exertions which had been made for ſome time paſt, not only in the inveſtigation of medical ſubjects, but in the cultivation of the Latin language, ſhould be purſued with ardour, by all thoſe who wiſhed to acquire valuable information, and to diſtinguiſh themſelves at the Univerſity. He ſtated fully to the members, that the proſperity of other inſtitutions of a ſimilar nature, was by no means incompatible

incompatible with the welfare of their own; that the moſt friendly connection ſhould be preſerved, and that the members of the one may frequently be the members of the other, with the greateſt propriety and advantage. He called on the members for harmony and unanimity, at a criſis ſo important to the inſtitution; recommended, that they ſhould never loſe ſight of their library, implored the protection of the Univerſity, and expreſſed the warmeſt tribute of thanks and gratitude to all thoſe who had ſubſcribed to the exigencies of the ſociety. As the oration has been preſented to the public, at the deſire of the ſociety, it is needleſs to enlarge farther on it.

Subſcriptions are received by Dr Monro, Dr Duncan, and Mr Hay, ſurgeon in Edinburgh; by Dr Emmet, Mr Ewart, Mr Bell, and Mr Skeete, annual preſidents of the ſociety, and by their treaſurer, Mr Andrew Fyfe, in the College, Edinburgh.

* * * *

We mentioned in our laſt volume, that the queſtion propoſed by the Harveian Society of Edinburgh, as the ſubject of their prize diſſertations

tions for 1783, was an experimental inquiry concerning the nature and properties of the Peruvian bark, and the comparative powers of the red and quill bark?

On this ſubject many excellent diſſertations were tranſmitted to the ſecretaries. But the judges were of opinion, that the firſt in point of merit, as containing the greateſt number of original obſervations, was a diſſertation to which was prefixed the following motto:

" Omnes enim trahimur et ducimur ad cog-
" nitionis et ſcientiæ cupiditatem."

Upon opening the ſealed letter which accompanied this diſſertation, it was found to be written by Mr Ralph Irving, from Langholm.

But while this diſſertation was crowned with the firſt prize, the judges unanimouſly determined, as a teſtimony of their approbation of its merit, to beſtow a ſecond prize on the author of a diſſertation to which was prefixed the following motto:

——— " Admirans mirabile donum
" Fatalis virgæ, longo poſt tempore viſum."

Upon opening the ſealed letter which accompanied this diſſertation, it was found to be written by Mr Thomas Skeete, from Barbadoes.

Prizes

Prizes were accordingly publicly delivered to theſe two gentlemen, on the 12th of April 1784, the anniverſary of the birth-day of Dr Harvey, in the hall of the public Diſpenſary, in preſence of a numerous and reſpectable company. Before the prizes were preſented to the ſucceſsful candidates, the Harveian oration for 1784 was delivered by Dr Duncan, in which he gave an account of the life, writings, and character of the late Dr David M'Bride of Dublin.

Dr Webſter, who preſented the prize medals to Meſſrs Irving and Skeete, announced, as the ſubject of the prize diſſertation for 1784, an experimental inquiry concerning the nature and properties of ipecacuanha, concerning the comparative power of different kinds of it, and of different parts of the root?

Several diſſertations on this ſubject were tranſmitted to the ſecretaries by the day appointed, the 1ſt of January 1785, which are at preſent under the conſideration of the judges.

The diſſertation written by Mr Irving, which gained the firſt prize for 1783, has lately been publiſhed, under the title of "Experiments on "the Red and Quill Peruvian Bark, with obſer-"vations on its hiſtory, mode of operation, and "uſes,

"uſes, and on ſome other ſubjects connected "with the phænomena and doctrines of vege- "table aſtringents." We hear, that the diſſertation written by Mr Skeete will alſo ſoon be publiſhed. And we think we may venture to aſſert, that, from a careful peruſal of both, the candid and intelligent reader will not only be furniſhed with ample proof of the induſtry and ingenuity of the authors, but will alſo derive important information in many different particulars.

* * * *

The Medical Society of Edinburgh, which had ſome years ago the honour of being confirmed by a royal charter, have reſolved to beſtow an annual prize of twenty guineas in value, with the view of encouraging experimental inquiries concerning different ſubjects in medicine and medical philoſophy. They have publiſhed the following advertiſement on this ſubject.

A Societate Regia Medica Edinenſi, comitiis ad id habitis, quæſtionem ad rem medicam pertinentem, et experimentis dijudicandam, quotannis proponere ſolenni lege ſtatutum eſt; nec non

non auctorem dissertationis præstantissimæ, ut suus sit meritis atque doctrinæ honor, prima mensis Aprilis die comitiali, duobus annis tribusque mensibus, ex quo tempore quæstio evulgata fuisset, elapsis, aureo numismate viginti et uno libris valente donare; modo ejus tentamen dignum habeatur, quod tali honore condecoretur.

In annum jam vertentem, quæstionem sequentem, quippe cujus accurata et exquisita cognitio sit cujusque medici ac philosophi veritatis atque novitatis avidi, proponendum existimavit societas.

Quot sint aeris species, quænam singularum natura, et in medicina vires?

Dissertationes, latine scriptæ, die vel ante diem Januarii primam ad eos mittendæ qui a secretis sint ad acta edenda apud ædes societatis Edinburgi. Præter dissertationem, epistola, eodem sigillo quo ipsa dissertatio munita, etiam mittenda, quæ nomen auctoris, locique quo degit, contineat; et parti epistolæ exteriori symbolum superaddendum, quod alteri respondeat dissertationi intus superaddito.

Epistola, intacto sigillo, una cum dissertatione, si successu caruerit, quocunque designaverit aut voluerit

voluerit remittenda, vel, ſi de hoc parum ſolicitus ſit, comburenda.

Diſſertationem præmio donatam, ſub quavis forma cunque, jus evulgandi penes ſocietatem eſſe ſemper intelligendum.

The queſtion propoſed by the ſociety in January 1785, is given out in the following terms:

Quot ſint fermentationum ſpecies? Quænam cujuſque natura? nec non, quibus corporum conditionibus inter zymica et antizymica differentia pendeat?

The preſent ſecretaries for publication are Dr Duncan and Dr Stuart.

Diſſertations on the firſt of the above queſtions, addreſſed to either of theſe gentlemen, muſt be ſent to the hall of the Medical Society in Edinburgh by the firſt of January 1786, and on the ſecond by the firſt of January 1787.

* * * *

The Medical Society have lately determined, in purſuance of the plan which was ſuggeſted when their hall was firſt built, to fit up an elaboratory for chemical experiments, and to furniſh it with a proper apparatus for the uſe of their

their members. They have appointed a committee of their number, under whoſe ſuperintendance this work will be immediately begun; and they have directed the ſame committee to purchaſe different philoſophical inſtruments, particularly an electrical machine, thermometers, barometers, and other inſtruments for meteorological obſervations. As the expence thus incurred will be more than can probably be defrayed from the funds of the ſociety for ſome years to come, it is not impoſſible, that ſome of their abſent members may be diſpoſed to aid and to forward this undertaking. Benefactions for this purpoſe may be tranſmitted to Dr Duncan, treaſurer to the ſociety.

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The Royal Society of Medicine in Paris, in the year 1778, propoſed a prize for the ſolution of the following queſtion:

Determiner quel eſt le meilleur traitment de la rage?

To the competitors on this ſubject they have lately adjudged three prizes: the firſt to Mr Mathieu, ſurgeon at Conge, in Sarladais; the ſecond to Mr Bouteille, phyſician at Manoſque, in

in Provence; and the third to M. Baudot, phyſician à la Charité-ſur-Loire.

The ſubject of a ſecond prize, propoſed in 1778, was announced in the following terms:

Determiner quels ſont les rapports des maladies epidemiques, avec celles qui ſurviennent en meme temps, et dans le meme lieu, et que l'on appelle *intercurrentes*, quels ſont leur complications, et juſqu' a quel point ces complications influent ſur leur traitment?

This prize was adjudged to M. Raymond, phyſician at Marſeilles.

The ſubject of a third prize, propoſed in 1778, was announced in the following terms:

D'indiguer la meilleure methode pour guerir promptment et ſurement la gale contractée par communication comme il arrive dans les caſerne, les ateliers, les hoſpitaux, et les priſons?

This prize was adjudged to M. Sumeire, phyſician at Marignone, in Provence.

In 1779, the following prize queſtion was propoſed:

Determiner, par un nombre ſuffiſant d'obſervations et d'experiences exactes, ſi les maladies contagieuſes, principalement la petite verole, peuvent ſe tranſmettre par l'intermede de l'air?

This prize was adjudged to M. Menuret, phyſician at Montelemart.

In 1780, the following prize queſtion was propoſed.

D'indiquer quelles ſont les maladies qui regnent le plus communement parmis les troupes pendant la ſaiſon de l'automne? quel ſont les moyens de le prevenir, et quelle eſt la methode la plus ſimple, la plus facile, et la moins diſpendieuſe de les traiter?

This prize has been divided between M. Bonté, phyſician at Coutances, and M. Thion de la Chaume, a phyſician in the army.

In 1781 and 1782, the following prize queſtions were propoſed, the determination concerning which is not yet publiſhed in the memoirs of the ſociety:

1. Quelles ſont les femmes qui doivent s'abſtiner de nourrir elles-memes leurs enfans?

2. Quelles ſont les moyens les plus ſurs de preſerver les enfans en nourrice, des accidens aux quelles la dentition les expoſe, et d'y remedier lorſqu'ils en ſont atteints?

3. Determiner quels ſont les ſignes qui annoncent une diſpoſition à la phthiſe pulmonaire,

et

et quelles ſont les moyens d'en prevenir l'invaſion ou d'en arreter les progrès?

* * * *

The attention of phyſicians and philoſophers at Paris has of late been very much engaged with the ſubject of animal magnetiſm, as it has been ſtyled. Dr Meſmer, a German phyſician, has, within the courſe of a few years, amaſſed a large ſum of money by means of it. His mode of practice at length ſo far attracted notice, that the King of France named a commiſſion, conſiſting of four of the moſt eminent phyſicians in Paris, and five of the moſt celebrated members of the Academy of Sciences, to inquire into the truth of his alleged cures.

The reſult of their inquiries is now publiſhed by authority, under the title of, Rapport des Commiſſaires charges par le Roi de l'examen du magnetiſme animal. From this report, it ſeems to be clearly demonſtrated, that animal magnetiſm is entirely an impoſition upon the public; but that the power of imagination has moſt ſurpriſing effects upon thoſe who ſuppoſe themſelves under its influence, particularly by inducing violent convulſions, or at leaſt that

the touch, particularly preſſure on the hypochondria and pit of the ſtomach, and imitation, one catching the convulſions of another, are, in conjunction with imagination, the true cauſes to which the effects alleged to ariſe from animal magnetiſm are entirely to be attributed; and although in this manner ſome cures may be accompliſhed, yet that convulſions are of themſelves a dreadful diſorder, too dangerous to be employed in the cure of any diſeaſe.

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A large work, on the ſtructure and phyſiology of fiſhes compared with thoſe of man, written by Dr Monro, profeſſor of anatomy in the univerſity of Edinburgh, and illuſtrated with a number of copperplates, is in the preſs, and will ſoon be publiſhed.

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The improved edition of Dr Lewis's New Diſpenſatory, which we mentioned in our former volume, the publication of which has been from different accidents retarded, has now been in the preſs for a conſiderable time, and will probably ſoon appear.

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Some years ago, a ſelection of the inaugural diſſertations which are printed at Edinburgh, was undertaken at that place, and two volumes were publiſhed under the title of Theſaurus Medicus. This work is again reſumed, and two other volumes will ſoon be publiſhed, containing diſſertations which have appeared between the years 1758 and 1785. The ſelection for theſe two volumes has been made by a committee appointed by the Medical Society for that purpoſe.

* * * *

Dr Alexander Hamilton is engaged in preparing a new edition of his treatiſe on midwifery, and the complaints of females, with the treatment of lying-in women, and the management of new-born children. Although this treatiſe is chiefly intended for the uſe of female practitioners and private families, yet it contains many remarks which may alſo be highly inſtructive to others.

* * * *

A tranſlation of Baron Haller's Firſt Lines of Phyſiology was printed ſome years ago at Edinburgh. That tranſlation was made from the

correct Latin edition printed under the inſpection of Dr Cullen. A new edition of this tranſlation will ſoon appear. It has been carefully compared with the edition lately publiſhed at Gottingen by Profeſſor Wriſberg, and will alſo contain a tranſlation of the notes which he added to that work.

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Mr Andrew Bell, engraver in Edinburgh, has made conſiderable progreſs in his anatomical tables of the blood-veſſels and nerves, the brain, viſcera, parts of generation, *&c.* It is therefore probable, that the publication of this important anatomical work is not now far diſtant.

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A new edition of Dr Cullen's Synopſis Noſologiæ Methodicæ is in the preſs, and will ſoon be publiſhed. This edition, we are informed, beſides many improvements, will contain Dr M'Bride's arrangement and definition of diſeaſes. Dr Cullen has likewiſe improved and made great additions to his own part of this uſeful work.

It

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It is expected, that, ſome time in March next, a ſecond edition of the tranſlation of the Count de Buffon's natural hiſtory, by Mr Smellie, one of the members of the Royal and Antiquarian Societies of Edinburgh, will make its appearance. This edition, we underſtand, is highly improved by the tranſlator; and a new ſupplementary volume, lately publiſhed by the Count de Buffon, is to be added. This volume conſiſts chiefly of intereſting facts relative to the hiſtory of the earth; and for the accommodation of thoſe who purchaſed the former edition, it will be ſold ſeparately.

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A new edition of Dr Withering's Botanical Arrangement of Britiſh Vegetables, is, we hear, in the preſs. Although the former title be preſerved, yet this edition will be in many reſpects an entire new work, and will form three volumes in octavo. And from the well known abilities of the author, there can be little doubt that it will be highly acceptable to every lover of botanical ſcience.

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Dr William Cleghorn, a young phyſician of the moſt promiſing abilities, died in Dublin on the 20th of April 1783. This very ingenious young man, who was cut off in the 29th year of his age, obtained the degree of Doctor of Medicine from the Univerſity of Edinburgh in 1779; on which occaſion, he wrote an inaugural diſſertation De Igne, which did him very great credit. He was nephew to Dr George Cleghorn, with whoſe character the medical world are well acquainted; and that gentleman had reſigned in his favour the office of lecturer in anatomy in the Trinity College, Dublin. His friends and the public entertained the higheſt expectations from his exertions in this capacity. But theſe hopes were ſoon blaſted by his premature death.

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On the 6th of June 1783, died in London Dr William Keir, member of the College of Phyſicians, and one of the phyſicians to Sir Thomas's Hoſpital. On this occaſion alſo we have again to regret the death of a moſt ingenious and amiable young man. In the ſeventh volume of theſe Commentaries, which was dedicated

dicated to him, and which has been reprinted ſince his death, we had occaſion to expreſs our eſteem for his abilities and virtues. Dr Keir was a native of Perth, in Scotland; he ſtudied medicine at Edinburgh, and obtained the degree of Doctor of Medicine from the Univerſity of Edinburgh in 1778, on which occaſion he wrote a very ingenious inaugural diſſertation De Attractione chemica. Soon after his graduation, he went to London, and delivered lectures on chemiſtry, which were very much admired by the moſt intelligent of his hearers. He was elected phyſician to St Thomas's Hoſpital in the year 1780, and had a fair proſpect of riſing to diſtinguiſhed eminence both in medicine and philoſophy. But a fatal fever, which was attributed to uncommon attention to the duties of his office in the hoſpital, cut ſhort a life no leſs valuable to the public than to his family.

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Dr Thomas Lawrence, long a phyſician of the firſt eminence in London, died at Canterbury on the 6th of June 1783. Dr Lawrence obtained the degree of Doctor in Medicine from the Univerſity of Oxford. He was admitted a fellow

fellow of the Royal College of Phyſicians in London in 1744. And after long practiſing in that city with very high reputation, he was elected Preſident of the College, which diſtinguiſhed office he held for ſeveral years. But about a year before his death, he left London, to ſpend the remainder of life in a more retired ſituation. He was highly eſteemed both for his integrity and erudition; and his diſſertation De Hydrope, as well as ſome other works, have been much and juſtly admired for the elegant claſſical ſtyle in which they are written.

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The celebrated Dr Daniel Bernoulli, profeſſor of phyſic and natural philoſophy in the univerſity of Baſil in Switzerland, died there on the 17th of March 1782. He was the ſon of John Bernoulli, a very celebrated mathematician, and he inherited no ſmall ſhare of the genius of his father. He was a member of the Royal Society of London, and indeed of moſt of the learned ſocieties in Europe.

Peter

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Peter Joſeph Macquer, M. D. juſtly celebrated for his chemical writings, died at Paris on the 17th of February 1784.

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Peter Cuſſon, M. D. a learned phyſician and eminent botaniſt, died lately at Montpellier. He was the intimate friend of the late celebrated M. de Sauvages, and had the honour of aſſiſting him in his very uſeful work, the Noſologia Methodica.

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The Univerſity of Leyden has of late ſuſtained a very heavy loſs by the death of two eminent medical profeſſors, Dr John David Hahn, and Dr Walter van Doeveren, who had there diſtinguiſhed themſelves, both as teachers of medicine, and authors of high reputation.

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Sir Torbern Bergman, Knight of the order of Waſſa, profeſſor of chemiſtry at Upſal, and member of many different learned ſocieties, died in Sweden on the 9th of July 1784. From his numerous

numerous improvements and valuable publications on different ſubjects of chemiſtry, he will always be regarded as one to whom that ſcience is very much indebted.

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Dr Matthew Dobſon, author of a commentary on fixed air, and ſeveral other valuable medical publications, died at Bath on the 25th of July 1784.

* * * *

In the month of Auguſt 1784, died at Rouen, John Peter David, an eminent ſurgeon and anatomiſt. He ſucceeded the late Mr le Cat as profeſſor of anatomy at that place, and was both diſtinguiſhed as a teacher, and as the author of ſeveral valuable publications on different medical ſubjects.

* * * *

During the courſe of the year 1783 and 1784, the following gentlemen have been admitted members of the Royal Colleges of Phyſicians and Surgeons of Edinburgh.

Admitted

Admitted into the College of Phyſicians.

Dr John Ellieſon,	1783. May 6.
Dr John Steavenſon,	Aug. 5.
Dr Jo. Joſ. Sue,	Sept. 1.
Dr John Marſhall,	Nov. 4.
Dr James Wood,	1784. Feb. 3.
Dr Robert Grant,	May 4.
Dr Andrew Farquharſon,	Nov. 2.
Dr Thomas Kerr,	Dec. 2.

Admitted into the College of Surgeons.

Mr Thomas Hart,	1783. Feb. 3.
Mr James Law,	ditto.
Mr James Lata,	June 16.
Mr John Bennet,	1784. June 22.
Mr James M'Dowall, Mr George Wood, Mr John Lamont,	Oct. 13.

* * * *

The following article, which lately appeared in the St Chriſtopher's gazette, has been communicated to us by an ingenious correſpondent from the Weſt Indies.

Extract

Extract of a Letter from a Gentleman in St Martin's, to his Friend in this Island.

St Martin's, 5th May 1784.

I cannot omit ſending you incloſed a recipe which thouſands in this part of the world would rejoice to know, and which, I believe, has been but very lately found out at Anguilla; ſince which, it has alſo been tried upon people in this iſland, affected with the leproſy, and many other diſorders, which the medical practitioners could make no hand of, and has been productive of great relief.

Theſe trials have been made by a number of gentlemen in Anguilla, and here, who have aſſured me, that it has made perfect cures, where there appeared no poſſibility of effecting one. In ſhort, there is ſcarcely a family now in this iſland, who have any one about them afflicted with leprous or other cutaneous diſorders, but are uſing the lizard: for my part, I ſhall begin with them for the gout; and if you think the public will be benefited by the incloſed receipt, I beg you will ſend it to the printer, for which, I preſume, you will afterwards have the prayers of many unhappy objects.

The

The Efficacy of the Wood-lizard, for curing the Cancer, Venereal Eruptions, Black Scurvy, or any other Scorbutic Complaint.

The lizard is to be taken alive, his legs, tail and head cut off, his guts taken out, his ſkin taken off, and with the ſame knife minced very fine, made into a pill or pills, mixed with a little flour, to be given the patient faſting every morning about ſun-riſe, the patient keeping within doors for two or three hours after.

It is not neceſſary to obſerve any particular regimen. The patient may, if he chuſes, drink cold water. With ſome, this remedy operates with a conſtant ſpitting, with others, in the way of perſpiration, and with ſome by urine. It has been tried in ſome of the Leeward Iſlands, and, to the aſtoniſhment of every perſon, has done wonders.

SECT.

SECT. IV.

List of New Books.

PHILOSOPHICAL Transactions of the Royal Society of London. Vol. LXXIII. for the year 1783. 4to. London.

An historical account of two species of the lycoperdon. By Charles Bryant. 8vo. London.

Observations on the means of preserving, and restoring health in the West Indies. By John Rollo. 8vo. London.

Candid animadversions on Dr Lee's narrative of a singular gouty case. By William Stevenson, M. D. 8vo. London.

A short history of the brown-tail moth. By William Curtis, author of the Flora Londinensis. 4to. London.

Chemical

Chemical eſſays, vol. III. By Richard Watſon, D. D. F. R. S. 8vo. London.

A brief hiſtory of the late expedition againſt Fort St Juan, ſo far as relates to the diſeaſes of the troops, together with ſome obſervations on climate, infection and contagion. By Thomas Dancer, M. D. 4to. London.

A report made by order of Government, of a memoir, containing a new, eaſy, and ſucceſsful method of treating the child-bed, or puerperal fever, made uſe of by the late M. Doulcet, Doctor-regent of the Faculty at Paris, and one of the Phyſicians to the Hotel Dieu, read at a meeting of the Royal Medical Society, held at the Louvre, the 6th of September 1782, tranſlated from the French, by John Whitehead, M. D. Member of the Royal College of Phyſicians, London, and Phyſician to the London Diſpenſary. 8vo. London.

Some account of the late John Fothergill, M. D. Member of the Royal College of Phyſicians, and Fellow of the Royal Society of London, Fellow of the Royal College of Phyſicians in Edinburgh, and correſponding member of the Royal Medical Society at Paris, and of the American Philoſophical Society at Philadelphia.

By John Coakley Lettſom, M. D. *&c.* 8vo. London.

Chirurgical eſſays on the cauſes and ſymptoms of ruptures, their natural conſequences, if neglected, *&c.* By T. Brand, Member of the Corporation of Surgeons of London, and Surgeon Extraordinary to his Majeſty's Hoſpital at Greenwich. 8vo. London.

Remarks on Mr Brand's eſſay on the cauſes and ſymptoms of ruptures, with a ſhort, but true hiſtory of the invention of Mr Brand's patent elaſtic truſſes. By T. Sheldrake, *junior.* 8vo. London.

Obſervations on the management of the diſeaſes of the army and navy, during the American war, together with ſome account of the loſs of Senegal, and of the army at York in Virginia, in reply to Dr Monro. By John Miller, M. D. 4to. London.

An eſſay on the ſymptoms and cure of the virulent gonorrhœa in females. By C. Armſtrong, Member of the Corporation of Surgeons, London. 8vo. London.

Collectanea Hibernica medica, No. I. being a collection of, and repoſitory for papers of advice,

vice, diſcuſſion and reſearch, in all departments of medicine. 8vo. Dublin.

Caſes in midwifery, with references, quotations and remarks. By William Perfect, Surgeon at Weſt Malling, in Kent. Vol. II. 8vo. London.

Reports of the Humane Society, inſtituted in the year 1774, for the recovery of perſons apparently drowned. For the years 1781 and 1782. 8vo. London.

Memoirs of Dr Albert Haller, M. D. Member of the Sovereign Council of Berne, Preſident of the Univerſity, and of the Royal Society of Gottingen, Fellow of the Royal Society of London, *&c.* By Thomas Henry, F. R. S. Member of the Medical Society of London, and of the Literary and Philoſophical Society of Mancheſter. 12mo. London.

An analyſis of the ſection of the ſymphyſis of the oſſa pubis, as recommended in caſes of difficult labour, and deformed pelvis, by Alphonſe le Roy, Profeſſor of Midwifery at Paris. By James Rymer, Surgeon. 8vo. London.

An enquiry, by experiments, into the properties and effects of the mineral waters in the county of Eſſex. By William Marten Trin-

der, L. L. B. at Oxford, and M. D. at the Univerſity of Leyden. 8vo. London.

Letters on the medical ſervice of the Royal Navy, with occaſional remarks, including new obſervations on the general practice of phyſic, and the beſt means of preſerving the health of his Majeſty's ſeamen. By William Renwick, Surgeon to the Royal Navy. 8vo. London.

Practical obſervations on the human teeth. By R. Wooffendale, Surgeon-dentiſt. 8vo. Liverpool.

Experiments and obſervations in electricity. By Thomas Milner, M. D. 8vo. Caddel.

Flora dietetica, or the hiſtory of eſculent plants, both domeſtic and foreign, in which they are accurately deſcribed, and reduced to their Linnæan generic and ſpecific names, with their Engliſh names annexed; the whole ſo methodized as to form a ſhort introduction to the ſcience of botany. By Charles Bryant of Norwich. 8vo. London.

A treatiſe on the venereal diſeaſe. By James Dunbar-Innes, A. M. Surgeon in London, and Member of the Royal Medical Society of Edinburgh. 8vo. London.

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Obſervations on the nature, kinds, cauſes, and prevention of inſanity, lunacy or madneſs. By Thomas Arnold, M. D. 8vo. London.

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Practical obſervations on amputation. By R. Mynors, Surgeon. 8vo. London.

An eſſay on the uſe of the red Peruvian bark, in the cure of intermittents. By Edward Rigby, Member of the Corporation of Surgeons, London. 8vo. London.

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thod of cure. By a Gentleman of the Faculty. 8vo. London.

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Diſſertatio chemica de terra Aſbeſtina, quam Præſide Mag. Torb. Bergman, Chem. Prof. Reg. et Ord. *&c.* publice ventilandam ſiſtit Carolus Guſtavus Robſahm, Vermelandus. 4to. Upſaliæ.

Diſſertatio chemica de analyſi lithomargæ, quam Præſide Mag. Torb. Bergman, Chem. Prof. Reg. *&c.* publice ventilandam ſiſtit ſtipendarius Gyllenjilmianus Carolus Diet. Hjerta, Weſtrogothus. 4to. Upſaliæ.

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Robertus Harding, Hibernus, de Amenorrhœa.

Ricardus Kiernan, Hibernus, de Scorbuto.

Jacobus Fred. Martley, Hibernus, de Mensibus.

Gulielmus Monro, Scotus, de Tetano.

Joannes Murphy, Hibernus, de Ictero.

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Christopherus Stanger, Anglus, de Sanitate.

Joannes Stark, Fifanus, de Malo hypochondriaco.

Thomas Waller, Britannus, de Typho.

Abrahamus Wilkinson, Britannus, de Electricitate.

Dissertationes medicæ, &c. ad diem XII Septembris 1783.

Thomas Bell, Hibernus, de Dieta.

Franciscus Buchanan, Scotus, de Febribus intermittentibus medendo.

Robertus Cleghorn, Scotus, de Somno.

Andreas Coventry, Scotus, de Scarlatina Cynanchica.

Stephanus Dickson, Hibernus, de Somno.

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P. Gulielmus Fergus, Hibernus, de Variolis.

Robertus Groat, Britannus, de Hysteria.

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Benjaminus Kissam, Americanus, de Utero gravido.

Jacobus Paterson, Britannus, de Evaporatione.

Arthurus Grant Robertson, Antiguensis, de Hydrope.

Edmundus Somers, Hibernus, de Sonis et Auditu.

Dissertationes medicæ, ad diem XXIV Junii 1784.

Joannes Barclay, Scotus, de Inflammatione.

Raius

Raius Beckwith, Anglus, de Morbo Pſoadico.

Jonathan Clerke, Hibernus, de Cancro.

Edvardus Long Fox, Britannus, de Voce humana.

Edvardus Harriſon, Anglus, de Opio.

Ricardus Kentiſh, Anglus, de Phthiſi pulmonali idiopathica.

Joannes Lawſon, Britannus, de Corde.

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Joannes Potter, Anglus, de Sedentariæ Vitæ Malis.

Michael Ryan, Hibernus, de Raphania.

Thomas Ryan, Hibernus, de Aſthmate ſpaſmodico.

Thomas Wallis, Hibernus, de Vermibus Inteſtinorum.

Henricus Brounker Wilſon, de Inſula Sancti Chriſtophori, de Sudore.

Joannes Unthank, Hibernus, de Leucophlegmatia.

Diſſertationes medicæ, &c. ad diem XIII Septembris 1784.

Andreas Berry, Scotus, de Phrenitide vera.

Jacobus Collier, Britannus, de Febribus intermittentibus.

Jacobus Curry, Hibernus, de Humorum in Morbis contagiosis Assimulatione.

Jacobus Donovan, Hibernus, de Hæmorrhagia Pulmonum.

Thomas Addis Emmett, Hibernus, de Aere fixo, sive Acido aereo.

Samuel Ferris, Anglo-Britannus, de Sanguinis per Corpus vivum circulantis Putredine.

Thomas Fulhame, Hibernus, de Febre Puerperarum.

Jacobus Gerard, Anglus, de Differentiis inter Fœtum et Adultum.

Gulielmus Henderson, Britannus, de Vita marina.

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Jacobus M'Donnel, Hibernus, de Submersis.

Alexander Pelissier, Hibernus, de Pulsu Arteriarum.

Thomas Spens, Edinburgensis, de Amenorrhœa.

Laurentius Walsh, Hibernus, de Cute et Tactu.

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Jacobus Templeton Robinſon, Hibernus, de Electricitate medica.

Gulielmus Major Dixon, civis Virginienſis, de Hepatitide.

Joannes M'Morran, Hibernus, de Typho.

Thomas Cochrane, Britannus, de Tetano.

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