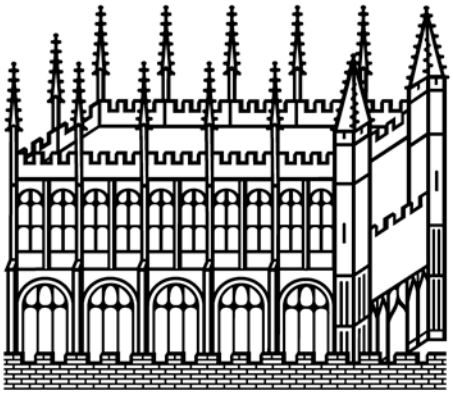


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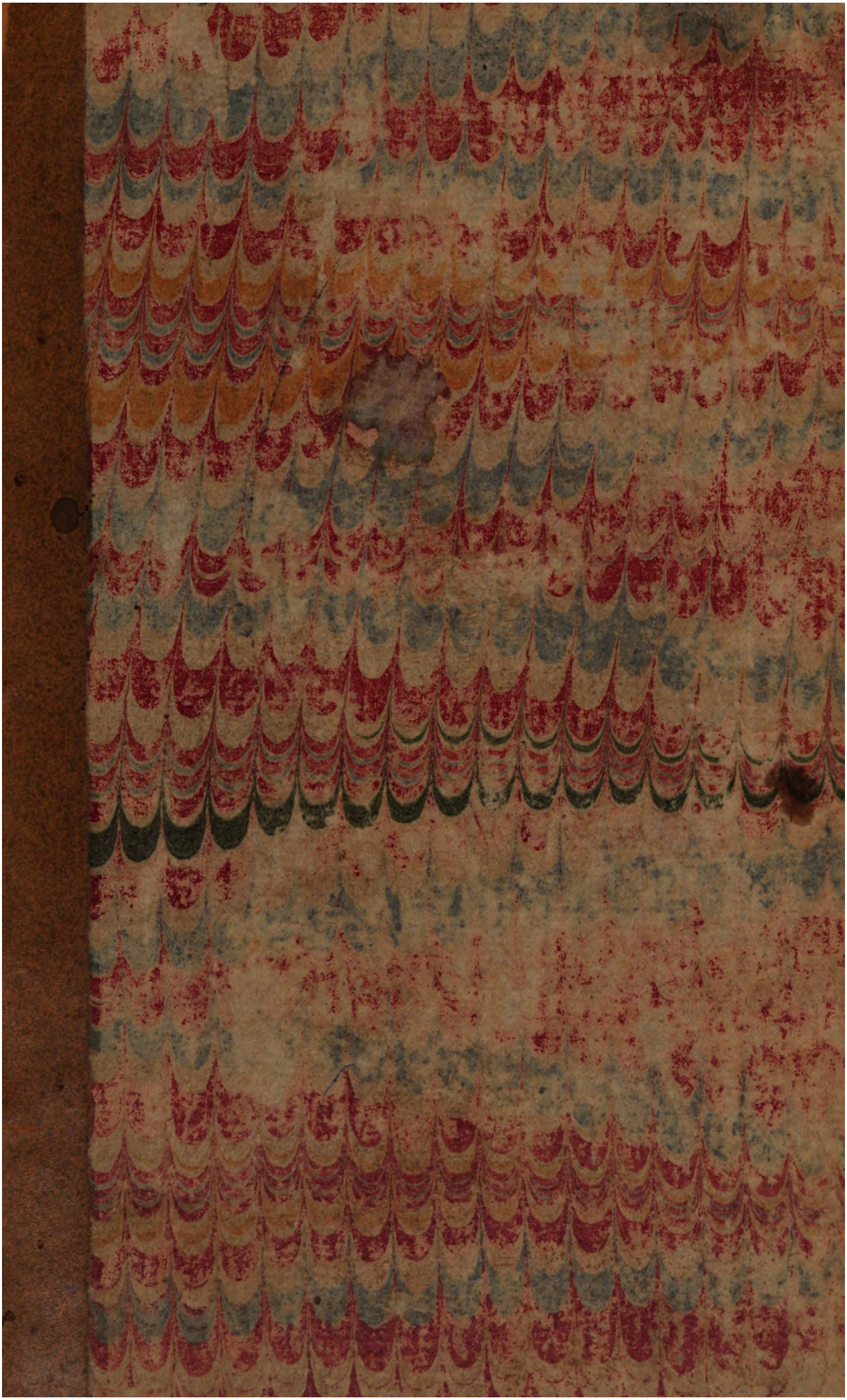
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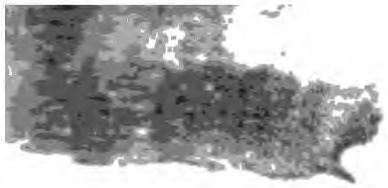


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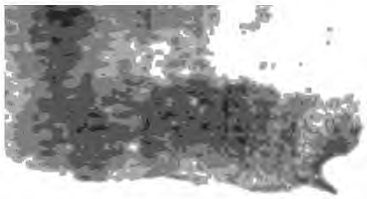
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MEDICAL

AND

PHILOSOPHICAL

COMMENTARIES.

By a SOCIETY in EDINBURGH.

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VOLUME THIRD.

PART I.

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M,DCC,LXXV.



As a Teſtimony of Gratitude and Eſteem,

This Volume of the

MEDICAL COMMENTARIES

IS HUMBLY INSCRIBED TO

WILLIAM FULLERTON, Esq;

Of CARSTAIRS;

By his

Moſt obedient Servants,

The AUTHORS.

Non poſſidentem multa vocaveris
Recte beatum: Rectius occupat
Nomen beati qui deorum
Muneribus ſapienter uti
——callet. HORAT.

PREFACE.

AFTER the publication of two volumes, we may reaſonably preſume, that none of our readers are unacquainted with the nature and intention of this Work. They have even ſufficient grounds for determining how far it is fitted to anſwer the purpoſe for which it was undertaken. And they will, we doubt not, have diſcovered many errors in the execution of it. But we may venture to aſſert, that none of them are more ſenſible of its imperfections, than we ourſelves are.

We mean not, however, to inſinuate that our labours are void of utility. We have, it is true, undertaken a taſk, to which, from the preſent ſtate of ſcience in general, and from the almoſt innumerable channels by which Medical and Philoſophical diſcoveries are now communicated to the public, our abilities are unequal. But, from theſe very circumſtances, till greater induſtry and ſuperior judgment be employed in the execution

of a ſimilar plan, this work, if conducted with impartiality and attention, muſt be extenſively uſeful. As we preſume not to ſet up our own judgement for a ſtandard of truth, we are but little expoſed to the charge of partiality. And although it becomes us not to ſpeak of the diſcernment which may appear in the execution of this work, yet we are conſcious of the labour which has been beſtowed upon it. Upon this ſcore, we cannot help thinking, that we have ſome claim to merit.

It is, we preſume, unneceſſary for us to promiſe, that the ſame induſtry, which has formerly been exerted, ſhall hereafter be continued. In this particular, our own intereſt is inſeparably connected with that of our readers. It ſhall always be our endeavour that each number appear at the ſtated periods which were formerly mentioned. But, from the concurrence of ſeveral circumſtances, eſpecially the abſence of Dr Hamilton, and the appointment of Dr Duncan to teach, for this winter, the Inſtitutions of Medicine in the univerſity of Edinburgh, and to give a part of the Clinical Lectures in the royal infirmary there, the publication of our next number muſt neceſſarily

neceſſarily be delayed for a longer interval than uſual.

It may be expected, that we ſhould take this opportunity of publicly returning thanks to thoſe gentlemen who have ſupplied us with original obſervations, and medical news. But they have already received acknowledgments, though more private, yet not leſs ſincere. And to thoſe, whoſe good intentions have favoured us with materials which could not be admitted, we hope we have aſſigned ſatisfactory reaſons for our conduct.

We imagine it would be ſuperfluous to ſay any thing, with a view of inſtigating the attentive and humane to lend their aid to a work which is intended for the public good. While, therefore, we have reaſon to hope for the continuance of favours from our former correſpondents, we flatter ourſelves we may likewiſe expect the aſſiſtance of others. And there are few careful obſervers, whoſe practice will not at times preſent them with intereſting and unknown facts.

MEDICAL COMMENTARIES.

SECT. I.

An Account of Books.

I.

Cornelii Pereboom, *Med. Doct. Academ. Natur. Curioſ. Sod. De Paralyſi imprimis Nervea Diſſertatio.* 8vo, Hornae.

THE author of this diſſertation is already well known to the learned world, by many former publications. The index which he compiled to the edition of Dr Boerhaave's Methodus Studii Medici, publiſhed by Dr Haller, will be a laſting monument of his induſtry. And, in the preſent work, our readers have a ſpecimen of his abilities in the theory and practice of medicine.

After

After ſome general obſervations on the ſtructure of the nerves, which he confirms by the authority of anatomiſts of great credit, he obſerves, that ſome nerves are entirely ſubſervient to the purpoſes of ſenſe. Others lead to organs fitted for motion; but, whether theſe be univerſally ſenſible or not, he does not pretend to determine. He quotes, from Boerhaave and Haller, inſtances where particular nerves have been entirely deſtroyed by diſeaſe, without any pain. But, whether they have any degree of ſenſe or not, he thinks it at leaſt evident, that, in their natural ſtate, they are inſenſible to the ordinary actions of the human body. And he is, upon the whole, inclined to adopt the opinion of Heiſter, that, from a diſeaſed ſtate of ſome nerves, there will ariſe a loſs of motion; and, of others, a want of ſenſibility.

Having premiſed theſe remarks, he defines palſy, a diſeaſed ſtate of any part of the human ſyſtem, in which ſenſibility or mobility organically fail. He terms palſy an *organic failure*, with a view of diſtinguiſhing it from mechanical defects. He objects to the definition of thoſe who have fixed upon a laxity of parts as a diagnoſtic ſign of palſy; becauſe he maintains that this diſeaſe fre-

frequently ariſes from ſchirrus of the muſcles or from ſarcoma.

He ſubdivides the genus Palſy into three ſpecies, the Nervous, the Muſcular, and the Nerveo-muſcular. By the nervous, he means that ſtate of the diſeaſe, where there is a depravation of ſenſe, without loſs of motion; by the muſcular, a loſs of motion, while ſenſibility remains; and, by the nerveo-muſcular, an affection both of ſenſe and motion. He obſerves, that authors have divided palſy into the perfect and imperfect. In the one caſe, ſenſe, or motion, or both, are entirely obliterated; in the other, they are only diminiſhed.

Having pointed out theſe different ſpecies of palſy, the author next preſents us with ſome remarks on their cauſes, and chiefly on thoſe which induce what he terms the *nervous palſy*. This laſt ſpecies may, he obſerves, be induced by every cauſe interrupting the connexion between the ſenſorium and the papillae at the extremities of nerves. Among others, he enumerates compreſſion, calloſity of the ſkin, ſphacelus, plethora, morbid acrimony, particularly of the ſcorbutic kind. In proof of this laſt cauſe, he relates two caſes, and adduces ſeveral obſervations from different practical authors. Another claſs of cauſes,

ſes, beſides thoſe ariſing from compreſſion, are ſuch as may be referred to the conſent of nerves. To this head, he refers palſy from worms, from terror, and from other ſimilar affections of the mind. The laſt ſet of cauſes are thoſe from inanition; to this, he aſcribes the palſy occurring in old age, from acute diſeaſes, from phthiſis pulmonalis, and other ſimilar circumſtances, by which patients are much exhauſted.

In the ſecond part of this diſſertation, the author treats of the cure of nervous palſy. He obſerves, that this is a diſeaſe which admits not of the removal of ſymptoms, or of a palliative cure; that the only method of affording relief is by the removal of the cauſe; and that thoſe palſies only are curable, where the cauſe is of ſuch a nature that it can be removed.

For the removal of ſome obſtructions producing palſy, he lays it down, as an indication, that the ſtagnating matter ſhould be diſcharged. With this view, he propoſes exciting evacuation by the ſkin; and this, he obſerves, may be effected, by drinking large quantities of diluting liquors, and fomenting with the vapour ariſing from burning ſpirits. Another means of exciting

ſweat,

ſweat, which he has found very ſucceſsful in his own practice is, the uſe of the decoction of guaiac. This he recommends to the quantity of a pound every day, together with friƈtions of the affeƈted part, with the following liniment. ℞ Sal. Tartar. ʒ vi. Sap. Venet. ℥ i. diſſolv. in Aq. tepid. ℥ x. Deinde admiſce Ol. Terebinth. ℥ iſs. Spt juniper. ℥ i. Ol. cajaput. ʒ ii. M. ſ. a.

Another mode of evacuation, which has been found ſerviceable in palſy is, by the belly. With this intention, the author recommends rhubarb, to the quantity of a ſcruple, or half a dram, every ſecond day. In caſes of plethora, he found blood-letting of great utility; but he has obſerved it to do manifeſt miſchief, in that ſpecies of nervous palſy ariſing from ſcurvy. To theſe evacuants, he propoſes that medicines, correƈting, attenuating, and reſolving viſcid humours, ſhould be conjoined. For this purpoſe, he adviſes the ſpiritus cochleariae, and ſpiritus ſalis ammoniaci. In caſes where there is any obſtruƈtion to the circulation on the ſurface of the body, which can be removed by relaxation, he propoſes warm bathing, conjoining with it wine and Peruvian bark to ſtrengthen the ſyſtem. Where, on the other hand, there is too great laxity, he obſerves, that

that cold bathing has been much recommended, and that it has been found particularly uſeful to expoſe the affected part to a fall of water. Much benefit, he affirms, may often be reaped from a temporary fever; and, upon this principle, he explains the action of ſcarification, cupping, bliſters, whipping with nettles, &c. But the remedies which he believes to be of all others the moſt powerful in this diſeaſe, are frictions and electricity. In proof their efficacy, he quotes a great number of caſes related by different practical authors, in which they have proved ſucceſsful. With regard to the uſe of electricity, he obſerves, that, when the matter compreſſing the nerves is impacted in their blood-veſſels, ſlight ſhocks only ſhould be given, leſt, the veſſels being burſt, an ecchymoſis ſhould be formed, giving a ſtill ſtronger compreſſion. But, when the obſtructing matter is lodged in the cellular ſubſtance ſurrounding the nerves, violent ſhocks are neceſſary, that abſorption may be more effectually promoted.

When a nervous palſy proceeds from inanition, induced by old age, little benefit can be expected from medicines. When it happens from long

long continued diſeaſes, it is to be removed by nutrient and reſtorative medicines.

II.

Diſſertatio Medica de Dulcamara. Auctore Georgio Hallenberg. 4to, Upſaliae.

AFTER ſome general obſervations on the improvement which medicine has lately received, on the defects under which it ſtill labours, and on the cauſes of theſe imperfections, which our author refers to three heads, the ſubtilty of phyſiology, the defects of pathology, and the neglect of the materia medica, he proceeds to treat more particularly of the night-ſhade. He introduces his ſubject, by narrating the various names that have been aſſigned to this plant by different authors. To this, he ſubjoins a particular deſcription of the dulcamara, which, he obſerves, is the ſolanum dulcamara caule inermi, fruteſcente, flexuoſo, foliis ſuperioribus haſtatis, racemis cymoſis, of Linnaeus.

Mr Hallenberg affirms, that the whole genus of ſolanum, in its natural ſtate, contains ſomething

thing adverſe to nature, although he allows that ſome ſpecies of it, when dreſſed, may be eat with ſafety. The parts of the plant which he propoſes for uſe are the ſtalks, throwing aſide the root, leaves, flowers, and berries. The taſte of theſe ſtalks is a mixture of ſweet and bitter. Upon a very ſlight decoction, they yield a ſweet taſted liquor; but, if the boiling be continued, it loſes this ſweetneſs, and acquires a bitter taſte.

The ſtalks, both in powder and decoction, evidently poſſeſs the qualities of the plant; although they have a much ſlighter degree of virulence than the other parts of it. He adviſes that the ſtalks be gathered either early in the ſpring, or in the end of autumn, when the leaves are void both of ſmell and taſte. The form in which he recommends its being uſed is that of decoction. He directs, that, upon two drams of the ſtalks, dried and ſliced, a pint of boiling water ſhould be poured, which, after ſtanding at reſt for half an hour, muſt be put upon the fire, till it boil for the eighth part of an hour. By this method of preparation, he affirms, that its medical virtues are beſt extracted. When a patient firſt begins the uſe of this medicine, he adviſes, that a little milk ſhould be mixed with it. Two tea-cupfuls of this de-

coction

coction are to be taken morning and evening; and after it has been uſed for three or four days, the ſtomachs of moſt patients will bear a ſtronger decoction, without ſickneſs or any other inconvenience, although no milk be added to it.

After theſe obſervations on the method of preparing and uſing the night-ſhade, the author next proceeds to treat of its uſe in medicine. He is of opinion, that there are few medicines in the materia medica better fitted for purifying the general maſs of fluids, by different evacuations, particularly by diureſis. He has, himſelf, frequently employed it with ſucceſs, in violent iſchiatic and rheumatic pains. In proof of its efficacy in jaundice, he cites the authority of Tragus, Vierius, and Rothonan; and its ſucceſs in ſcurvy has been confirmed by Linnaeus and Sauvages. Beſides theſe diſeaſes, he further recommends it as uſeful againſt ſuppreſſed menſtrua, and lochia, contuſions, itch, and lues venerea. The good effects, which may be obtained from it in this laſt diſeaſe, he endeavours to confirm, by narrating a caſe which fell under the management of Linnaeus. He concludes with obſerving, that, from the active powers it poſſeſſes, it is probable it may be uſed with advantage in many other diſeaſes.

III.

Diſſertatio Medica de Stramonii Uſu in Morbis Convulſivis. Auctore Adolph. Fried. Wedenberg. 4to, Upſaliae.

AS an introduction to this diſſertation, the author mentions the opinions entertained with regard to Stramonium, by many eminent writers. They all agree that it poſſeſſes ſtrong narcotic powers, inducing ſleep, and, on ſome occaſions, diſturbing the mind, ſo far as to excite madneſs, remaining afterwards for life. Kempfer, and Proſper Alpinus mention, that the Turks and Indians, who are prohibited from wine, uſe it with a view of exhilarating. They allow, however, that, when exhibited in more conſiderable doſes, it excites vertigo, madneſs, and profound ſleep.

But, however deleterious ſtramonium may be, when imprudently exhibited, if given with proper caution, its uſe is attended with the beſt effects. To inveſtigate the principles upon which its activity depends, the author made the following trials. Upon ten drams of the extract

of

of ſtramonium, dried by a gentle heat, and reduced to a powder, he poured a quantity of rectified ſpirit of wine, and allowed it to digeſt for ſome days. Having decanted the ſolution, which was green, he put upon the reſiduum a freſh quantity of ſpirit of wine; and repeated this proceſs, till the ſpirit acquired no tinge from it. Theſe ſolutions, being all mixed together, were evaporated to dryneſs, by a gentle heat. While this was performing, a heavy nauſeous odor exhaled from the liquor. Four ſcruples and a half of reſinous extract were obtained.

The matter which remained after the ſpirituous ſolutions were made, was treated in the ſame manner by warm water, as it had formerly been by ſpirit of wine. And all the watry ſolutions being mixed, and evaporated to dryneſs, three drams and one ſcruple of gummy extract were obtained.

What remained of the original maſs, after theſe ſolutions, was neither gummy nor reſinous, but an inert, inſipid earth, of a grayiſh colour. From theſe trials, Mr Wedenberg concludes, that, beſides reſinous and gummy parts, ſtramonium contains alſo a volatile ill-ſmelling matter, part of which is exhaled, during the evaporation; but

that part of it remains both with the reſinous and gummy extract, is evident from their ſmell and taſte. From diſſolving the watery extract, evaporating it to a certain degree, and afterwards placing it in a cold ſituation, it further appears, that ſtramonium contains ſaline particles, which, from their detonation in the fire, the author concludes to be nitrous. He obſerves, however, that he could not, upon every trial, obtain this ſaline matter.

After theſe obſervations on the principles which ſtramonium contains, Mr Wedenberg proceeds to give a phyſiological explanation of its action. The firſt effects it produces, which are of a ſedative nature, he aſcribes to its volatile principle acting upon the nerves of the ſtomach. From the gummy and reſinous parts conjoined with this volatile principle, acting upon the inteſtines, he ſuppoſes that the whole inteſtinal canal is thrown into unuſual contractions, which neceſſarily produces a quickened circulation. To this cauſe he refers all the augmented excretions, as copious ſweating, increaſed flow of urine, looſeneſs, and haemorrhagies, which ſtramonium will ſometimes occaſion. And, in caſes when a lar-

ger

ger doſe is given, he ſuppoſes that a rupture of ſome of the tender veſſels in the brain, from the accelerated circulation, produces the vertigo, apoplexy, convulſions, palſy, and other fatal ſymptoms.

After theſe obſervations on the operation of ſtramonium, the author thinks it neceſſary, before conſidering its uſe in convulſive diſeaſes, to give ſome general idea of convulſions. He divides them into tonic or clonic, univerſal or partial, primary or ſymptomatic. The cauſes from which they proceed, he refers to three general heads, Repletion, Inanition, and Irritation. To the firſt head, he refers plethora, inflammatory and exanthematic fevers, ſuppreſſed evacuations, &c. To the ſecond, he refers exceſſive looſeneſs, intenſe ſtudy, great fatigue, and hunger. And to the third, paſſions of the mind, injuries to nerves from external cauſes, dentition, titillation, and a variety of other ſimilar cauſes. In proof that convulſions have, at different times, ariſen from each of theſe cauſes, he produces the authority of ſome eminent practitioner.

From conſidering the operation of ſtramonium, and the cauſe of convulſions, Mr Wedenberg

concludes, that it will be of uſe, when the diſeaſe ariſes from ſaburra in the inteſtines, univerſal depravity of the humours, the ſuppreſſion of uſual evacuations, or ſlight obſtructions of the inteſtines without ſchirrus. To confirm this account, he ſubjoins the hiſtories of four caſes, in which he employed it with ſucceſs.

The firſt caſe is that of a lady, unmarried, and about twenty-two years of age, who, for the ſpace of three months, was almoſt every day affected with convulſions, ſometimes violent, ſometimes ſlight, which began with a fever and faintings. As ſhe was troubled with aſcarides, Mr Wedenberg imagined they might proceed from that cauſe, and ordered anthelmintics, but without any good effect. He then thought of trying the ſtramonium; but, as his patient was plethoric, he premiſed a bleeding, and the uſe of ſome nitrous and diluent medicines. He then began her with pills of the ſtramonium, of two grains each, one of which was taken thrice every day. The doſe was afterwards gradually increaſed, till ſhe took eight pills in the day. By this means, her convulſions were greatly mitigated, ſo that nothing almoſt remained but ſlight faintings. This doſe of pills was continued till the fortieth day, by which time her

her ſleep became more quiet, her appetite was improved; and her convulſive complaints entirely ceaſed.

The ſecond caſe is that of a young woman, twenty-two years of age, who, for the ſpace of four weeks, had been affected with faintings, without convulſions. After that, ſhe was, for three weeks, diſtreſſed with violent convulſions. She then began the uſe of the ſtramonium in pills, of two grains, three times every day. She was at the ſame time ordered nitrous powders, to be taken frequently, and the warm bath every third day. The doſe of the ſtramonium was increaſed to ſix pills every day, which operated both by ſweat and ſtool. By continuing the medicine for ſome time, ſhe was perfectly cured.

The third caſe is that of a girl, ſixteen years of age, who, in conſequence of a fright, was ſeized with convulſions. After her diſeaſe had laſted for four months, and ſhe had tried a variety of medicines preſcribed by another phyſician, Mr Wedenberg was called. After purging his patient, he ordered two grains of the ſtramonium to be taken twice every day, and ſome nitrous powders. The doſe was gradually increaſed, till ſhe took eight pills a-day; by this ſhe was affected with heavineſs in her head, and colic pains.

But, after ſhe had perſiſted in the uſe of the medicine for twenty-ſix days, her convulſions intirely ceaſed, her appetite returned, and ſhe recovered her former health and ſtrength.

The fourth and laſt caſe is, that of a girl, thirteen years of age, who had been affected with convulſions for four months, when our author's aſſiſtance was aſked. He began her with the ſtramonium pills, in his uſual manner; but, a fever ſupervening on the ſeventh day, he was obliged to intermit them. Ten days after, ſhe again returned to the uſe of them, and took to the extent of eight pills every day. After continuing them for three weeks, during which ſpace ſhe uſed the warm bath four times, ſhe was perfectly recovered.

IV.

IV.

Recherches ſur les Modifications de l'Atmoſphere; contenant l'Hiſtoire critique du Barometer et du Thermometer; un traité ſur la conſtruction de ces inſtrumens, des Experiences relatives à leurs uſages, et principalement à la meſure des hauteurs, et à la Correction des Refractions moyennes, avec figures. Par J. A. de Luc, *Citoyen de Geneve, Correſp. des Academ. Royales des Sciences de Paris et de Montpellier*, tom. 2. 4to, Geneve,

WE have already preſented our readers with an analyſis of the firſt volume of this work *; and it was our intention to have given, ſoon after, an account of the ſecond. It has, however, from an accident, which could not be prevented, been delayed much longer than was intended. This, we hope, the indulgence of our readers will forgive.

Having in the former volume finiſhed the two firſt parts of his work, the author proceeds, in that now before us, to the third. In this he gives

* Vid. vol. 1. p. 374.

gives an account of his farther improvements on the barometer; his method of purging the mercury of air; and his various attempts to prevent it from eſcaping from the tube, in order to render the barometer portable. In this he at length ſo far ſucceeded, as to enable it to bear very conſiderable ſhocks, and to admit of being carried on horſeback, though he was unable to make it ſtand the jolting of a chaiſe.

In the fourth part, the author treats of the means of diſcovering the denſity of the air, in any place, and at any time; and of the application of this to the meaſuring of heights by the barometer. In the firſt chapter, we have the account of a phaenomenon, both curious and important. Upon meaſuring a mountain, having obſerved the height of the mercury in his barometer, two different times, at the ſame ſtation, on the ſame day, he found it ſtood lower the ſecond time than the firſt. When he returned to the plain, he was informed a variation, quite contrary, had taken place in the barometer which he left there. And afterwards, upon repeated trials, he found, that, as the heat increaſed, the mercury roſe in the barometer in the mountain, and fell in that of the plain; as the heat decreaſed, the contrary

variation

variation took place. After ſhewing that heat may occaſion theſe contrary variations, from a quantity being forced from the plain to the mountain, he obſerves, that, in order to meaſure the height of mountains exactly, by the barometer, it is neceſſary to pay attention to this circumſtance, and to know the heat of the air at the time of obſervation, both in the plain and upon the mountain.

Mr de Luc next mentions the objections to ordinary thermometers for meaſuring the heat of the air; and propoſes a method for conſtructing one which may be fit for this purpoſe. He then endeavours to inveſtigate the laws which the dilatations of the air obſerve, as influenced by heat. From theſe laws he attempts to deduce a general rule, to be obſerved in the meaſuring of acceſſible heights by the barometer.

We are next preſented with a number of obſervations made upon the mountain Saleve, and other places in the neighbourhood of Geneva. After relating theſe experiments, he points out the difficulties which he was ſtill unable to overcome, and which prevented him from arriving at perfect exactneſs in meaſuring heights by the barometer. Theſe difficulties proceed

ceed from the nature of the inſtrument; from the difficulty of determining the influence of heat upon the denſity of the air; from the nature of the air; and from the effects of vapours.

After this, we have an eſſay upon the cauſes of the variations of the barometer in the ſame place, and an explanation of the principal phaenomena which accompany theſe variations. Mr de Luc remarks, that his obſervations on the mountain Saleve, and other places, led him to imagine, that theſe variations might be occaſioned by cauſes which have not always an equal influence on the weight of the atmoſphere: That the region of exhalations and vapours might be ſubject to viciſſitudes of dilatation and condenſation, which cannot be ſubjected to any general laws; and that the air might be ſubject to mixtures, which can render its elaſticity variable. Finding that, when the barometer in the plain was below its medium height, his obſervations never gave too much but generally too little elevation to the mountain; and that, on the contrary, when the barometer on the plain was above its medium height, the obſervations generally gave too much; he ſaw it was not only neceſſary to know, by the height of the barometer, the weight which compreſſes the column

column of air, and by the thermometer, its temperature at the time; but that attention muſt alſo be paid to the variations of the barometer itſelf. Theſe circumſtances led him to inquire into the principal cauſes of the variations of the barometer.

He begins, by obſerving, that, if heat be allowed to be the immediate cauſe of evaporation, the vapours which are produced muſt be ſpecifically lighter than the air, in whatever way the igneous fluid may combine itſelf with water. He next attempts to confute the opinion, that evaporation is produced by the air acting as a menſtruum to water, and refers it intirely to heat. He then proceeds to ſhow how vapours are the occaſion of variations in the barometer. The vapours continually diſcharged from the ſea muſt riſe by their levity; but, at the ſame time, they are ſtopped when the difference between their ſpecific gravity and that of the air is not ſufficient to overcome the reſiſtence with which the air oppoſes the ſeparation of its parts. The vapours being thus detained, a column of air contains a fluid which has ſpecifically leſs gravity than itſelf; hence the mercury in the barometer muſt fall.

After

After eſtabliſhing this opinion, he proceeds to explain various phaenomena which have a relation to the variations of the barometer, and to reconcile them to his hypotheſis. The chief of theſe phaenomena are the formation of clouds; the cauſes of rain, dew, and hoar-froſt; the influence of winds; the cauſe of rain while the mercury is ſtationary, or even riſing; and the reaſon why the variations of the barometer are greater in northern latitudes than under the equator.

After giving an account of the method of levelling roads by the barometer, he concludes this fourth part of his work, by examining the obſervations made by ſeveral eminent philoſophers in different parts of the world. From this examination he ſhews, that the dilatations of the air obſerve the ſame laws at every height and in every climate.

In the fifth part, we are preſented with ſome general reflections on the utility of barometrical obſervations. He introduces his ſubject, by obſerving, that, although the meaſuring of heights was his principal object, yet the diſcoveries which he has made in this purſuit may be of uſe, wherever the weight, denſity, or elaſticity of the atmoſphere have any influence. He proceeds to make

make ſome particular application of the principles which he had laid down, and points out a method of diſcovering with certainty the actual ſpecific gravity of the air. He applies the ſame principles for determining the total weight of the atmoſphere, and the differences in refraction which the rays of light muſt undergo from thoſe changes which take place in the ſtate of the air.

In oppoſition to the opinion of Caſſini, who, for want of proper meteorological inſtruments, had concluded, that the part of the air which occaſions refractions, had no connection with that which occaſions its weight, Mr de la Caille has demonſtrated the neceſſity of correcting refractions in conſequence of the different ſtates in the atmoſphere. Mr Mayer agreed with Mr de la Caille in imagining the refractions of the rays of light to be proportioned to the variations of the thermometer; but they differed with regard to the influence of heat. Mr Mayer thought that a variation of ten degrees in Reaumer's thermometer correſponded to a change of $\frac{1}{212}$ in the refraction. Mr de la Caille believed, that it correſponded only to $\frac{1}{217}$. Mr De Luc attempts to diſcover the cauſe of the difference between theſe

theſe two philoſophers. He obſerves, that refractions are affected by changes which take place in the denſity of the air; but that theſe are produced by two very different cauſes. *1ſt*, By the difference of the weight which preſſes upon the air. And, *2dly*, by the reſiſtance to that preſſure. The firſt of theſe is diſcovered by the barometer, the ſecond by the thermometer.

To this work is ſubjoined a long ſupplement, concerning the variations in the heat of boiling water. It contains many curious obſervations; but of theſe the limits of our publication will not allow us to give any account.

V.

Experimental Inquiries, Part Second; containing a Deſcription of the Lymphatic Syſtem in the Human Subject, and other Animals; illuſtrated with Plates. *By* William Hewſon, *F. R. S.*

NO part of the animal oeconomy has of late more engaged the attention of anatomiſts,

miſts than the ſyſtem of veſſels, generally known by the name of *valvular lymphatics*. Unfortunately, however, each of them has attached himſelf to a ſmall part of this wide extended field, and while ſome of its branches have been deſcribed, even delineated, with accuracy, no connected account of the whole has ever appeared. To ſupply theſe deficiencies is the intention of this eſſay, which we may reaſonably preſume will not be diſagreeable to the philoſophical inquirers into nature, and may be uſeful to the practitioners of the medical art.

After a ſhort hiſtory of the lymphatics, from the firſt ſteps made towards their diſcovery by Aſellius, to his own demonſtrations, which prove that they are generally diffuſed over the animal world, Mr Hewſon gives a ſlight view of the ſtructure of theſe veſſels, which he ſuſpects to poſſeſs a muſcular power; and then proceeds to a full detail of their origin and courſe in the human body, referring to a few elegant plates. To render this part of his work as complete as the ſubject would allow, he has added a ſuperficial deſcription of the lymphatics in birds and fiſhes, with an account of his method of rendering them more obvious to th ſenſes. As this part ſeems inca-

pable of abridgement, we next follow the author to a few experiments on the lymph, both as contained in its proper veſſels, and exhaled into the different cavities of the body.

Fluids, in each of theſe ſtates, coagulated when expoſed to the air, and ſeemed more to reſemble the buffy coat of the blood than its watery parts, to which both had been compared by Authors. This coagulum, Mr Hewſon found to vary conſiderably in its degree of coheſion, being always firm in ſtrong animals, but in weak ones of a much looſer texture. And, in the courſe of his experiments, he obſerved, with pleaſure, that the fluid, collected from the different cavities of the body, uniformly agreed with that found in the lymphatic veſſels of the ſame animal, both in degree of tenacity, and time of coagulation. Thus far theſe fluids correſpond with the coagulable part of blood; but they differ from it in the time neceſſary to form the coagulum, the blood always jellying much ſooner than the lymph, and later in ſtrong than in weak animals; the very reverſe of what happens to that fluid.

From the following obſervations, Mr Hewſon is of opinion, that the veſſels exhaling fluids into the

the cavities of the body, whatever their ſtructure may be, have a power of changing the nature of their contents.

1. A coagulum is often found covering the internal ſurface of inflamed cavities, without the ſmalleſt eroſion. This can only be the natural exhalation, thrown out by inflamed veſſels, with a ſtrong diſpoſition to coagulate.

2. As the lymph is diſcharged, variouſly changed in tenacity, and other properties, by diſeaſe, and as pus is ſometimes found in the ſame manner in cavities, without any ulceration, the author thinks it at leaſt probable, that this purulent matter is only the lymph itſelf, ſtill more altered by flowing through veſſels in a higher or different degree of inflammation; and, in this notion, he is confirmed, by obſerving, with the microſcope, globules in pus like thoſe of the milk, a ſecreted liquor.

On a review of his experiments, he thinks they evidently point out the following general concluſions: That the lymph and exhalations are of a ſimilar nature, but differ widely from the watery part of the blood; that they coagulate on expoſure to air, and are probably a ſpe-

cies of the lymph of the blood; that they differ in the time and firmneſs of coagulation, in various degrees, from the cahectic habit, where they ſcarcely jelly at all, to the inflammatory, where very ſhort time is requiſite to a ſtrong coheſion; and that, in ſome caſes, the inflamed veſſels can even convert the fluid paſſing through them into real purulent matter.

Having thus given a correct idea of the properties of the lymph, he goes on to trace it from the circulating maſs, and to inveſtigate the manner of its ſeparation; with regard to which, he obſerves, two different opinions have been entertained. The firſt and moſt general is, that the lymph is poured into cavities, either by exhalent arteries, or pores of an organized nature on the ſides of veſſels. The other has lately been ſtarted by Dr Hunter, who conſiders the lymph as merely a tranſudation of the thinner parts of the blood through interſtices, or inorganized pores in the veſſels circulating the red blood; which, though they retain the ſerum, allow the more fluid parts to paſs with eaſe. In ſupport of this new doctrine, Dr Hunter adduces the following facts.

1. Water

1. Water injected into the blood-veſſels of a dead animal readily imitates this tranſudation.

2. Blood itſelf tranſudes after death, the lymph to which it owed its conſiſtence being coagulated,

3. Bile tranſudes through the gall-bladder; for, on opening an animal, all the adjacent parts are tinged.

With a view to diſprove this notion, Mr Hewſon maintains, that there is a tenſion in the veſſels of a living body, forſaking them with life; and that, did ſuch an exudation take place, it would defeat one great intention of veſſels, the conveyance of fluids, and involve us in a continual round of exhalation and abſorption, very contrary to the common ſimplicity of nature.

A ſecond objection of Mr Hewſon is, that, if liquors thus filtrate into cavities, not only muſt the veſſels, creeping on their ſides, but the membranes, lining theſe cavities, be porous. But, if theſe pores are admitted in every part, we cannot deny them to the whole extent of theſe membranes. And, were this the caſe, a partial dropſy

could never occur; as a fluid would as eaſily eſcape, from within, outwards, as it formerly inſinuated itſelf from the veſſels into any cavity.

Another argument againſt the opinion of Dr Hunter, is drawn by Mr Hewſon from his former experiment, where he found the lymph, in different ſtates of the body, ſo various in degree of viſcidity. He is at a loſs to conceive, how pores of an inorganized nature ſhould pour out fluids ſo different in conſiſtence, much leſs filtrate pus from the blood, where it never exiſted.

The argument of Dr Hunter, founded on the tranſudation of blood, proceeds, he thinks, on an erroneous principle; for the blood of a living animal is actually thinned by the preſence of the coagulable lymph: And, if this tranſudation takes place in a dead, and not in a living animal, it ought rather to be attributed to a change in the veſſels, than their contents. And this is almoſt proven by the attentive examination of one of the ſtrongeſt of the doctor's own facts, viz. the bileous tinge on parts contiguous to the gall-bladder, which only takes place after an animal has been ſome time dead; but is never found in one recently killed.

From

From all theſe, the author concludes, that, as the lymph is very different from pure water, it cannot be filtrated by inorganical paſſages; and that the common opinion is founded on reaſon and experiment, the lymph being not only tranſmitted through exhalant veſſels, but by them changed in its properties, and adapted to the office of lubricating parts.

The manner in which the lymph is diſcharged into the cavities of the body being thus aſcertained with a great degree of probability, Mr Hewſon proceeds to examine how it is again abſorbed, whether by the common veins, or by the lymphatic ſyſtem. Beſides the authority of all the ancients, the advocates for the firſt opinion think they are poſſeſſed of ſeveral concluſive arguments in its favour.

They alledge, that, in dead bodies, injections eaſily flow from the veins into ſeveral cavities. This Mr Hewſon thinks, for many reaſons, to have little force. The veins are very delicate, and may be ruptured by a very ſmall diſtending power. And this ſeems in general to have been the caſe; for moſt of the injections uſed in theſe

experiments were far too groſs to reach the extremities of the veins. And when thoſe of a more penetrating nature are employed, they imitate that tranſudation from vaſcular laxity, which takes place after death.

A ſecond argument adduced in favour of the old opinion is, that chyle has been ſeen in the meſenteric veins. But this is a very inconcluſive one, as the whole ſerum has been found of a white colour, and, in theſe veſſels, might eaſily be miſtaken for chyle. Another has been furniſhed by the ſtructure of the penis; but this analogy is now given up, it being generally allowed, that the blood is not abſorbed, but forced from its cells into the venous ſyſtem.

Ligatures and compreſſion on veins have afforded a fourth argument; but two circumſtances unite to render this leſs ſatisfactory: 1*ſt*, The lymphatics, being contiguous to the veins, may be affected by the ſame cauſe. And, 2*d*, the compreſſion of a vein will throw a greater quantity of fluids on the exhalant arteries, by obſtructing their flow through the red ones.

It has been farther alledged, that there is no continuation of veſſels, nor any lymphatics in the placenta,

placenta, though abſorption evidently takes place. To this Mr Hewſon replies, that there may be lymphatics, though not diſcovered, and continued veſſels from the mother to the foetus, though never injected.

The ſixth argument is ſupplied by an experiment of Kaau Boerhaave. He injected a fluid into the inteſtines, which ſoon appeared in the meſeraic veins. But Mr Hewſon is much inclined to believe that there was ſome deception in this experiment, as it has been often repeated, without ſimilar ſucceſs. Did the fact even happen, it could never be by abſorption, that ceaſing ſoon after death, while this happened at the end of ſeveral hours; and, as preſſure was applied to the ſtomach, the author thinks a venous rupture might give riſe to the appearances obſerved by Kaau Boerhaave.

The ſeventh and laſt argument in favour of abſorption by the the veins was, that many animals were deſtitute of any other veſſels capable of performing that office, as birds, fiſhes, and amphibia; but the diſcovery in lymphatics of every one of theſe, has totally overthrown this argument.

To all theſe, the ingenious Mr Meckel has, of late, added ſome others, derived from injections of

of mercury into the lymphatic glands, veſiculae ſeminales, bladder, and lacteal ducts of the breaſt, which he found to paſs readily, and without extravaſation, into the adjacent veins. But Mr Hewſon obſerves, that extravaſation is detected with difficulty; and as the lymphatic veſſels often lie contiguous to veins, it is not impoſſible that, in ſome caſes, the mercury might burſt from the one of them into the other, as often happened to Mr Hewſon in the meſentery of the turtle. From all theſe, the author conſiders the old opinion, as at leaſt open to many and weighty objections.

Unſatisfied, however, with this negative proof, he goes on to ſhow, that abſorption in reality is carried on by the lymphatic ſyſtem, from the analogy of all theſe veſſels with the lacteals, which form a part of that ſyſtem, and are without doubt abſorbents. Beſides this, the courſe by which poiſons reach the circulating fluids when externally applied, evidently points out that they enter the lymphatic veſſels alone, and are by them conveyed towards the heart. To theſe Mr Hewſon adds his obſervation, that the ſame fluid is always found in theſe veſſels, and the cavities whence they ariſe. Thus there will remain little doubt of the abſorbent power of lymphatics, a function

function of ſuch importance in the oeconomy, that, for it alone, nature has provided a diſtinct ſet of veſſels: They had indeed, by ſome, been ſuſpected to be only reflected arterial branches; but this has been long confuted by the experiments of Dr Monro and Dr Hunter.

The indefatigable author next proceeds to give ſome conjectures with regard to the manner in which a fluid is taken up by the abſorbents, having firſt premiſed an account of the intimate ſtructure of the villous coat of the alimentary canal.

The villi, ſays Mr Hewſon, are folds of the internal coat, on each of which run an artery, and a vein, ſurrounding the open mouth of one or more lacteals. Theſe running backwards, through the coats of the inteſtines, for ſeveral reticular convolutions; which miſled Lieberkuhn into the notion of a ſmall bag, of which Mr Hewſon denies the exiſtence. And he takes this opportunity of ſhowing, that, in many glands of the body, ſimilar convolutions have made anatomiſts ſuſpect the preſence of follicles, where, in fact, they cannot be found.

As

As abſorption ceaſes with life, Mr Hewſon favours us with the following curious idea of the manner in which it goes on. We find, ſays he, that where nervous papillae are intended to poſſeſs an exquiſite degree of ſenſibility, they are incloſed in a plexus of blood-veſſels, by which they are erected, and adapted to receive ſlighter impreſſions; and as the lacteal orifices are provided with a ſimilar ſtructure, it is probable that they are alſo erected and diſtended by the turgeſcency of the blood-veſſels; and, in this ſituation, like capillary tubes, ſuck in whatever fluid is offered to their mouths. By this attraction, the fluid may reach the firſt pair of valves, and, acting as a ſtimulus, excite a muſcular contraction, puſhing on the lymph towards the heart; its tranſmiſſion will alſo be forwarded by the pulſation of arteries, which frequently croſs or accompany lymphatics.

All this part of Mr Hewſon's work ſeems as much calculated for the philoſopher as the phyſician; but he afterwards applies his obſervations to practice, and with ſeveral pathological remarks of importance concludes this eſſay.

From a compariſon of the natural exhalation with theſe accumulations, conſtituting dropſy, he finds

finds them of different qualities; and thinks he has a right to conclude, that neither increaſed exhalation, diminiſhed abſorption, or a ruptured lymphatic, can, in common caſes, be reckoned the cauſe of that diſeaſe. He is of opinion, that theſe collections muſt proceed, either from a morbid ſtate of the veſſels, or too much water in the blood; and that abdominal obſtructions only give riſe to dropſy, from their effect in forming the chyle. Thus, if the liver be diſeaſed, little bile will be poured into the inteſtines, and the aliment of courſe will be leſs properly aſſimulated; which naturally may produce a vitiated ſtate of the blood. Mr Hewſon next obſerves, that various ſpecies of acrid and poiſonous matter, paſſing, as has been proved, through the lymphatic ſyſtem, give riſe to tumor of the glands, between the place of application and the heart; a fact well meriting the attention of ſurgeons, who might miſtake theſe for primary diſeaſes, and expect to cure them without attending to the real cauſe.

Another circumſtance of importance to a ſurgeon, is, that poiſons are often not abſorbed in an inſtant, and that extirpation of the part affords the moſt rational proſpect of a cure.

His

His laſt obſervation is with regard to the cure of oedema, wh ich is often occaſioned by indurated lymphatic glands, or ſome other cauſe obſtructing the return of the lymph. The cure in theſe caſes can only be performed by a knowledge of the original cauſe and its final removal.

VI.

Obſervations on ſolar Spots. *By* Alexander Wilſon, M. D. *Profeſſor of Practical Aſtronomy in the Univerſity of Glaſgow, communicated to the Reverend* Nevile Maſkelyne, *Aſtronomer Royal. Vid. Philoſophical Tranſactions, Vol. LXIV. Part.* 1. 4to, London.

AFTER the invention of the teleſcope, an object ſo conſiderable as the ſun could not fail to claim attention. One of the moſt remarkable diſcoveries, made with regard to it, was that of ſpots appearing upon its ſurface, which were ſubjected to many remarkable variations. Theſe phaenomena, while they tended to overthrow opinions before entertained, excited great hopes, that,

that, by due attention, ſomething curious and important, concerning the nature and conſtitution of the ſun itſelf, might be determined. It is, therefore, by no means ſurpriſing, that philoſophers of the firſt note ſhould have engaged in the proſecution of this inquiry.

The learned and ingenious author of the paper now before us, introduces his own obſervations on the ſubject of the ſolar ſpots, by ſome remarks on the conjectures which had been offered by others. The chief of theſe were Scheiner and Hevelius. The attention they beſtowed upon this ſubject deſerves applauſe. But, excepting a few concluſions concerning the rotation of the ſun round its axis, and the inclination of its axis to the plane of the ecliptic, our author is of opinion, that nothing of moment can be derived from their obſervations.

His own obſervations commenced in the month of November 1769, at which time a ſpot of an extraordinary ſize appeared upon the ſun. He had an opportunity of obſerving the changes which took place in it, at a time, when its nucleus and umbra were very clearly defined. The umbra, which at firſt was equally broad all round the nucleus, ſoon appeared much contracted on that

part

part which lay towards the diſc of the ſun, while the other parts of it remained nearly of their former dimenſions. After this, the contracted ſide of the umbra entirely vaniſhed, and the nucleus changed its figure. From theſe circumſtances, Dr Wilſon began to ſuſpect, that the central part, or nucleus of this ſpot, was beneath the level of the ſun's ſpherical ſurface, and that the ſhady zone, or umbra, might be nothing elſe but the ſhelving ſides of the luminous matter of the ſun, reaching from this ſurface, in every direction, down to the nucleus. And he ſuppoſed this ſolar ſpot to be a vaſt excavation, the nucleus being its bottom, and the umbra its ſides.

Soon after he had formed this conjecture, the ſpot diſappeared, in conſequence of the revolution of the ſun round its axis. But, by obſervations made, upon its again returning after half a revolution, he was ſtill farther confirmed in his opinion. He next endeavoured to deviſe ſome means for aſcertaining the depth of this excavation. The breadth of the umbra on one ſide, he found, by obſervation, to be 14 minutes; but, for determining the point in queſtion, it was neceſſary to know its inclination to the ſun's ſpherical ſurface. As, upon the firſt appearance of the umbra,

bra, or upon its being juſt hid, a line joining the eye, and its uppermoſt limit, muſt coincide with the plane of its declivity, he concluded, that, by meaſuring the diſtance of the edge from the limb, when this change takes place, and by repreſenting it by a projection, the inclination may be aſcertained. Proceeding upon theſe principles, from the obſervations which he made, he was led to believe, that the bottom of this ſolar ſpot was not leſs than a ſemidiameter of the earth below the ſun's ſpherical ſurface.

After this examination of the large ſolar ſpot, he next proceeded to examine ſmaller ones, in order to diſcover whether they were of the ſame kind. From above forty obſervations, he found reaſon for concluding that every ſpot, conſiſting of a nucleus and ſurrounding umbra, is of the ſame kind with that deſcribed above.

During the courſe of theſe obſervations, he had an opportunity of remarking another extraordinary circumſtance reſpecting ſolar ſpots. On ſeveral occaſions, he obſerved one ſpot break out in the neighbourhood of another, by means of which changes were produced in the firſt. It may ſeem ſtrange that none of the former obſer-

vers, who looked at the ſolar ſpots with ſo much attention, ſhould have diſcovered theſe phaenomena. This our author aſcribes to the idea they entertained of the nature of the ſun, to their ſuppoſing that ſolar ſpots could conſiſt of nothing elſe but ſmoke and groſſer exhalations, and to their chiefly obſerving theſe ſpots by the camera obſcura. He affirms, however, that, in this way, they can by no means be ſeen with the ſame diſtinctneſs as through a good teleſcope, armed with a glaſs properly ſmoaked.

From the peruſal of this paper, it will be evident to our readers, that Dr Wilſon has thrown new light upon a ſubject no leſs curious than it is grand. We mean not to detract from his merit, when we obſerve, in his own words, that a happy concurrence of circumſtances has often effected more than the moſt promiſing meaſures. In the preſent inſtance, both have been conjoined. It is probable, however, that much ſtill remains to be diſcovered. But it is to be hoped that the ſucceſs which has attended Dr Wilſon's inquiries will encourage both himſelf and others to proſecute this inveſtigation.

VII. *The*

VII.

The Caſe of a Patient voiding Stones through a fiſtulous Sore in the Loins, without any concomitant Diſcharge of Urine by the ſame Paſſages. In a Letter to Dr Matty *from Mr* S. F. Simmons. *Vid. Philoſophical Tranſactions, Vol. LXIV. Part.* 1. 4to, London.

THE caſe with which we are here preſented is not of a nature ſo ſingular, that ſimilar inſtances may not be found on record; yet ſome intereſting circumſtances, with which it was attended, well deſerve notice. A woman, above fifty years of age, had, for about half that time, been affected with nephritic complaints. For the greateſt part of that period, ſhe had voided gravel with her urine, and had, on different occaſions, paſſed ſmall ſtones.

About ten years after the firſt attack, a ſwelling appeared on the left lumbar region, which, at length, ſuppurated. The wound did not heal, but conſtantly afforded an ichorous diſcharge. After five years continuance, this diſcharge be-

gan to abate, and the wound, from being perfectly eaſy, became painful and inflamed. The pain of her back, which had always affected the left ſide, became more intenſe than ever. But, during theſe ſymptoms, ſhe continued to paſs her urine in a healthy quantity, and without difficulty. The gravelly appearance in her urine now entirely diſappeared, nor were any calculi voided. After ſhe had continued in this ſituation for about eight days, a ſmooth calculus, weighing nearly twelve grains, was extracted, with ſome difficulty, from the wound in the back.

After recovering from this paroxyſm, ſhe was, at different times, affected with ſix others, all of which terminated in a ſimilar manner. During the intervals, ſhe enjoyed a ſtate of eaſe and health; the wound ſoon contracting to its uſual ſize, and admitting with difficulty a common probe.

From this hiſtory, Mr Simmons draws ſeveral concluſions. As the urine continued in the natural quantity, and without any morbid appearance, he imagines that the right kidney had never been affected. As, after the diſcharge of ſtones from the wound in the back, no gravel or ſand was diſcharged by the urine, he thinks it probable

probable that the left ureter was cloſed. And as no urine ever paſſed by the back, he concludes that the ſecretion by the left kidney muſt have been deſtroyed.

VIII.

An Account of certain Receptacles of Air in Birds, which communicate with the Lungs, and are lodged both among the fleſhy Parts, and in the hollow Bones of thoſe Animals. By John Hunter, *F. R. S. Vid. Philoſophical Tranſactions, Vol. LXIV. Part.* 1. 4to, London.

THERE are unqueſtionably many particulars in the anatomy of animals, which are either unknown or too little attended to by natural hiſtorians. Among theſe, we may rank that ſingular circumſtance in the oeconomy of birds, which is the ſubject of the preſent diſſertation. This ſtructure, which, it is highly probable, is materially concerned in explaining many of their functions, does not ſeem to have been properly deſcribed by any anatomiſt before Mr Hunter.

And, from the promiſe with which he concludes this paper, we have reaſon to hope, that he will hereafter proſecute the ſame inquiry at greater length.

Mr Hunter introduces his ſubject, by giving an idea of the difference between the cells of birds deriving air from the lungs, and thoſe of the cellular membrane, which are common to all animals. The air-cells, which are found in ſoft parts, have no communication with the cellular membrane. Some of them communicate immediately with each other, all of them by the intervention of the lungs as a common centre. Some of them are placed in cavities, as the abdomen; others, in the interſtices of parts, as about the breaſt. They are of different ſizes, as beſt ſuits the circumſtances of theſe parts. The bones receiving air are of two kinds, ſome of them divided into innumerable cells, others hollowed out into one large canal. They may be diſtinguiſhed from bones not receiving air, by having leſs ſpecific gravity; by being leſs vaſcular; by containing little oil; by having no marrow nor blood in their cells; by having leſs hardneſs and firmneſs than others; and by the paſſage for the air being perceivable.

He next gives an idea of that mechaniſm of the lungs of birds, which renders them fit for

communicating

communicating the air to the parts mentioned above. In birds, he obſerves, the lungs are attached to the diaphragm, and they are connected alſo to the ribs and ſides of the vertebrae. Theſe adheſions are rendered abſolutely neceſſary by the paſſage from the lungs into other cavities. Were it not for theſe, birds would be in the ſame ſituation with other animals, when their lungs are ſo much wounded as to allow free paſſage of air into the cavity of the thorax. In either caſe, the lungs could not be expanded, and reſpiration would be totally prevented.

After this, Mr Hunter deſcribes the internal openings into the lungs, by which they communicate air to the other parts. The diaphragm is perforated in ſeveral places by pretty large holes, allowing a free paſſage of air into the abdomen. To each of theſe holes is attached a diſtinct membranous bag, thin and tranſparent. The lungs open at their anterior part into membranous cells, which lie upon the ſides of the pericardium, and communicate with the cells of the ſternum. The ſuperior parts of the lungs open into cells of a looſe net-work, through which the trachea and oeſophagus paſs. When theſe cells are diſtend-

ed with air, it indicates paſſion, as in the caſe of the Turkey-cock, pouting-pidgeon, &c. Theſe cells communicate with others in the axilla, and under the large pectoral muſcle; and thoſe with the cavity of the os humeri, by means of ſmall openings in the hollow ſurface near the head of that bone. Laſtly, the poſterior edges of the lungs have openings into the cells of the vertebrae, ribs, os ſacrum, and other bones of the pelvis, from which the air finds a paſſage to the cavity of the thigh bone.

The account here given holds in moſt caſes, yet in ſome inſtances there are more, in others fewer communications. And, in ſome inſtances, the air is not derived from the lungs, as in the cells in the ſcull of the owl, to which it is furniſhed by the Euſtachian tube.

After mentioning theſe facts, the ingenious author next relates ſome experiments which he made to prove the free communication between the lungs and the cavities now mentioned. From theſe experiments, it appears, that, after the trachea was tied, a cock breathed through a canula introduced into his belly; another through the os humeri, when cut acroſs; and a hawk through

through the os femoris. In all theſe caſes, the animals ſoon died. In the firſt, Mr Hunter aſcribes the death to an inflammation induced upon the bowels. In the two laſt, he allows that it proceeded from difficult reſpiration. What took place, however, was ſufficient to ſhew that the animals did breathe through the cut bone.

This paper is concluded by ſome reflections concerning the final cauſe of theſe ſingular communications. It at firſt occurred to Mr Hunter, that it might be intended for flying, as ſerving to increaſe the volume and ſtrength with the ſame quantity of matter. And in this opinion he was farther confirmed, by obſerving that the feathers of birds contain a conſiderable quantity of air. But, to this ſuppoſition, ſeveral objections preſented themſelves, particularly the plentiful exiſtence of theſe cells in the oſtrich, which does not fly; and their total abſence in the batt, which does fly.

His next conjecture was, that theſe parts were to be conſidered as an appendage to the lungs, and, like the bags continued through the bellies of amphibious animals, that they ſerved as reſervoirs for air. Amphibious animals, by means of theſe bags, have occaſion to breathe leſs frequently

ly than others, and thus can live under water. A ſimilar contrivance may be neceſſary in birds, as the motion of flying may eaſily be imagined to render frequency of reſpiration difficult. He farther inſinuates, that this conſtruction of the reſpiratory organs may aſſiſt birds in ſinging; which, he thinks, may be inferred from the long continuance of ſong between the breathings of a canary-bird.

IX.

Obſervation ſur une Pierre de la Matrice, par M. Bouvet, *cadet, Maitre en Chirurgie à Sirod en Franche Comté. Vid. Journal de Medecine, par* M. A. Roux, *Docteur-regent de la Faculté de Medecine de Paris.* Tom. XLI. 12mo, Paris.

THE ſingularity of the caſe now before us, if the author has not been deceived with regard to the ſeat of the affection, well deſerves notice. A woman, about fifty years of age, of a ſanguine habit, and remarkably healthful, ſuddenly began to complain of a pain in the vagina, attended

tended with difficulty in making water, affections of the kidneys, and general tenſion of the hypogaſtric region. Theſe complaints were ſoon followed by irregular ſhiverings, feveriſh heat, obſtinate coſtiveneſs, violent headach, averſion to food, bad taſte in the mouth, and frequent inclination to vomit.

Mr Bouvet, finding the woman in this ſituation, endeavoured, by the uſual means, to mitigate the pain and fever. In this attempt, however, he could by no means ſucceed. On the contrary, the ſtrangury became more and more intolerable, and the patient was now conſtantly affected with a ſenſe of weight in the lower belly. In this ſituation, it was thought neceſſary to draw off the urine, by introducing a catheter into the bladder. But, upon trial, it was found that this was not in the ſmalleſt degree ſerviceable.

From the account which this patient now gave of the efforts ſhe was obliged to make in paſſing her water, and of the feeling ſhe had of a heavy body, moving from the abdomen towards the labia pudendi, and returning back when theſe efforts ceaſed, Mr Bouvet could no longer doubt of the preſence of ſome extraneous body, either in the uterus or bladder of urine. One of his friends,

friends, whom he called to viſit this caſe, agreeing with him in the ſame opinion, and both of them ſuppoſing it to be a polypus of the uterus, they determined to attempt extirpating it by a ligature. With this view, Mr Bouvet's aſſociate introduced his hand into the vagina, and graſping the body forcibly, between his fingers, it came away, and was found to be a ſtone, weighing three drams and twelve grains. This ſtone, he tells us, appeared to have been contained in a cyſt, attached by a long pedicle to ſome place about the os uteri. From the moment the ſtone was extracted, the patient was relieved, and, without any ſuppuration of the lacerated membranes, got well in a few days.

X. *Diſſertation*

X.

Diſſertation ſur l' Operation de la Fiſtule à l'Anus, pratiquée avec le fil de plomb ; par M. Majault, *Docteur, Profeſſeur en Medecine et Chirurgien-major de l'Hoſpital Militaire de Douay. Vid. Journal de Medecine, tome* XLI. 12mo. Paris.

THE ſurgery of the moderns, our author obſerves, is in general much leſs painful in its operations than that of the antients: But the operation for the fiſtula in ano furniſhes an exception to this general obſervation. The antient method of operating by ligature being, in his opinion, much more ſimple, eaſy, and expeditious, than that now practiſed. Mr Foubert was the firſt whom the advantages of the antient method induced to recommend its being renewed, with this ſole difference, that he employed a metallic in place of a ſilken ligature. Mr Majault here preſents us with an account of this method, ſuggeſting, at the ſame time, a few improvements of his own, and confirming the whole by the

the hiſtory of fourteen caſes ſucceſsfully treated in this way.

The manner of operating which he propoſes, is ſhortly this. By a pliable ſilver needle, about four inches in length, a bit of leaden wire, of a line and a half in circumference, is introduced from the external opening through the internal one, in a compleat fiſtula, and withdrawn by the finger down the rectum, ſo as to comprehend every thing lying between the two openings. The ligature being diſengaged from the inſtrument, is twiſted in ſuch a manner as to give a ſlight degree of pain to the patient; and it is prevented, by proper compreſſes, from injuring the neighbouring parts. In this ſituation, it is left in the fiſtula, and twiſted from time to time, till it cut its way out; the wound being, at the ſame time, frequently waſhed with a little warm wine. Mr Foubert had obſerved, that in ſome caſes treated in this manner, a ſmall internal ulcer remained after the external opening was compleatly cicatrized. This inconvenience, Mr Majault aſſures us, may be infallibly avoided, by preſſing the inſtrument through the inteſtine above the internal opening. He likewiſe diſſuades from the injections employed by Mr Foubert, in order to

diſcover

diſcover the internal opening, not only as unneceſſary, but as being productive of the worſt conſequences, in deſtroying the cellular membrane, laying bare the inteſtine, and even occaſioning fiſtulous openings, which did not before exiſt.

XI.

Tentamen phyſiologicum, de Secretione glandulari; auctore Jacobo Hendy. 8vo. Edinburgi.

DR HENDY begins this diſſertation, by defining glands to be appendages of the ſanguiferous and lymphatic ſyſtems, which have the power of changing fluids brought to them, or of ſeparating certain parts from the general maſs of the fluids. He then divides his ſubject into three ſections. In the firſt, he treats of the general ſtructure of glands, and of the propriety of his definition, adding a ſhort table, containing his diviſion of them: Then he conſiders thoſe glands more particularly, which are appendages of the ſanguiferous ſyſtem, and afterwards thoſe which belong to the lymphatic ſyſtem. In the

the ſecond ſection, the author relates the moſt common opinions concerning the manner in which they change the general maſs of the fluids, or ſeparate any thing from it. In the third, he delivers what he thinks the moſt probable account of the manner in which ſecretion is performed, with the arguments which ſerve to confirm it. In treating of *the ſtructure of glands*, our author rejects the opinion of Malpighi, who conſiders them as veſicles; and thinks it proved, by the injections of Ruyſch, that they conſiſt merely of a convolution of veſſels. He does not deny, that the follicles mentioned by Malpighi are ſometimes found; but he maintains, that this is only a morbid appearance, and that they are frequently met with in places where glands are never ſeen, as in the cellular texture of different parts of the body. Even when they are found in glands, he aſſerts, that they are never increaſed by an accumulation of the fluid ſecreted in the glands, and refers, as a proof of this argument, to the hydatides of the liver.

In his definition, our author affirms, that glands are to be conſidered as appendages of the ſanguiferous and lymphatic ſyſtem. In the next place,

place, therefore, we have a table referring them to theſe different heads. Thoſe of the ſanguiferous ſyſtem are conſidered as belonging either to the arteries or the veins. To the firſt, are referred all thoſe mucous glands, which moiſten or lubricate cavities, the ſalivary glands, the pancreas, the kidneys, womens breaſts, the teſticles, and perhaps the thyroid gland, with every other gland not reduced under ſome particular head. As an appendage of the venous ſyſtem, our author conſiders the liver. The appendages of the lymphatic ſyſtem are, the lymphatic glands, the thymus, and the ſpleen. Dr Hendy then favours us with a conjecture, that the brain, the pineal, and pituitary glands, the ganglia of the nerves, and the capſula renalis, are to be conſidered as glandular appendages to the nervous ſyſtem. The pineal and pituitary glands, and the ganglia of the nerves, are included under this head from their ſituation, and more their immediate connection with the nervous ſyſtem; and the renal capſule is alſo mentioned here, becauſe, in thoſe monſters, who have been born with a ſmall brain, or without it altogether, it has been found in a ſimilar and an exactly proportioned ſituation.

The glandular appendages of the ſanguiferous ſyſtem are, according to our author, either ſimple, or more complex. As an inſtance of the former, he mentions the organs deſtined for the ſecretion of that fluid which is found in the different interſtices of the body. Concerning their ſtructure, he mentions the three following opinions, viz. That they are either inorganic pores, organic pores, or exhalant arteries. The firſt, which owes its origin to Dr Hunter, is, in our author's opinion, ſo fully confuted by the late Mr Hewſon, in his experimental inquiry, that he thinks it needleſs to conſider it in this place. He, in the next place, ſays, that theſe organs are not organic pores, becauſe ſuch a ſtructure is not capable of producing a fluid ſo different from any of the contents of the blood, as is the interſtitial fluid. And therefore he concludes, that they are exhalant arteries; and endeavours to ſupport this concluſion from ſome morbid appearances, and particularly from the formation of pus.

The more complex glands, he alſo conſiders as entirely vaſcular; but, with this difference, that the veſſels are exceedingly convoluted: In confirmation of which opinion, he refers to the injections of Ruyſch; but more particularly to thoſe

of

of Mr Hewſon. Of this ſort, he mentions the liver, kidneys, and teſticles; and he thinks that the receptacles, with which theſe glands are attended, do by no means conduce to ſecretion, but are only repoſitories for the ſecreted fluids, in which they are preſerved for the uſe of the oeconomy; and undergo no other change than the loſs of their more fluid parts, by means of abſorption.

The glandular appendages of the lymphatic ſyſtem may, according to Dr Hendy, be truly conſidered as diſtinct from thoſe of the ſanguiferous ſyſtem; becauſe the lymphatic veſſels proceed from various cavities, and are by no means continuations of the arteries. He obſerves, however, that the red particles of the blood are ſometimes found in this ſyſtem of veſſels; and he aſſerts, that the orifices of theſe veſſels will not admit of their taking them up by abſorption; and that even, if this was poſſible, they are never found in the fluids deſtined for abſorption. He concludes, therefore, that the red particles of the blood are formed in the lymphatic glands, thymus, and ſpleen. Concerning the ſtructure of the lymphatic glands, our author obſerves, that, when the arteries and veins are filled with coloured liquors,

or mercury, the glands ſeem to be entirely compoſed of theſe veſſels; and that the lymphatic veſſels which enter the glands, are often divided, and again united in them; but in ſome caſes are only convoluted.

The Thymus reſembles the lymphatic glands in ſtructure, except only that the lymphatic veſſels do not enter and paſs through it, but ariſe out of it. The ſpleen has a remarkable number of blood-veſſels; very many lymphaties ariſe from it; and it is of a cellular nature. Our author ſuppoſes, that the red particles of the blood conſiſt of a depreſſed central globule, ſurrounded by a veſicle, and that this veſicle is formed in the ſpleen; becauſe the lymphatic veſſels coming out of the ſpleen, have been found almoſt full of theſe particles. But, for a more full account of this doctrine, he refers his readers to a paper, in the philoſophical tranſactions, by Mr Hewſon, and to the lectures of that ſame gentleman, to whom he attributes his ſentiments on this ſubject.

In the next place, our author proceeds, in the ſecond ſection, to treat of the manner in which the glands act. Here he examines the opinion of Des Cartes, who ſuppoſed, that the glands perform their offices, like ſieves of different ſizes, admitting

admitting only particular particles of our fluids; and alſo the ſuppoſition, that the glands were furniſhed with their peculiar fluids at their firſt formation, and continue to act by attracting ſimilar fluids from the general maſs. But he objects to both of theſe hypotheſes, for ſeveral reaſons, and particularly, becauſe the blood does not formally contain the different fluids ſecreted. The laſt theory of ſecretion conſidered by our author is, that which attributes it to fermentation; but this too he rejects, as there are no proofs of fermentation in the general maſs of our fluids. As a proof, that ſecretions do not proceed from any fermentative proceſs, our author ſubjoins ſome experiments on pus, which he conſiders as a ſecreted fluid. From the two firſt, it appears, that pus is of a much leſs putrid nature than ſerum, and that the putrefaction of both of theſe fluids may be accelerated by the addition of ſome of the red particles of the blood. In the third experiment, we ſee that a thin piece of lamb's fleſh, applied to an ulcer diſcharging laudable pus, and covered over by ſome thin lead, did by no means aſſume the appearance of pus, but became foetid, and was much leſſened. In order to try, whether effuſed fluids can be converted into pus by fermentation, our author made ſeveral other expe-

riments, in which he applied ſerum in its inflammatory and ordinary ſtate, and alſo coagulable lymph, in different ſtates, to the ſame ulcer, which ſtill diſcharged good pus; but none of theſe fluids were converted into pus; and, on the contrary, they became very putrid.

From theſe experiments, therefore, Dr Hendy concludes, that pus does not riſe from a fermentative proceſs. And, in the next place, he inquires, whether any aſſiſtance in the ſolution of this queſtion can be derived from Mr John Hunter's opinion, that the blood poſſeſſes a living power. But, after a full examination of thoſe arguments in favour of this opinion, which have been mentioned in a former number of our Medical Commentaries, he rejects the ſuppoſition, and aſſerts, that the blood has no appearance of that organical ſtructure which he reckons neceſſary to the performance of the active functions of life.

In the laſt ſection of this diſſertation, our author gives his own ſentiments on the nature of ſecretion; and attributes it intirely to the action of the blood-veſſels ſupplying the different glands. This action he ultimately refers to the ſtate of motion in the nervous power, ſince ſecretion is always affected by the paſſions of the mind, and other ſtimulants and ſedatives, in the ſame manner as other

other functions which are without hesitation attributed to the nerves. The variety of the secretions is thought to proceed from the various densities of the arteries, and their various divisions, which are exceedingly great. Our author considers the generation of pus as a secretion, from its being affected by the same circumstances which act upon the more obvious secretions; and he affirms, with Mr Hewson, that it is sometimes secreted from exhalant arteries, without any ulceration.

But, in order to confirm this opinion, he endeavours to show, that the conclusions which Mr Gaber drew from his experiments are not just, and that pus is never formed from putrid serum. To this purpose he asserts, that the sediment from putrid serum is very different from pus, as a long time is necessary to the precipitation of the former, whereas the latter is perfectly formed in a few hours; and that the foetor of putrid serum is very great, but that of pus inconsiderable, and scarcely sensible. He further adds, that pus is much less putrescent than serum; and that, when it becomes very putrid in a short time, the putrefaction has been hastened by the mixture of some of the red particles of the blood with the purulent matter.

SECT. II.

Medical Obſervations.

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I.

Obſervations on the Medical Virtues of Lead, by, Mr William White, *F. A. S. Surgeon in York.*

CELSUS, and Dioſcorides of Anazarba, the celebrated botaniſt, who flouriſhed under the reign of Veſpaſian, are, I think, the firſt who make mention of the various preparations of lead, as minium, ceruſſa, &c. and, as phyſicians, greatly extol their virtues; but they uſed them only externally.

Lead hath been accuſed, and with great reaſon, of being the cauſe of the colica pictonum, when given internally. Its external uſe has been alſo much ſuſpected; but I think upon too ſlight grounds. I have ſeen it uſed ſo freely as a topic,

pic, in ulcers, burns, excoriations, &c. that I can never ſuſpect a ſmall plate of lead put over an iſſue, or ſitting in a new painted room, can ever bring on ſymptoms of the colic of Poictu in even the moſt irritable habits. However, it is now come into univerſal uſe, and claims the moſt diſtinguiſhed place among the topical remedies. Indeed its effect in abating inflammation is wonderful; and, with Meſſrs White, Aikin, &c. I cannot but join in eſteeming it equally innocent as efficacious.

A brewer to a gentleman near this city, ſlipt with his arm up to the ſhoulder into a vat of boiling wort, and was ſo miſerably ſcalded, that the cuticula came entirely off, from the axilla down to his finger-ends. The pain and inflammation was very violent, ſo that, after a few hours, I was ſent for. Cloths, wet in Goulard's aqua ſaturnina, were directed to be wrapped about the whole arm, and, as they grew dry, moiſtened afreſh, for the ſpace of an hour, night and morning; the arm was then covered with a ſaturnine cerat, ſpread upon linen, till the time of bathing again. The relief was wonderful; the poor man really believed it was done by witchcraft; ſo ſud-

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den and effectual was the ſedative effect of the lead experienced.

This man never found any bad effects from the application, though uſed in large quantities, and applied to ſuch a large denudated ſpace, where the abſorption muſt too have been very conſiderable.

A ſtout young man came to our hoſpital, a few weeks ago, with a gutta ſerena. He got his living by working in the lead mines, his buſineſs being to detach the ore, having no concern in the cleanſing or melting it. He went to his bed with his ſight entire, but next morning awoke perfectly blind, about twenty weeks ago. He never had any colicky ſymptoms, or any paralytic affection. Whether this ſtate of the paralyſis of the optic nerves might have been cauſed by lead, I ſhall leave to others to determine; but I never before ſaw the retina in ſuch an abſolute ſtate of inſenſibility.

May not the effects of lead be underſtood from the following conſiderations?

The living ſolids of an animal fibre are endowed with a power of action, which is increaſed by any irritating cauſe. This aptitude of the animal fibres to be acted upon by a ſtimulus, is term-

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ed their *irritability*. In proportion to the weakneſs of this power, will the effect of any ſtimulus to the part be leſs apparent and the conſequent contractions more weak and languid.

Inflammation ſeems to be only a morbid increaſe of this power of action, the effect of an irritation more or leſs permanent and violent. Lead, eſpecially when combined with an acid, hath a ſingular effect in diminiſhing the irritability. It exerts this ſedative power upon every living part to which it is applied, both in its healthful and diſeaſed ſtate. Saturnine preparations are of a very aſtringent quality; hence I cannot ſuſpect them capable of being abſorbed into the ſyſtem. Would they not rather effectually conſtringe the orifices of the abſorbent veſſels? We know that chalybeates are not capable of being thus conveyed into the body. It appears to me that they cannot exert their effects upon any part of the body, but in conſequence of an immediate application.

Lead is ſaid to have a peculiar effect of exerting its noxious qualities upon the primae viae; but let us conſider, that, when taken into the body, it is always applied in contact with thoſe parts. May not the obſtinate colics, conſtipations, and palſies,

palſies, ſo often the conſequences of its internal uſe, be the effects of its extreme ſedative power, rendering the inteſtines incapable of irritation from their contents, the conſequence of which will be the loſs of their periſtaltic motion, which will be followed by every ſymptom of the colic of Poictu?

I am of opinion, that the preparations of lead can never be given internally with propriety. The numerous and well authenticated inſtances of miſchief, reſulting from ſuch practice, demands our particular attention to guard againſt every means, by which that metal may be brought into immediate contact with the bowels. It is a pity that we are thus prevented from exhibiting a medicine ſo powerfully ſedative, and capable of allaying the inordinate actions of the living fibres in general. Perhaps by ſome now unthought of combination, its topical action upon the bowels may be obviated or prevented. Such a mixture, I ſhould imagine, might be found to anſwer ſome important medical indications.

Fuller much recommends a gargle with ſugar of lead; and has, if I remember right, been blamed for it. It muſt be acknowledged, that ſome caution is neceſſary to be obſerved in uſing it.

But

But I have frequently uſed a ſaturnine gargle in an eryſipelatous inflammation of the fauces, with or without aphthae, and with the greateſt ſucceſs. We are, however, confined in its uſe, from many people, children univerſally, being incapable of uſing either by means of a ſyringe, or otherwiſe, without ſuffering part of it to get down into the ſtomach, which might be followed by ſome diſagreeble conſequences.

I have always been fearful of giving lead internally, and never have yet adviſed it; but certain it is, that ſome conſtitutions are much leſs liable to ſuffer from it than others, proceeding from ſome peculiarity of habit, general or topical. By the latter, I mean ſome peculiar ſtate of the nerves of the bowels, by which they are leſs apt to be diſturbed or affected by ſuch medicines.

I have known repeated inſtances of a continued uſe of the tinct. ſaturnina, and in conſiderable doſes, in caſes of a phthiſis pulmonalis, without being followed by any ſymptoms of colic: On the contrary, it ſeemed to act as a general ſedative, conſtantly abating the hectic heat and ſweats. In one caſe, to which I attended particularly, it evidently diminiſhed the irritability of the heart

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perficial inflammations from an external cauſe, the occaſional cauſe being previouſly removed; or in ſome kinds of headach? &c.

The experiment requires a very pure aether. I tried it in vain with ſome that was reckoned very good; but I imagine it had been adulterated with ſome kind of eſſential oil, which hindered the evaporation, and rendered the experiment fruitleſs. By continuing the proceſs, a much greater degree of cold may be generated.

II.

A remarkable Caſe of Deafneſs cured by Salivation. By Mr Robert Gordon, *Surgeon to the 54th Regiment.*

JOHN BLUET, a ſoldier of the 54th regiment, a ſtrong healthy young man, bathing in the ſea at Galway, 7th September 1771, upon plunging over head, inſtantly became perfectly deaf. He was brought immediately to the regimental hoſpital; complained of a violent pain in his

his head, of a hiſſing noiſe in his ears, and looked frightened. Nothing could be learned from inſpecting his ears. However, all the uſual remedies in deafneſs were adminiſtred, but without effect. He continued in this ſituation about three months, when the commanding officer talked of diſcharging him, as I had no hopes of his recovering his hearing. It occurred to me then, to try what mercury would do, although I had little or no hopes of ſucceſs. Accordingly, upon the 10th of December, he was put upon a mercurial courſe. Upon the 16th, being the day ſucceeding the 6th inunction, he told me, with joy painted on his countenance, that he had heard the drums at troop beating that morning, which he had not been able to do before, ſince the day he went into the water. Upon ſpeaking to him very loud, he underſtood me for the firſt time, ſince his admiſſion into the hoſpital; previous to this, being always obliged to write down any queſtions I had occaſion to aſk him. It is remarkable that this morning his mouth was firſt affected with the mercury. The mercurial courſe, therefore, was continued ſome time longer. A gentle ſalivation ſuperveening, his hearing was gradually reſtored; and

upon the 4th of February 1772, he returned to his duty, perfectly cured.

This man had been affected with a gonorrhoea about a twelve-month before this accident, was cured by the uſe of mercurial medicines, and he continued free from complaints of every kind, from that time, till his bathing on the 7th September, as mentioned above; and was, at the time of going into the water, in the higheſt health. He never had any deafneſs before; nor was it the firſt time he had bathed that ſeaſon.

III.

The Hiſtory of a Caſe, in which ſome of the Vertebrae were found diſſolved. By Mr Benjamin Bell, *Surgeon in Edinburgh.*

ON the 10th of July 1772, I was deſired to viſit a man, aged 40. He then complained of a violently acute pain in the ſmall of his back, ſhooting down towards the upper part of both thighs, though more ſeverely towards the right ſide

ſide. He could not raiſe his body into an erect poſture, but with great pain; and, when it was ſo, he was obliged to bend forward again, before he could walk; as it was only in that poſition that he could make uſe of his right leg.

Upon examining the parts affected, they did not appear either ſwelled or diſcoloured; nor did he complain of any additional pain on preſſure. He complained alſo of wandering pains in different parts of his body, particularly in the joints of his ſhoulders, wriſts, and knees. The above ſymptoms firſt began about three months before, and had been turning daily worſe ever ſince. A cart had been driven over his body about four years ago, to which he imputed his complaints; tho' none of the ſymptoms, but in a trifling degree, appeared till within three months of the above date. Before I ſaw him, he had uſed many medicines and applications, but with no advantage.

I ordered a variety of medicines, both internally and externally; but with no other effect than in relieving the flying pains in his joints, of which he complained. As he was of a plethoric habit, blood-letting was preſcribed; and, in a few days after, a bliſter was applied to the part affected, a-

bout the ſmall of the back, which was kept open for a fortnight, but with no great relief. The parts were frequently rubbed with linimentum volatile; cupping, with ſcarifying, were at different times made uſe of, and, for a day or two, they generally gave ſome relief; but the pain always recurred, and in as violent a degree as ever.

The pain in his loins, notwithſtanding the uſe of theſe, and a variety of other medicines, both internally and externally, continued to increaſe, till within a fortnight of his death; when he was ſeized with a pain in his breaſt, difficulty of breathing, heat, thirſt, and other ſymptoms of fever, which, though blood-letting, and other remedies were preſcribed, ſtill grew more violent; and he died on the 26th November 1773.

Upon opening his body, after death, the lungs were found much inflamed, and hard tubercles in different parts of them. On both ſides, they adhered to the pleura; and, in the left cavity of the breaſt, upwards of three pounds of fluid matter were found extravaſated. Firm polypous concretions were likewiſe found in the large veſſels about the heart. All the abdominal viſcera

appeared

appeared ſound; but, upon turning them out, a large ſwelling was obſerved, extending from the loweſt vertebra of the back, downwards along the courſe of the pſoas and iliacus internus muſcles of the right ſide, with its under extremity pointing at that opening below Paupert's ligament, through which the large veſſels of the thigh paſs. Upon being laid open, it was found to conſiſt of a very tough membranous bag, containing upwards of two pounds of a thick foetid yellow matter, with a great many pieces of carious bones interſperſed in it, which, upon farther examination, were found to have come from the undermoſt vertebra of the back, and uppermoſt of the loins; both of which were almoſt entirely conſumed, and what did remain of them was quite ſoft and rotten. The matter, when contained in the cyſt, had ſurrounded the ſpinal marrow at this vacancy between the bones. It was obſerved to be of a much leſs firm texture than natural.

It may be remarked, that this patient had not at any time, during the whole courſe of the diſeaſe, any paralytic ſymptom whatever.

V.

A peculiar Caſe of a Species of Maggots being diſcharged from the Uterus during Menſtruation. By Mr Thomas Cockſon, *Surgeon at* Campden.

A Farmer's wife, about 27 years of age, always very healthy, applied to me about the month of June 1773, for a complaint in the uterus, with which ſhe had been troubled for the ſpace of three months before ſhe aſked my advice. About the time of menſtruation, for three or four days previous to the appearance of blood, ſhe had the uſual pain in her loins, but ſeverer than common, attended with an uterine diſcharge, of a greeniſh hue, and ſo exceedingly offenſive to the ſmell, that ſhe could ſcarce bear herſelf. This diſcharge continued till the menſes appeared. Now, from the firſt appearance of this diſcharge, until the ceſſation of the menſes, great numbers of maggots were brought away. They were all diſcharged alive. They were very ſmall, and of an odd conformation. They had a large head, with a

ſmall

ſmall tail in compariſon; and in figure much reſembled tadpoles. When preſſed between the thumb and finger, the ſame diſagreeable ſtench was emitted as from the uterine diſcharge.

From theſe vermine, ſhe was entirely freed, by injections, of a decoction of chamomile flowers, and wormwood, and of olive oil, which were thrown up twice a-day. In this courſe ſhe perſiſted for about three weeks; and has never ſince had any return of her complaints.

V.

A Letter from the late Mr William Hewſon, *F. R. S. and Teacher of Anatomy in London, to Dr* John Haygarth *Phyſician in* Cheſter.

My dear SIR,

I Have now a little leiſure, and ſhall endeavour to fulfill my promiſe, by ſending you a ſketch of my obſervations.

The red particles of the blood, improperly called globules, are flat in all animals, and of very different ſizes in different animals. In man, they

are ſmall, as flat as a ſhilling, and appear to have a dark ſpot in the middle. In order to ſee them diſtinctly, I dilute the human blood with freſh ſerum. My predeceſſors, not having thought of this, could not ſee them diſtinctly. And Leuwenhoeck in particular, imagining a round figure fitteſt for motion, concluded they muſt be round in the human body; though he and others allowed, that, in frogs, &c. where they viewed them diſtinctly, from the blood being thinner, they were flat. Now, I prove that they are flat in all animals. In the human blood, where theſe particles are ſmall, it is difficult to determine what that black ſpot is, which appears in the centre of each. Some have concluded that it was a perforation: But, in a frog, where it is ſix times as large as in a man, it is eaſy to ſhew, that it is not a perforation, but, on the contrary, is a little ſolid, which is contained in the middle of a flat veſicle. Inſtead, therefore, of calling this part of the blood red globules, I ſhould call it red veſicles; for each particle is a flat veſicle, with a little ſolid ſphere in its centre.

I find that the blood of all animals contains veſicles of this ſort. In human blood, there are millions of them; and they give it the red colour.

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But, in inſects, they are white, and leſs numerous in proportion than in man and quadrupeds. As they are flat in all animals, I ſuſpect that ſhape is a circumſtance of importance; but it can be altered by mixture with different fluids. And I find, that it is by a determinate quantity of neutral ſalt contained in the ſerum, that this fluid is adapted to preſerving theſe veſicles in their flat ſhape: For, if they be mixed with water, they become round, and diſſolve perfectly; but add a little of any neutral ſalt to the water, and they remain in it, without any alteration of their ſhape, and without diſſolving.

Now, when it is conſidered, that the blood of all animals is filled with theſe particles, we muſt believe that they ſerve ſome very important purpoſe in the animal oeconomy; and ſince they are ſo complicated in their ſtructure, it is improbable they ſhould be made by mechanical agitation in the lungs, or blood-veſſels, as has been ſuſpected, but probably have ſome organs ſet a part for their formation. This I ſhall endeavour to prove, when I have explained their ſtructure a little more particularly, and mentioned the manner in which I exhibit it. I take the blood of a toad, or frog, in which they are very large; I mix it with

with the ſerum of human blood, to dilute it; I find them appear all flat; ſo they do in the blood-veſſels of this animal; as I have diſtinctly ſeen in the webb between its toes, whilſt the animal was alive, and fixed in the microſcope. Their appearance in theſe animals is not unlike ſlices of cucumber. I next mix a little of the blood with water, which immediately makes them all round, and then begins to diſſolve them whilſt they are round. I incline the ſtage of the microſcope, ſo as to make them roll down it; and then I can diſtinctly ſee the ſolid in the middle fall from ſide to ſide, like a pea in a bladder. A neutral ſalt added to them at this time, brings them back to their flat ſhape: But, if the ſalt be not added, the water gradually diſſolves away the veſicle; and then the little ſphere is left naked. Such is the compoſition of theſe particles. I have exhibited theſe experiments to a conſiderable number of my acquaintance, who all agree in their being ſatisfactory.

The microſcope I uſe is a ſingle lens, and therefore as little likely to deceive us as a pair of ſpectacles, which, as is allowed by all who uſe them, do not disfigure objects, but only repreſent them larger.

From

From farther experiments, I am convinced, that the uſe of the thymus and lymphatic glands, is to make the ſolid middle pieces; and I can prove it in as ſatisfactory a manner as you can do the uſe of any viſcus in the human body; that is, by opening theſe glands, and examining the fluid contained in their cells, which I find to be full of theſe little ſolids. I moreover find, that the lymphatic veſſels take them up from thoſe glands, and convey them into the blood veſſels, which carry them to the ſpleen, in whoſe cells they have the veſicles laid over them; ſo that the thymus and lymphatic glands make the central particles, and the ſpleen makes the veſicles that ſurround them. That this is the uſe of the ſpleen, appears from examining the lymph which is returned from it by its lymphatic veſſels, which are its excretory ducts; for that lymph, contrary to what is obſerved in other parts of the body, is extremely red.

But, beſides having theſe glands ſet a part for making the red veſicles of the blood, I find, that they are alſo made in the lymphatic veſſels in different parts of the body, whoſe coats have blood veſſels properly conſtructed for this ſecretion. So that the thymus and lymphatic glands

are

are no more than appendages of the lymphatic ſyſtem, for making the middle particles; and the ſpleen an appendage to the lymphatic veſſels, for making the veſicles which contain theſe middle particles.

I conjecture that it is the coagulable lymph which is converted into this red part of the blood, from a curious fact that has been long known; namely, that the blood in the ſplenic vein does not coagulate, when expoſed to the air, as the blood of other veins does; ſo that it ſeems to be robbed of its coagulable lymph in paſſing thro' the ſpleen.

It is very remarkable, that the ſpleen can be cut out of an animal, and the animal do well without it. I made the experiment on a dog, and kept him a year and a half, without obſerving his health the leaſt impaired. From this, ſome have concluded the ſpleen to be a uſeleſs weight, which is abſurd; when we conſider, that all animals with red blood have it. Therefore it is more conſiſtent with what we know of the animal oeconomy, to conclude, that, ſince an animal can do well without it, there is probably ſome part of the body that can ſupply its place.

Inſects

Inſects have veſicles conſtructed in a ſimilar way to ours, but differing in colour. But inſects have neither ſpleen, thymus, nor lymphatic glands; and therefore in them probably theſe veſicles are entirely fabricated in the lymphatic veſſels. But, to us, and other of the more perfect animals, beſides the lymphatic veſſels, nature has given thoſe glands, that a proper quantity of thoſe important veſicles might be the better ſecured to us, juſt as ſhe has given us two ears, the better to ſecure to us hearing through life, though we can hear perfectly well with one.

Thus, my dear friend, I have given you a ſketch of my new opinions. I rather expect from this merely to gratify your longing, than to convince you; for the ſubject is too intricate to be communicated in a letter; but I make no doubt of proving theſe poſitions, when I have leiſure to handle the ſubject more fully. Adieu. Believe me ever

Sincerely your friend,

WM. HEWSON.

Lond. July 19. }
1773. }

SECT.

SECT. III.

Medical News.

THE nature of phoſphorus, and the method of preparing it, is a ſubject, which of late has much engaged the attention of chymiſts. From the following account, which has been communicated to us by the learned and ingenious Dr Henry Gahn of Stockholm, it appears, that it may be prepared from animal bones: And the proceſs for obtaining it from theſe, is leſs diſagreeable than that formerly practiſed with urine.

In Mr Scheele's paper on the acid of ſpar, it is affirmed, that the earth of animal matter conſiſts of a calcareous ſubſtance, combined with the acid of phoſphorus. This was firſt diſcovered by Mr J. G. Gahn, and has ſince been farther



ther confirmed from new experiments, both by him and by Mr Scheele. They thought of making phoſphorus in this way. But the great difficulty ſeemed to be the ſeparation of the acid from the animal earth. Could this be effected, they imagined it would be eaſy to form a phoſphorus, by combining the acid with ſome inflammable matter.

Calcined hartſhorn, pounded and mixed with charcoal, gave no phoſphorus by diſtillation. This was to be expected, as the ſalt made from the acid of phoſphorus and fixed alkali gives no phoſphorus; and this acid has a ſtill ſtronger attraction to calcareous earth than to alkali.

The eaſieſt method of obtaining this acid ſeemed to be, to digeſt the hartſhorn by the acid of vitriol; and, after that, to waſh off, by water, the acid of phoſphorus which had then got looſe from the earth. But, in this operation, every ſmall particle of the hartſhorn is ſoon covered by a ſelenitical cruſt, which prevents the acid of vitriol from acting any further upon it. From this circumſtance, they were led to think of employing the acid of nitre; although, by uſing it, the proceſs is neceſſarily rendered more complex.

Calcined

Calcined and well pounded hartſhorn was diſſolved in the acid of nitre, by the aſſiſtance of heat, till the acid could diſſolve no more. This, although a ſaturated ſolution, taſted ſour, which probably depended on the acid of phoſphorus being ſet looſe from the earth, and mixed with the ſolution. This ſolution was diluted with three times its quantity of water; and to it was poured in drops, till no farther precipitation could be obſerved, the acid of vitriol in a ſtate equally diluted. The whole was then filtrated, and the acid well waſhed from the ſelenites, which remained on the filter. What came through the filter, conſiſted of the acid of nitre mixed with the acid of phoſphorus. To get rid of the former, the mixture was put upon the fire to evaporate; and when it began to ſmell of the acid of nitre, it was put into a retort, and diſtilled to dryneſs. The acid of nitre only went over; and what was thus obtained was very fit for uſe in ſimilar trials. What remained dry in the retort was diſſolved in water, by the aſſiſtance of heat, and then filtrated with a view of ſeparating any ſmall particles of ſelenite, which might have remained, and fallen to the bottom during the diſtillation.

In

In this manner the acid of phoſphorus was at laſt obtained by itſelf. To make phoſphorus of this acid, it was again evaporated to the conſiſtence ſyrup, and as much pounded charcoal mixed with it as to make nearly a dry maſs. This was put into a glaſs retort, covered on the outſide with clay, and diſtilled in an open fire, till the whole was red hot. The recipient was filled with water, and the neck of the retort was adapted to it, ſo as nearly to reach the ſurface of the water. Firſt of all, there came over phlegm, then a volatile ſpirit of ſulphur, afterwards a very little ſulphur; and, laſtly, a very clear and good phoſphorus, which fell down in the water in the form of drops.

Leſs heat is required to form ſulphur than phoſphorus. The more ſelenites that remains in the acid, the leſs phoſphorus is got. If calcined hartſhorn, acid of vitriol, and charcoal, be mixed, a conſiderable quantity of ſulphur is obtained on diſtillation, but no phoſphorus. The ſame products are obtained from bones as from hartſhorn.

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The public have lately been favoured with many judicious obſervations on hoſpitals in general, and with a particular detail of the ſucceſs attending the practice of phyſic in different ones. As the ſubject well merits attention, we preſume that a general abſtract of the termination of the diſeaſes of thoſe patients, who, for ſeveral years paſt, have been admitted into the Royal Infirmary at Edinburgh, will be by no means diſagreeable to moſt of our readers.

In the hoſpital, January 1. 1762	109	
Admitted during the years 1762, 3, 4, 5, 6, 7, 8, 9.	6261	
Total	——	6370

Of that number, there were diſmiſſed,	
Cured	4394
Relieved	540
For irregularities	106
At their own deſire	732
Incurable	108

Dead

Dead	358	
And there remained in the hoſpital on January 1. 1770	132	
Total	——	6370

State for the Year 1770.

In the hoſpital January 1.	132	
Admitted during the courſe of that year	1170	
Total	——	1302
Of theſe were diſmiſſed,		
Cured	791	
Relieved	188	
For irregularities	23	
At their own deſire	91	
Incurable	7	
Dead	57	
And there remained in the hoſpital January 1. 1771	145	
Total	——	1302

State for the Year 1771.

Number in the hoſpital on January 1.	145	
Admitted during the courſe of that year	1454	
Total ——		1599

Of theſe there were diſmiſſed,		
Cured	1071	
Relieved	206	
For irregularities	11	
At their own deſire	90	
Incurable	12	
Dead	66	
And there remained in the hoſpital, on January 1. 1772	143	
Total ——		1599

State for the Year 1772.

In the hoſpital on January 1. 1772	143	

Admitted

Admitted during the courſe of that year	1447	
Total	——	1590

Of theſe there were diſmiſſed,

Cured	1078
Relieved	180
For irregularities	11
At their own deſire	84
Incurable	10
Dead	54
And there remained in the hoſpital January 1. 1773	173
Total	1590

State for the Year 1773.

In the hoſpital on January 1. 1773	173	
Admitted during the courſe of that year	1709	
Total	——	1882

Of theſe there were diſmiſſed,

Cured	1392

Relieved	158	
For irregularities	5	
At their own deſire	39	
Incurable	21	
Dead	79	
And there remained in the hoſpital	188	
Total ——		1882

* * * * * * *

Although, from the diverſity of cauſes, by which epilepſy may be induced, it is not to be imagined that any remedy will ever be diſcovered, which can be ſucceſsful in every caſe; yet, it muſt give real pleaſure to every humane practitioner to be poſſeſſed of one, which may be of benefit in ſome caſes. And, although the flowers of zinc have often failed in the hands of the moſt ſkilful practitioners; yet their ſucceſs, in particular inſtances, is too well vouched to remain a matter of doubt. A farther proof of their efficacy is afforded, in a letter from Dr Ruſh at Philadelphia, to Dr Duncan, which contains alſo ſome other articles of medical news.

"The

"The zinc has ſucceeded in one caſe to my wiſhes. Mr D——— P———, a worthy merchant of this city, had been affected with epileptic fits for ten or twelve years. He was once relieved by a voyage to Britain, where he remained above a twelve-month. Soon after his return, he was attacked with his old diſorder, but with leſs violence than formerly. The ordinary interval between his fits was ſix weeks. At one time only, he eſcaped them for three months. He had taken a variety of medicines from phyſicians of the firſt note, on both ſides of the water, to no purpoſe. It is now fifteen months ſince he began to take the flowers of zinc, during which time, he has had no return of his diſorder, and enjoys, in every reſpect, good health and ſpirits.

"We have lately had a diſorder among us, which is new in this country. It is the fifth ſpecies of Dr Cullen's cynanche. Dr Tiſſot deſcribes it in a particular manner in his Advice to the people. It was at firſt miſtaken for the putrid ſore-throat. But the ill ſucceſs, which attended the exhibition of bark and wine in it, ſoon convinced us that it was not of a malignant na-

ture. What led to this miſtake was, that there were ulcers much oftener ſeated in the tonſils than behind the ears; and they were often covered with phlegm, which reſembled ſloughs. I followed ſtrictly Dr Tiſſot's method of cure, that is, I bled in ſevere caſes, vomited, purged, and bliſtered, as the ſymptoms required. I forbid ſtimulating food of all kinds, and kept up a gentle perſpiration, with diluting drinks. This treatment I found ſucceſsful in every caſe to which I was called.

"There is now a ſociety eſtabliſhed in the city of Philadelphia, for innoculating poor children. It conſiſts of twelve managers and eight phyſicians. The former provide medicines, and, in ſome caſes, firewood and other neceſſaries; and the latter inoculate, and attend the poor at their own houſes. The benefit of this inſtitution to the community is great, and the expence and trouble very trifling. The managers receive applications from the poor in their turns. Each phyſician is confined to a particular part of the town, which is moſt contiguous to his dwelling houſe; ſo that the whole is conducted with as much regularity as an hoſpital, without any of its diſadvantages. The ſcheme of this inſtitution was ſuggeſted, by ob-

obſerving, that, in the year 1773, above three hundred people, out of fourteen hundred, died of the ſmall-pox, in the natural way, in this city. The greateſt part of theſe were poor people, who could not afford the expence of inoculation."

* * * * * * *

A gentleman, on whoſe integrity and accuracy our readers may rely, has favoured us with the following account of a curious circumſtance, reſpecting the teeth of a country-labourer. This man, who was an inhabitant of the town of Hawick, in the ſouth of Scotland, loſt all his teeth by the time he arrived at the ſixtieth year of his age. But, about half a year afterwards, a new ſet made their appearance. All of them appeared within the ſpace of twenty days; but, during this time, he ſuffered the moſt excruciating pain. His new ſet of teeth continued freſh and firm for a period of thirty-four years. He is ſtill alive, has entered the ninety-ſixth year of his age, and has all his teeth, excepting three, which he has loſt within theſe two years, one of them very lately.

The

* * * * * * *

The royal ſociety of London have conferred their annual gold medal on John Walſh, Eſq; whoſe ingenious obſervations on the electric property of the torpedo appeared in the LXIII. volume of the Philoſophical tranſactions *.

At the annual election of the royal ſociety of London, the officers of laſt year were continued; which was alſo the caſe with the royal college of Phyſicians of Edinburgh.

An ingenious gentleman in York-ſhire, who is at preſent engaged in writing a treatiſe on the ſtudy of natural hiſtory, has, we are informed, invented a new method of preſerving fiſhes and inſects. We have alſo heard, that an eminent phyſician of the city of York has collected many uſeful obſervations on the worms which infeſt the human body; and it is hoped that they will ſoon be publiſhed.

* Our readers were preſented with an analyſis of that paper in our laſt number.

SECT.

SECT. IV.

Liſt of New Books.

****

THE anatomy of the gravid uterus, exhibited in thirty-four plates. By William Hunter, M. D. phyſician extraordinary to the Queen, profeſſor of anatomy in the royal academy, and fellow of the royal and antiquarian ſocieties. Folio, London.

The commentaries upon the aphoriſms of Dr Herman Boerhaave, the late learned profeſſor of phyſic in the univerſity of Leyden, concerning the knowledge and cure of ſeveral diſeaſes incident to the human body. By Gerard Van Swieten, M. D. tranſlated into Engliſh, vols XV. XVI. XVII. and XVIII. 8vo London.

Les advantages de l'inoculation, et la meilleure methode de l'adminiſtrer, ouvrage traduit de la diſſertation Latine, couronnée par l'academie royale des ſciences, inſcriptions, et belles lettres de Touloufe, et compoſé par M. Camper, M. D. profeſſor d'anatomie, de chirurgie, et de medecine dans l'univerſité de Groninguen, des academies de Paris, de Londres, de Harlem, &c. 8vo, Touloufe.

The hiſtory and effects of the aloedarian drops, an antient medicine; for the decays of early age and ruined conſtitutions; for diſorders of the ſtomach; and for chronic diſeaſes, which thence derive their origin. From the papers of a phyſician. 8vo, London.

Further obſervations on lightning; together with ſome experiments. By Benjamin Wilſon, F. R. S. &c. Communicated to the royal ſociety, and rejected in the committee. 4to, London.

A voyage towards the North Pole, undertaken by his Majeſty's command. By Conſtantine John Phipps. 4to, London.

Obſervations on the uſe of Dr James's powder, and other antimonial preparations in fevers. By William White, F. S. A. and of the medical ſociety of Edinburgh. 8vo, London.

Of

Of temperance and intemperance, their effects on the body and mind, and their influence in prolonging and abbreviating human life. By Edward Harwood. 12mo, London.

The electrical philoſopher, containing a new ſyſtem of phyſics, founded on the principles of an univerſal plenum of elementary fire; wherein the nature of elementary fire is explained, its office pointed out, its extenſive influence and utility in explaining many of the phaenomena of nature ſhewn, and the grand deſideratum, viz. the cauſe of gravity, coheſion, &c. &c. which has been hitherto either entirely given up as inexplicable, or elſe ſought after in vain by the moſt able naturaliſts, is at length obtained by R. Lovett lay-clerk of the cathedral-church of Worceſter. 8vo, Worceſter.

A letter to Dr William Hunter phyſician extraordinary to the Queen, profeſſor of anatomy in the royal academy, and fellow of the royal and antiquarian ſocieties, on the dangerous tendency of medical vanity, occaſioned by the death of Lady Holland. By William Rowley, M. D. and man-midwife. 8vo, London.

Thermis de Borbonienſibus apud Campanos, ſpecimen medico-practicum, ſive de legitimo cir-

ca

ca illos tractatu practico prolegomena. 4to, Chaumont.

Jacobi Reinboldi Spielman, Doct. et Prof. med. &c. Inſtitutiones materiae medicae praelectionibus academicis accommodatae. 8vo, Straſburg.

Elements de chirurgie en Latin et en François, avec des notes. Par M. Sue le jeune, prevot deſigné du college de chirurgie, adjoint au comité perpetuel de l'academie royale de chirurgie, chirurgien ordinaire de l'hotel de ville, correſpondant de la ſocieté royale des ſciences de Montpellier, &c. 8vo, Paris.

Lettre a M. Roux, docteur regent de la faculté de Paris, &c. Par M. D——— concernant le remede antivenerien de M. Lafont, chirurgien du roi, d'apres les experiences faites par ordre de de M. le Lieutenant-general de police. 8vo, Amſterdam.

Memoire chymique et medecinal ſur les principes et les vertus des eaux minerales de Contrexeville en Lorraine. Par M. Thouvenel, docteur en medecine de la faculté de Montpellier. 12mo, Nancy.

Differ-

Diſſertation ſur l'uſage des cauſtiques pour la gueriſon radicale et abſolue des hernies, ou deſcentes, de facon a n'avoir plus beſoin des bandages pour le reſte de la vie. Par M. Gauthier, counſeiller-medecin du Roi, docteur-regent de la faculté de medecine de Paris, et medecin de Montpellier. 12mo, Paris.

De proctoſtenia, ſeu morboſis inteſtini recti anguſtiis, diſſertatio medica, quam in Ludoviceo Monſpelienſi propugnabat author Ludovicus Franciſcus Jourdam Duchadoz. 4to, Montpellier.

Raport fait par ordre de l'academie des ſciences, ſur la mort du Sieur le Maire, et ſur celle de ſon epouſe, cauſées par la vapeur du charbon ; avec des obſervations ſur les effets des vapeurs mephitiques ſur le corps de l'homme, et ſur le moyen de rapeller a la vie ceux qui en ont été ſuffoques. Par M. Portal, profeſſeur en medecine au college royale, medecin de M. le Comte d'Artois, de l'academie des ſciences de Paris, de l'inſtitut, de Bologne, de la ſocieté royale de ſciences de Montpellier, et de la ſocieté medicale d'Edinbourg. 8vo, Paris.

CONTENTS.

BOOKS.

Pereboom, Cor. De paralyſi imprimis nervea diſſertatio 9
Hallenberg, G. Diſſertatio medica de dulcamara 15
Wedenberg, Ad. Frid. Diſſertatio de ſtramonii uſu in morbis convulſivis 18
De Luc, J. A. Recherches ſur les modifications de l'atmoſphere, tome 2. 25
Hewſon, William. Experimental inquiries, part 2. 32
Wilſon, Alexander. Obſervations on ſolar ſpots 46
Simmons, S. F. An account of ſtones voided through a fiſtulous ſore in the loins 51
Hunter, John. An account of certain receptacles of air in birds 53
Bouvet, M. Obſervation ſur une Pierre de la matrice 58
Majault, M. Diſſertation ſur l'operation de la fiſtule a l'anus 61
Hendy, Jac. Tentamen phyſiologicum de ſecretione glandulari 63

MEDICAL OBSERVATIONS.

Obſervations on the medical virtues of lead. By William White, F. A. S. Surgeon in York 72
A remarkable caſe of Deafneſs cured by Salivation. By Mr Robert Gordon Surgeon to the 54th regiment 80
The Hiſtory of a Caſe in which ſome of the Vertebrae were found diſſolved. By Mr Benjamin Bell Surgeon in Edinburgh 82
A peculiar Caſe of a ſpecies of Maggots being diſcharged from the Uterus during Menſtruation. By Mr Thomas Cockſon Surgeon at Campden 86
A Letter from the late Mr William Hewſon, F. R. S. and teacher of Anatomy in London, to Dr John Haygarth Phyſician in Cheſter 87

MEDICAL NEWS 94
LIST OF NEW BOOKS 107

MEDICAL

AND

PHILOSOPHICAL

COMMENTARIES.

By a SOCIETY in EDINBURGH.

Exiguo includere libro aggredior opus non meas tantum, ſed humani generis, vires egrediens. In eo, ſi non omni reſpondeo expectationi, veniam; imo, ſi alicui laudem mihi polliceor a bonis.

CLUVERIUS.

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M,DCC,LXXV.

MEDICAL COMMENTARIES.

SECT. I.

An Account of Books.

I.

Obſervations on the Uſe of Dr James's Powder, and other antimonial Preparations in Fevers. By William White, *F. A. S. and Member of the Medical Society of Edinburgh.* 8vo, London.

THE principal intention of the obſervations contained in the preſent volume is, as the author expreſſes himſelf in the preface, "to recommend a more general and early exhibition of antimonial medicines in fevers." The work contains ſix ſections. The firſt of theſe is employed in giving a general medical hiſtory of antimony, and its preparations. James's powders

and tartar emetic, the two preparations in general uſe, are, as he alledges from experience, equally efficacious, when properly prepared; but he prefers the Tartar emetic, becauſe he knows its ſtrength, and can calculate its doſe with exactneſs and preciſion.

In the ſecond ſection, the author accounts for the febrifuge effects of antimonials, provided a gentle and continued nauſea be maintained. They have their effects equally when no ſenſible evacuation takes place, as when an evacuant effect is the conſequence. The ſpaſmodic conſtriction on the ſurface of the body is frequently removed in a wonderful manner; this appears to be effected by ſome peculiar action on the nerves of the ſtomach, which is communicated by ſympathy to the ſurface. This effect being induced by tartar emetic, or James's powder, freſh feveriſh paroxyſms are to be obviated by tonics, and medicines that diminiſh irritability, eſpecially by the Peruvian bark.

In the third ſection, we are preſented with ſome general obſervations upon the cauſes of fevers, their ſymptoms, and general cure. The ſymptoms are arranged after the manner of Dr Fordyce. After obſerving, that moſt fevers are diſtinguiſhable

diſtinguiſhable into three ſtages; the firſt preceeding the hot fit, denoting ſpaſm or debility; the ſecond, or the hot fit, denoting increaſed action and ſpaſm; the third, or criſis, attended with relaxation and increaſed action. He relates the ſymptoms attending theſe three ſtages. From an attention to the ſymptoms of the firſt ſtage, our author thinks the nature and future progreſs of the diſeaſe may often be foretold. In order to point out this method, he diſtinguiſhes the ſymptoms as depending upon a morbid affection of two diſtinct ſyſtems, the nervous and the vaſcular. With reſpect to the cure of the firſt ſtage, if the ſymptoms be ſo violent as to threaten life, they are to be taken off by relaxants, as antimonials and the warm bath; by ſtimulants, as bliſters and ſinapiſms; and by a cordial regimen. In the ſecond ſtage, when danger is apprehended from the ſtrong action of the veſſels, it is to be obviated, and nature aſſiſted, by bleeding; by ſedatives, as antimonials, neutral ſalts, acids, ſaline laxatives or glyſters, low diet, plentiful dilution, pediluvia, or a prudent uſe of opiates. In detailing the ſymptoms of, and remarks on, the third ſtage, Mr White obſerves, that the more violent the cold fit, the more remarkable the ſucceeding hot one; and the greater the lat-

ter, the more evident the criſis. This ſection is concluded with an account of the ſymptoms denoting inflammatory diatheſis, and thoſe expreſſing weakneſs and irritability, with the means of obviating theſe in particular, and the regimen of fever in general. Inflammatory diatheſis is removed by bleeding, antimonials, neutral ſalts, low diet, warm bathing. When the ſymptoms of weakneſs and irritability appear, a fuller diet and a cordial regimen, wine, muſk, volatile alkali, camphor, ſerpentaria, &c. are indicated; and, at the end of the fever, the Peruvian bark, and the action of cold. With regard to the regimen of fevers, the diet ſhould be in general vegetable, tho' the cravings of patients are to be gratified; the patient ſhould breathe a pure and temperate, or cool air; in order to obtain which, garden-pots, with plants growing in them, may be placed in the ſick perſon's room. Great attention to cleanlineſs is recommended; and the convaleſcent will be aſſiſted in his recovery, by an entire change, not only of his own clothes, but alſo of his bed and room.

In the fourth ſection, our author enters upon a more circumſtantial account of the different kinds of fever, in which he adopts the plan of arrangement

ment and characters publiſhed by Dr Cullen in his Noſologia Methodica of the Febrile diſeaſes. Of the diſeaſes in that work, two orders only, the Fevers, properly ſo called, and Phlegmaſiae, or thoſe attended with topical inflammation, are conſidered by our author. In intermittents, the criſis, or laſt ſtage of fever, is ſo compleat as to leave the patient perfectly free from diſeaſe; but, unleſs the irritability of the ſyſtem be taken off by the cortex, &c. the fever, according to its type, returns. An artificial criſis not being wanted in this diſeaſe, it follows that antimonials are not indicated. In remittents, beſides pure air, cleanlineſs, and a good diet, the primae viae are to be unloaded by emetics and gentle purgatives, and then the fever to be reduced to the form of an intermittent, by antimonials and neutral ſalts; this being effected, the cure is to be finiſhed by the cortex. But, where ſymptoms of weakneſs and putrid diatheſis make a rapid progreſs, the life of the patient depends upon an early and plentiful exhibition of the cortex, without having regard to remiſſions.

The fifth ſection commences with Mr White's obſervations on continued fevers. Beſides the three genera of continued fevers, ſynocha, ty-

phus, and ſynochus, there are caſes occurring in practice, which it is not eaſy to ſay whether they ought to be referred to the inflammatory, nervous, or putrid fever; they ſeem to be a compound of the three. In ſynocha, antimonials act in a manner ſpecific; they are to be given after proper evacuations of blood, in ſuch doſes as to promote a gentle vomiting.

The typhus, when malignant, differs from the real plague only in degree, and ariſes from the ſame cauſes, only leſs powerfully applied; every medium of infection, and every ſource of filth, muſt be removed; the primae viae are to be purged by gentle emetics and purgatives. Wine, Bark, and the indulgence of the appetite for malt liquors are alſo of conſiderable ſervice. In ſynochus, one bleeding at the commencement is generally uſeful, after which the remedies mentioned for the typhus are to be exhibited; but, when conſiderable ſymptoms of putridity appear, mineral acids, fixed air, cold, and other antiſeptics muſt be adminiſtered.

In the ſixth, and laſt ſection, the ſecond order of fevers, the Phlegmaſiae, are conſidered.

The

The common phlegmon and ophthalmia ſeldom are ſo violent as to affect the ſyſtem in general, or require antimonials.

In the phrenitis, bleeding, general and topical, ſaline purgatives, pediluvium, and antimonials, as in inflammatory fevers, are recommended.

The cynanche conſiſts of eight kinds, four of which, in general, yield to bleeding, purging, bliſters, and frequent gargling. The ſecond ſpecies, the cynanche maligna, is to be treated as the putrid remittent fever.

In peripneumonia, pleuritis, and carditis, the cure is to be effected by frequent and copious bleeding, antimonials directed to the ſurface, bliſters, and expectorants.

The pleurodyne rheumatica yields to fomentations, volatile liniments, and bliſters; the peritonitis is to be treated as the peripneumonia, &c.

In the gaſtritis, internal medicines can ſeldom be given, and the cure depends upon the warm bath, bleeding, fomentations, and bliſters. When the diſeaſe is cauſed by the ſwallowing of poiſons, they muſt be ſheathed and corrected. If corroſive ſublimate has been taken, the ſwallowing a weak

ſolu-

ſolution of any fixt alkaline ſalt will decompoſe it, and render it inert.

Enteritis is a diſeaſe which frequently proves fatal in twelve hours, always before the third day, if not aſſiſted by art. Large and repeated bleeding, antimonials, joined with opiates, warm bath, pediluvium, purging, glyſters, and bliſters, are the remedies by which this affection is to be overcome.

Mr White has had two caſes of this diſeaſe, where the inflammation was ſo violent as to be attended, from the firſt attack, with cold ſweats, weak trembling pulſe, coldneſs of the extremities, and a cadaverous countenance. Under theſe calamitous circumſtances, the patients appeared to be ſaved by being put immediately into the warm bath, and kept there, till either the pulſe roſe, or faintneſs ſupervened. The emetic tartar, combined with laudanum, was given in conſiderable doſes, and frequently repeated. One patient bled freely in the bath, a vein being opened without effect before its uſe. After the patient is taken out of the bath, he muſt be laid in warm blankets, and ſweating encouraged by repetition of the bath, emetic tartar, and laudanum. A large bliſter muſt be applied to the abdomen. In all caſes of enteritis, Mr White ſays, we ſhould recollect that the diſeaſe may be cauſed by a

ſtran-

ſtrangulation of the inteſtine, which requires the hand of a ſurgeon.

In treating the hepatitis, our author obſerves, that the pain on the top of the ſhoulder is not a pathognomonic ſymptom of an inflamed liver; it frequently occurs when parts adjoining to the liver are affected, and is felt when a part only of the liver is inflamed. Two different ſets of ſymptoms attend this diſeaſe, according as the inflammation is ſeated in the ſubſtance or membranous covering of the liver. In general, the remedies of other inflammations are here proper; in ſome caſes, cicuta, bitters, and opium. In the ſplenitis, nephritis, cyſtitis, hyſteritis, antimonials, and the remedies of inflammation in other parts of the ſyſtem, are exhibited. In the acute rheumatiſm, the remedies of inflammation, in general, are recommended, and nitre, to the quantity of an ounce in twenty-four hours. Relapſes may be prevented by ſea-bathing. In chronic rheumatiſm, the medicines for inflammation are improper; and Mr White only here obſerves, that an ounce or two of ſal diureticus has ſoon cured very bad caſes, which withſtood every other treatment.

After obſerving that antimonials ſeem, *a priori*, to be indicated in the inflammatory gout, and

and not in the chronic, he gives the indications of cure for arthritis from Dr Gregory's Elements of the Practice of Phyſic.

II.

A Treatiſe on Childbed-fevers, and on the Methods of preventing them. Being a Supplement to the Books lately written on the Subject. To which are prefixed two Diſſertations, the one on the Brain and Nerves; the other on the Sympathy of the Nerves, and on different kinds of Irritability. By Thomas Kirkland, *M. D.* 8vo, London.

IN an advertiſement prefixed to this treatiſe, Dr Kirkland informs his readers, that it was written in conſequence of a letter he had received from Mr White of Mancheſter; and that practice has led him to view the ſubject of childbed-fevers in a different light from the gentleman mentioned above, and ſome other late writers on the ſame ſubject. He therefore hopes, that the preſent treatiſe may be a uſeful ſupplement to their works.

In the diſſertation on the nerves, the author obſerves, that, from the idea of their being chords,

chords, much falſe theory has ariſen. He points out the inconſiſtency of authors; for, while they talk of the brain being a mucus, they alſo tell us, ſays he, that its fibres form the nerves, through which the nervous juice paſſes to every part of the body. Dr Kirkland examined the brains of hares, ſheep, and oxen; and, from the appearances, he ſeems inclined totally to reject Haller's opinion, that the ſtructure of the brain and nerves is fibrous. In whatever manner, ſays he, the examination of the brain is conducted, it appears to be a mucous or gelatinous ſubſtance of a particular kind, cohering firmly together; and he alledges, that, to Haller himſelf, when he ſaw the brain without knowing it to be ſo, it appeared like a *mucus*. He obſerves, that the optic nerve, in going out of the ſkull, has not the leaſt fibrous appearance, but ſeems to be the mucous ſubſtance he deſcribes; and, when it depoſits its coat formed by the dura mater, it is ſpread unchanged for the purpoſes of viſion. This, he thinks, is proved from laying the retina in ſoap-lees; it ſoon becomes ropy, and acquires more the appearance of the white of an egg, than of any other ſubſtance he can compare it to. Dr Kirkland further remarks, that the tying, or deſtroying one particular nerve, does not

not deſtroy the ſenſation of the part to which it belonged; he therefore conſiders this as a farther proof, that the nerves ſerve the purpoſe of diffuſing the ſubſtance of the brain through the body; and, without ſuch diffuſion, he thinks it impoſſible for the nerves to ſupply the muſcular and other fibres. To this reaſoning he adds the teſt of experiment; for, by comparing the medullary part of the brain with the retina, with the olfactory and auditory nerves, the nerves of the limbs, and with the mucus, which is very thinly ſpread on the muſcular fibres, by the help of a good microſcope, he finds them all to have the ſame appearance. The irritation of the medullary part of the brain is attended with univerſal convulſions; that of a nerve, with the convulſion of a neighbouring muſcle; the irritation of the gelatinous ſubſtance covering a muſcle, with the convulſion of the muſcular fibres, which evinces that they are all the ſame ſubſtance, viz. the brain; which therefore appears the only irritable part of the body. Our author runs a compariſon between the blood-veſſels and nerves, that, as the former convey blood, ſo, in like manner, in the latter, the dura and pia maters form tubes, that conduct and diffuſe the medullary ſubſtance of the brain through the body. He allows, that a ſecretion is made by the cineritious part of the brain from the

the lymphatic arteries, for the nouriſhment of the medullary part; but maintains that this laſt, whether ſeated in the head, or different parts of the body, is the receiver, the ſeat, and conductor of every kind of ſenſe. But he concludes, that the manner in which it perceives, or communicates ſenſation, or its effects to other parts, may, after all, be among thoſe ſecrets in nature which it is hard, or perhaps impoſſible, to diſcover.

The ſympathy of the nerves, is the ſubject of the ſecond diſſertation. On this ſubject, Dr Kirkland wiſhes to be underſtood, when ſpeaking of the nerves, to mean the brain, conducted in the dura and pia mater, and extended to every part of the body. From his practice and experience, he is confirmed, that involuntary impreſſions made upon that part of it which covers the muſcular fibres, are not only conveyed to the head by the nerves, but that they are immediately conveyed along the diffuſed brain to every part of the body. This ſuppoſition, he thinks, explains the conſent betwixt the different parts of the body, eaſier, and without the difficulties that attend other explanations of the ſame phaenomenon. For inſtance, when a wound, ſays our author, becomes inflamed, the nerves, that is, the brain,

brain, on the affected part, becomes more irritable, and a fever, with a quicker pulſe, is produced, probably from the brain, diffuſed round the fibres of the heart, becoming, by this conſent, more irritable than uſual; whence the blood ſtimulates it with greater force, and a briſker circulation enſues. Several caſes of the conſent of parts, in conſequence of one being irritated, are enumerated; one of a vomiting, ariſing from the inflammation ſucceeding to an amputated breaſt; another, of a vomiting, attending the eruption of eryſipelas on the legs; a third, of a violent cough, during the increaſe of an abſceſs in the hand and wriſt; the fourth, of a tenſion and foreneſs over the whole body, from a ſprained ankle. Theſe are inſtances of what our author calls inflammatory Irritability. He mentions inſtances alſo of ſpaſmodic irritability. The firſt a caſe of tetanus, the conſequence of the back part of the heel being torn off; a ſecond, of convulſions, from the diſappearing of an eruption on the ſkin. Dr Kirkland concludes, that he cannot have clearer inſtances than theſe caſes afford, to ſhow the immediate connection between every part of the brain expanded over the muſcular fibres. He expreſſes an inclination to purſue this ſubject farther; but, what has been ſaid, he thinks ſufficient

ficient for his preſent purpoſe, and proceeds to treat of childbed-fevers.

Dr Kirkland, in a preface, endeavours to aſcertain what is properly a Puerperal Fever. Every fever, he obſerves, which ariſes from any diſeaſe, in conſequence of pregnancy, and happens during the time of lying-in, may properly be called a Puerperal Fever. He is diſſatisfied with thoſe who uſe the word *puerperal* to diſtinguiſh a particular kind of fever, as the moſt dangerous to lying-in-women, becauſe, by this name, they do not diſtinguiſh any one particular diſeaſe; for the fever ariſing from inflammation of the uterus, from abſorption of putrid blood from this part, is of the ſame kind, and as violent and dangerous as that cauſed by an inflammation of the abdominal diſcera, or the abſorption of putrid effluvia ab extra. He oppoſes alſo the opinion of thoſe, who ſay that the puerperal fever is cauſed by an epidemic conſtitution. Women in child-bed are liable to the prevailing diſeaſes of the ſeaſon; but how can an alteration, induced on the body by a morbid ſtate of the air, be called a Childbed-diſorder? an alteration which happens neither in conſequence of pregnancy nor delivery.

He obſerves, that the variety of appearances found upon diſſection, after puerperal fevers, may be owing to various cauſes; by conſidering which ſeparately, we may be able to inveſtigate the nature of the fevers which happen to women after delivery.

In the firſt chapter, Dr Kirkland obſerves, that, in order to have a clear idea of puerperal fevers, we ought firſt to examine the puerperal ſtate; and from the ſymptoms, ſuch as nauſea, vomiting, ptyaliſm, and the influence of ſlight accidents, he concludes that women, during pregnancy, have an increaſed irritability, which is ſtill farther augmented during the time of labour. The inconveniencies ariſing from increaſed irritability are removed in a week, or leſs, after delivery, when every thing goes on well. It is in conſequence of this irritable ſtate of the uterus, and of the whole ſyſtem, that women in child-bed are liable to epidemic diſeaſes, which is an obſervation that has been made ever ſince the days of Hippocrates. In conſequence of this ſtate, our author thinks it not ſurpriſing that the muſcles and contents of the abdomen, which are in the ſame ſtate as parts that have been bruiſed, ſhould be ſo greatly affected after puerperal fevers, as, upon diſſection, they are found to be.

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Our author thinks it a certain fact, that, whatever be the cauſe of puerperal fever, the whole abdomen, within a limited time, is more or leſs affected; becauſe the belly always turns green or putrid in a very ſhort time after death. Uterine irritability, accompanied with inflammation, ſeems to be the idea our author entertains of childbed-fevers; and he mentions ſome caſes from practice to this purpoſe. He does not deny, that inflammation of the contents of the abdomen may ſometimes be the cauſe of childbed-fever, although he does not think, with Dr Hulme, that it is always ſo. The caſes where he would ſuſpect this to be the cauſe are thoſe, where the quantity of waters has been large, and the uterus ſuddenly emptied by a haſty delivery, without care being taken, at the ſame time, to make an immediate preſſure upon the belly.

Dr Kirkland aſſigns, as another cauſe of puerperal fever, putrid blood, or other putrid matter lodging in the uterus; as alſo, the abſorption of the putrid miaſmata of lying-in hoſpitals. The coming of the milk, inflammation of the breaſt, abſorption of acrid milk, and a retention of excrement, are alſo conſidered as diſtinct cauſes of puerperal fever, differing in its ſymptoms according to the cauſe that produced it.

After enumerating the ſymptoms of puerperal fever, ariſing from theſe various ſources, Dr Kirkland proceeds, in chapter ſecond, to treat of the cure of childbed-fevers.

In entering upon the cure of childbed-fevers, Dr Kirkland remarks, that, whatever be the cauſe of them, there is always more or leſs of an abſorption of putrid matter from the uterus or abdomen, which often produces the ſymptoms of putreſcency, ſo frequent in theſe diſorders, and to which particular attention muſt be paid in preſcribing. However, in the beginning, an inflamed uterus, except when irritated by putrid blood, muſt be treated like other local inflammations. But he obſerves, that bleeding and purging cannot be uſed in their full force, becauſe they render the patient leſs capable of undergoing the remainder of the diſeaſe. Our author recommends ſaline ſudorifics after bleeding; and obſerves, that women in child-bed bear evacuations by the ſkin much better than by the bowels. When ſickneſs and vomiting ariſe, he is againſt the uſe of vomits, as tending only to increaſe the irritability of the ſtomach, which gave riſe to theſe ſymptoms. Opium is recommended in ſmall doſes, joined with other neceſſary remedies in this caſe. Camphor alſo, as leſſening

leſſening irritability, may be uſeful in inflammations of the womb. Bliſters are recommended by our author, where the inflammation is not very violent; but, where it is, great miſchief, he thinks, may be done by them. With a view to illuſtrate the uſe of theſe remedies, our author gives a detail of his practice, when the fever is of the inflammatory kind. When this method fails of ſucceſs, and a diarrhoea comes on, the diſeaſe is become more or leſs putrid, and a different treatment is required. The diarrhoea is not to be entirely checked; but we are to endeavour to render the matter which irritates the inteſtines leſs active, by correcting the ſtate of the fluids, and taking off the increaſed irritability of the habit. Peruvian bark is here the principal remedy, with laudanum or rhubarb, according to its effect on the diarrhoea. In this ſtage of the diſorder alſo, when the pulſe ſinks, and the nervous oppreſſion is manifeſt, Camphor is a good remedy. Half an ounce of the Camphor julep, repeated every four or five hours, is a ſufficient doſe. If the diarrhoea, notwithſtanding the uſe of theſe remedies, becomes violent, Dr Kirkland agrees with Mr White in recommending columbo root. In finiſhing this part of his ſubject, our author obſerves, that a diarrhoea in childbed-women, unattended with fever, may

be always ſafely ſuppreſſed after a doſe of rhubarb.

For the fever ariſing from inflammation of the abdominal viſcera, the ſame treatment is recommended.

But the puerperal fever, ariſing from the retention of coagulated blood, is more dangerous, as it is quicker in its progreſs. In this caſe, after cleanſing the bowels, no time ſhould be loſt in giving antiſeptics, eſpecially the bark. The fever ariſing from putrid miaſmata is to be treated, in the beginning, by adminiſtering a vomit, and afterwards giving the bark.

The fever ariſing from the coming of the milk is ſeldom dangerous. When the breaſts cannot be drawn, Dr Kirkland adviſes the application of linen cloths, wet in cool-drawn lintſeed-oil, to preſerve the lymphatic veſſels in a ſtate capable of carrying the milk back into the circulation. The common termination of this fever, when the tenſion and inflammation of the breaſt have been great, is ſuppuration.

The fever ariſing from the abſorption of acrid milk is more dangerous, and ſometimes ends in abſceſſes in the groin, or other parts of the body. To prevent which, a gentle emetic ſhould be given,

given, to aſſiſt nature in throwing off the offending matter, which ſhe frequently does by ſtool.

The fever ariſing from retention of excrement proves ſeldom fatal, unleſs neglected; becauſe, before it comes on, women have generally undergone that change which renders them leſs liable to danger.

From the whole of his obſervations, Dr Kirkland infers, that no fixed rule can be laid down for the cure of puerperal fever; that different cauſes will always require different treatment; and that, if one method only is uſed for all kinds of childbed-fevers, death, more frequently than a recovery, will be the conſequence of medical aſſiſtance.

In the third chapter, our author treats of the prevention of childbed-fevers; and on this ſubject he proceeds upon the principles laid down in the firſt part of his treatiſe. In order to prevent inflammation of the uterus, bleeding, a cooling diet, and antiphlogiſtics are neceſſary during pregnancy, if the patient be ſtrong, and ſo full of blood as to occaſion a diſtenſion and uneaſineſs. Bleeding and purging are alſo neceſſary, if the ſymptoms of an inflamed uterus appear under labour.

The extracting the placenta in all caſes, by force, is condemned as a bad practice, tending to induce inflammation of the uterus. But, if the after-birth does not come away in due time, and its retention be owing to ſpaſm, opium will be of uſe in removing the ſpaſm. In very quick labours, preſſure upon the abdomen is neceſſary. This is done by means of a bandage, under which ſome apply a piece of flannel, which is ſo far of uſe, as it promotes ſweat, an evacuation which, in our author's opinion, forwards recovery. Sweating much, however, is bad, eſpecially if the patient be much heated in hopes of promoting it. Coſtiveneſs is by all means to be avoided. This is done by the uſe of glyſters and the mildeſt laxatives, as the bowels are more irritable than at any other time. Blood lodges and coagulates in the uterus chiefly when the placenta comes away, before it has time to contract; in order to diſcharge which, the patient ought to be raiſed in bed, or even get up, if neceſſary. The patient ought always to be kept cool and clean. The breaſts, too, ought to be drawn, to prevent the fever from the coming of the milk; and alſo, if they are filled previous to the onſet of a fever, they ſhould, upon its firſt appear-

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ance, be drawn, to prevent the milk becoming acrid, and its being abſorbed in this ſtate.

As to preventing hoſpital or epidemic fevers, our author declines entering on the ſubject, as much has been ſaid on this head by various writers; and concludes, that no general rule can be laid down for preventing fevers in lying-in-women, except that the preſcriber ſhould have a general knowledge in the ſcience of medicine; ſo that, inſtead of purſuing one road, he may be able to vary his manner, as particular circumſtances require.

III.

Traité de Médecine théorique et pratique; extrait des Ouvrages de M. de Bordeu. *Avec des Remarques Critiques, par* M. Minvielle, *Docteur en Médecine de la Faculté de Montpellier, Correſpondant de l'Académie Royale des Sciences de la méme ville, un des Médecins du Bearn.* 8vo, Paris.

THE name of Mr Bordeu is, we dare ſay, well known to moſt of our readers. He has long been celebrated, not more for his eminence as a phyſician, than for the ſingularity and novelty

novelty of his opinions on many of the moſt intereſting ſubjects in medicine. Theſe opinions have, at different times, been ſubjected to public examination, for the ſpace of forty years paſt. Sometimes they have been communicated in the form of ſeparate treatiſes, at others in eſſays in periodical publications. With ſome, they have afforded ground for high encomium; with others, for ſevere criticiſm. Whatever may be their real merit, the author of the preſent work, who, although he does not implicitly adopt every doctrine delivered by Mr Bordeu, may juſtly be ranked among his admirers, has certainly done no unacceptable ſervice to the public, in preſenting them with a connected view of the detached opinions of this celebrated author in the form of a ſyſtem. And we apprehend, that, from the ſame conſideration, our readers will not be diſſatisfied with ſome account of this work. It is with regret, however, that we find it will be impoſſible for us to ſatisfy the curioſity of ſome of our readers, without offending againſt the patience of others. We ſhall here, however, endeavour to give ſuch a view as may ſerve to excite the curioſity of thoſe whom it cannot ſatisfy; and we muſt refer them for more ample information to the work now before us.

In the firſt eleven chapters, the author preſents us with Mr Bordeu's general ideas, reſpecting the animal oeconomy in health. Man, according to his ſyſtem, is a compound of different organs, which have each, in the living ſtate, a motion, action, and life peculiar to themſelves. Theſe parts act and feel to a certain degree at particular times, and repoſe themſelves at others. He conſiders the general life of the ſyſtem as the reſult or ſum of the lives of each particular part; and compares it to a cluſter of bees hanging by the branch of a tree. Thus, with a celebrated antient, he conſiders each viſcus to be properly *animal in animali*. The moſt perfect ſtate of health, then, he ſuppoſes to depend on a determined action in each organ, and, from variety in theſe, he imagines all the diverſity of temperaments to ariſe. But there are ſome functions which muſt be in common to every ſyſtem, and which he regards as the foundation and ſupport of life. Theſe are the action of the brain and nerves, the motion of the heart, reſpiration, and digeſtion. He conſiders, therefore, the brain, the heart, and the ſtomach as ſo many centers, from which proceed all the effects and actions neceſſary for every function of life. All theſe he ſuppoſes to depend on the influence of the nervous

vous fibre, differently fabricated and excited in different parts. He conſiders the action of the nervous fibre, therefore, as having two principal ſources, the head, and the middle portion of the body, comprehending the heart, ſtomach, diaphragm, and inteſtines.

As the eſſence of life conſiſts in motion and ſenſation, he imagines every function to be a mixture of theſe. There are ſome functions, in which ſenſation predominates, where he ſuppoſes a ſoul united to the living body to have the principal ſhare. There are others which he imagines to depend on a ſenſibility purely vital, without the ſoul having any concern. The ſame diſtinction, he maintains, holds alſo with regard to thoſe functions chiefly characterized by motion. In ſome of them the ſoul has a concern, others are independent of it.

He conſiders the human machine as containing fibres of one kind only, that is nervous fibres; and imagines, that, on a different diſpoſition of theſe fibres, all the diverſity of organs depends. According to this idea, the nervous fibre is the eſſential component of the animal; and the other parts, which conſtitute muſcles, membranes, &c. are but ſecondary, ſerving only as appenda-

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ges to the nerves, or ornaments to the body. He ſuppoſes all the other parts to conſiſt of a mucous ſubſtance, differently modified by the nervous ſyſtem.

Reſpecting the diviſions of the body, he remarks, that there are two which particularly claim attention. The firſt of which, he takes notice, is a diviſion into the right and left ſides. Theſe two, he obſerves, are for the moſt part diſpoſed in the ſame manner, and excited to the ſame tone. But he thinks it eaſy to prove, from obſervation, that each has its ſeparate actions and indiſpoſitions. The ſecond diviſion which he points out is that formed by the diaphragm. The parts ſituated above and below that organ admitting of like diverſity as was obſerved to hold reſpecting the oppoſite ſides.

After theſe general ideas reſpecting man, conſidered as the object of medicine, our author, in his ſecond chapter, gives an account of Mr Bordeu's opinion, reſpecting what he calls the Epigaſtric Forces. There is no action of the body without re-action; no effect without oppoſition; and the ſyſtem of nerves and of membranes are here conſidered as the principal agents in this communication of action. Theſe, taken together, form

form the general ſyſtem of forces, which are as numerous as there are functions to fulfil. But theſe forces he imagines to have a certain center of determination, towards which they are particularly propagated, and from whence they in general receive the moſt conſiderable degree of tenſion and of action. This center he imagines to be in the epigaſtric region. The force of action and of re-action, which this region poſſeſſes, depends on thoſe of the diaphragm, the ſtomach, and inteſtines. Theſe viſcera, he endeavours to ſhew, act not only upon all other parts of the animal, but oppoſe to every other action a mutual effort, on the equilibrium of which the health of the individual depends. And beſides this double action, he farther imagines, that the epigaſtric force has conſiderable influence, both in ſenſation and motion, which are the ſubjects of inquiry in the third chapter.

With regard to ſenſation, he believes that every nervous prolongation has its proper function, and poſſeſſes an inherent ſenſitive faculty, which is the true agent and vehicle of ſenſation, and that, of conſequence, the different parts of our body are ſuſceptible of a general feeling of pleaſure or pain. He believes, that each of the viſcera enjoy a ſpecies of inſtinct from ſlight irritation,

tation, by means of which they choice and reliſh aliment, or other matters of any kind tranſmitted to them; that they retain ſuch as are uſeful, and reject thoſe not fitted to their conſtitution. He holds, however, that every thing reſpecting ſenſation is regulated by a ſoul purely ſpiritual, which vivifies the nervous ſyſtem; and that it is at the origin of the nerves that this ſoul principally exerciſes its action. He imagines, that the medulla oblongata and ſpinalis, are the chief centers where this connection is properly marked; and he maintains, that the epigaſtric region is alſo a point where ſenſation in a remarkable degree manifeſts itſelf; in teſtimony of which, he adduces the lively impreſſion which is felt there from acute pain, or any violent paſſion of the mind.

According to Mr Bordeu, every part of the body is more or leſs capable of motion. He divides its motions into two kinds, tonic and muſcular. Tonic motion is conſtantly exerciſed; it compreſſes and condenſes parts, and ought to be regarded as ſuperadded to ſimple elaſticity. Muſcular motion he conſiders as an augmentation of the force of fibres already in action. He maintains, that the epigaſtric forces undergo a conſiderable change on every motion of the body;

dy; and obſerves, that no conſiderable effort can be exerted, without our being ſenſible of an effort towards the region of the diaphragm. He farther obſerves, that we feel a ſenſe of laſſitude in this region, when the body is no longer in a condition to ſuſtain the continuance of any extraordinary effort.

The principle of life, which Mr Bordeu ſuppoſes to exiſt in every organ, he employs for explaining the functions of ſecretion and excretion, which are the ſubjects of the fourth chapter. He imagines, that, in both, there takes place a peculiar action; and he illuſtrates them by the phaenomena attending the diſcharge of ſemen, and the ſecretion of milk.

He adopts the ſame principle in the fifth chapter, for eſtabliſhing an action peculiar to the uterus, particularly in the menſtrual flux. And when the uterus itſelf does not perform this action, he imagines that ſome other may ſupply its place; which he thinks proved by the diſcharges vicarious to the menſes occuring from different parts of the body. The function of digeſtion, of which our author treats in his ſixth chapter, Mr Bordeu ſuppoſes alſo to be chiefly the effect of a peculiar action of the ſtomach; and upon this

this principle he explains all the varieties which we obſerve in different individuals, reſpecting a ſtrong inclination for ſome food, and averſion at others, hunger, loathing of aliment, &c. All theſe he ſuppoſes to proceed from different modifications of the nerves.

Beſides theſe diſcuſſions, particular chapters are beſtowed, in the theoretical part of this work, on what our author calls the different department of organs, on the periodical action of parts, on circulation, on cellular texture, and on the communication of the different parts of the cellular membrane. But, from what has been already obſerved, we apprehend that our readers may form ſome idea of Mr Bordeu's ſentiments reſpecting the animal oeconomy. In the twelfth chapter, our author delivers Mr Bordeu's ſentiments reſpecting diſeaſes in general, but more eſpecially the acute; and to this part of the work we now proceed.

Mr Bordeu defines diſeaſe to be a diſturbance excited in the exerciſe of functions, by a leſion of the primitive action of organs, which may either be faulty from defect, or exceſs, in their operation. This leſion he ſuppoſes to depend principally on an alteration of the equilibrium of

action which ought to ſubſiſt among the epigaſtric viſcera, the ſtomach, inteſtines, and diaphragm. After this general idea, he divides diſeaſes into thoſe which immediately and eſſentially affect the ſtomach, and thoſe which affect the diaphragm, and organs connected with it. He admits alſo of mixed affections, or ſuch as depend both on the one and the other ſource. But he arranges them under the diſeaſes of the department of the ſtomach, or of the diaphragm, according as an affection of the one or the other predominates. He denominates the diſeaſes referred to the ſtomach regular and humoral, thoſe to the diaphragm, irregular and ſpaſmodic.

The cauſes diſturbing the equilibrium of the ſtomach are the weight of the aliment, or of fluids loading and diſtending it; or the irritation ariſing from vitiated contents. Thoſe which diſturb the diaphragm, or phrenic forces, are ſenſations and paſſions of the mind, and violent efforts made by the abdominal viſcera againſt the diaphragm. The effect which theſe leſions produce, in the caſe of chronic diſeaſes, proceeds ſlowly and inſenſibly; whilſt, in the acute, it has a quick and expeditious progreſs. Beſides theſe, he conſiders two other ſtates in diſeaſes, the violent and the moderate; and explains both, from there

there being a greater or leſs degree of alteration in the epigaſtric forces.

In every diſeaſe, certain periods are obſerved; theſe Mr Bordeu reduces to the three following. The firſt he terms the period of irritation; the ſecond of maturation; and the third of evacuation. Theſe three periods are ſometimes ſeparated by diſtinct intervals, and have a regular and uniform progreſs; at other times, they are complicated and confounded with each other. The firſt is the caſe in mild, ſimple, and regular diſeaſes; the laſt in anomalous, complicated, and irregular affections. He conſiders art in general as curing diſeaſes, by preparing and conducting the criſis; or, which is the ſame thing, by conducting the ſymptoms in ſuch a manner as may lead to a happy criſis. The labour of a phyſician, then, conſiſts in rendering the criſis free and determinate.

After theſe remarks on diſeaſes in general, our author proceeds to particulars, and firſt treats of the malignant fever. This he conſiders to be a very complicated diſeaſe, and thinks it plainly proved, from examination of the blood, that it has loſt the mucus which ſerves to unite its different parts. This privation of mucus, he con-

ſiders to be the moſt fatal ſymptom of the affection. Hence he lays it down as the great deſideratum in the cure, to excite real inflammation, or a plethora of this part of the blood. And what he eſteems the moſt effectual means of obtaining this is the uſe of bliſters, which, he maintains, excite an inflammatory diſpoſition, give a general ſhock to the nervous ſyſtem, and fix the current of humours and train of irregular oſcillations. For the ſame purpoſe alſo he recommends emetics, cordials, ſudorifics, Peruvian bark, and volatile ſpirits, which, he thinks, may be conſidered as internal bliſters.

We are next preſented with a long diſſertation on the Colica Pictonum, in which we have a full detail of many opinions that have been offered with regard to it, and of the methods of cure which have chiefly been followed in the French hoſpitals. From what is delivered, our author concludes, that phyſicians have formed two very different opinions on the ſubject of this diſeaſe. The one ſet employ ſtrong purgatives, and believe demulcents to be improper. The other ſet have, on the contrary, recourſe to demulcents and oil. Mr Bordeu is of opinion, that this diſeaſe, as well as others, has a regular courſe, and runs through the three ſtages before pointed out.

And

And he thinks, that oil is to be employed in the firſt, purgatives during the ſecond and third.

We are preſented, in the fifteenth chapter, with Mr Bordeu's idea of inflammation. This he ſuppoſes to conſiſt in a collection of blood at any part, with an augmentation of the heat and force of action there. This augmentation of action he ſuppoſes frequently to proceed from the derangement of cellular matter, producing its effects in the ſame manner as a needle, or any other foreign ſtimulus. To this is ſubjoined a chapter on peripneumony, in which Mr Bordeu chiefly examines what Boerhaave had ſaid of that diſeaſe.

Chronic diſeaſes, though ſlower in their progreſs than acute, Mr Bordeu conſiders alſo as having three periods, viz. thoſe of irritation, maturation, and excretion, or evacuation. But here the two laſt are wonderfully modified and prolonged, particularly where ſenſibility has the principal ſhare in the affection. Mr Bordeu diſtinguiſhes them into ſympathic and idiopathic. The firſt which he conſiders, as almoſt conſtantly depending on the ſtomach, he thinks are often curable, provided they be not inveterate. The other he conſiders as more obſtinate, and fre-

quently incurable. After many other general remarks, particularly on nervous diſeaſes, our author treats profeſſedly of ſcurvy.

According to Mr Bordeu, thoſe affected with ſcurvy have their ſolids ſingularly irritated, and their fluids conſiderably altered. This alteration he ſuppoſes to conſiſt in the blood being deprived of its albuminous or mucous part, which affords foundation for its being ſaid to be in a diſſolved ſtate. In conſequence of the privation of this nouriſhing part of the blood, the body is rendered weak, and the parts loſe that force of adheſion which they ought naturally to have. He conſiders antiſcorbutics, particularly certain vegetables abounding with mucus, as producing good effects in ſcurvy, from furniſhing aliment proper in ſuch a condition, and as further containing an alkaline matter fitted for recovering the chylopoetic viſcera, and renewing the tone and action of the vaſcular ſyſtem.

The ſubject of the next chapter is the ſcrophula. After having deſcribed this affection, he obſerves, that the inhabitants of cities are leſs ſubject to it than thoſe of the country; and, what indeed is very univerſally admitted, that it is more frequent with infants than with adults. He obſerves

ſerves farther, that it chiefly affects thoſe living on the banks of rivers, or who are ſupported by unwholeſome aliment. And he concludes, that thoſe attacked with ſcrophula have temperaments moſt ſimilar to thoſe of children. In children, however, as the different organic parts are not completely evolved, he ſuppoſes that the fluids cannot be ſubjected to the neceſſary preparation; and that, therefore, an acid muſt be evolved, with which their fluids muſt always be impregnated, to a greater or leſs degree; and in this he conceives a ſcrophulous conſtitution to conſiſt.

In this diſeaſe, Mr Bordeu points out three ſtages. The firſt conſiſts in a ſcrophulous diſpoſition as yet concealed, which is characterized by no evident ſymptom. In the ſecond ſtage, ſome ſymptoms appear, but of ſuch a nature, that the affection may be conſidered as doubtful. This he ſuppoſes to correſpond to what he formerly pointed out, under the name of the Stage of Maturation. Under the third, he comprehends all that period, when the diſeaſe is ſo diſtinctly characterized that it cannot be miſtaken. In the cure of this affection, he chiefly recommends the uſe of mineral waters; but thinks that

their operation may be aſſiſted by emetics, purgatives, abſorbents, and the Peruvian bark.

He obſerves, that it is eſſential not to undertake the cure of every caſe of ſcrophula at all periods; and particularly, that it is often of conſequence to allow the diſeaſe to proceed to a certain length in the ſecond period. He diſſuades againſt all attempts to ſpeedy or violent revolution, and againſt the precipitate uſe of remedies, which can operate only by exciting a temporary fever or agitation; and that this may operate as a cure, it muſt be analogous to that fever which nature herſelf would excite, for producing a ſalutary criſis. On other occaſions, he obſerves, that the revolutions brought about by the progreſs of age will often produce a perfect cure, ſometimes by evident evacuations, at other times without any obvious diſcharge.

Beſides theſe affections, Mr Minvielle preſents us, in the ſubſequent part of this work, with Mr Bordeu's ſentiments on many other ſubjects, particularly reſpecting the criſis of diſeaſes, the prognoſis from the pulſe, mineral waters, and innoculation. And the work is concluded with ſome reflections by our author on Mr Bordeu's opinions; from which it appears, that he is not

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ſo implicit an admirer of theſe doctrines, as to ſuppoſe them beyond the reach of all objection. But his chief difficulties ariſe from the opinions being delivered with too great latitude. While, at the ſame time, the encomiums he beſtows upon them in his preface, and the pains he takes to point out the progreſs they have made in different parts of Europe, ſufficiently evince how ſincerely he admires them.

IV.

Premier Mémoire ſur le Petrole de Parme. Par M. Fougeroux *de Bondaroy. Vid. Hiſtoire de l' Académie Royale des Sciences, Année* 1770. 4to, Paris.

THough the qualities of petroleum had long ago excited the attention of the chymiſts, and been illuſtrated by a variety of experiments, previous to this eſſay of Mr Fougeroux, nothing with regard to its method of collection was generally known, nor any obſervations made on the ſoil or ſpecies of earth affording it. Mr Fougeroux is of opinion, that an exact account of the natural hiſtory of the country where this curious production is obtained, muſt be the firſt ſtep towards any theory of its formation in the bowels

bowels of the earth. Such a detail the author has been enabled to preſent the academy, by the aſſiſtance of Mr Ferrarini chymiſt to the Duke of Parma, in whoſe territories petroleum is collected.

Miano is a ſmall village, not many miles diſtant from Parma, where this oil is pretty common. Without any certain mark of its preſence, the inhabitants ſink pits in the earth; but when, at a ſmall diſtance from its ſurface, they meet with a greeniſh clay, known by them under the name of Terreno Cocco, they conſider it as a favourable omen; and continue their work, allowing the pit to ſtraiten as they deſcend. When fifty feet deep, they expect to ſmell the petroleum, which, gradually increaſing, becomes at laſt ſo intolerable, that the workmen muſt be changed every quarter of an hour, and are often drawn up without reſpiration, and to appearance dead. At laſt, generally 120 feet below the level, the petroleum ſprings in ſmall jets from the ſides of the pit, or is ſometimes found collected in ſome cavity, in great quantities. It is only in ſummer that theſe pits furniſh the petroleum; in winter, the quantity exuding being too ſmall to defray the expence attending its collection, and of its ſeparation from an earth

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it at firſt contains, by diſtilling with water in an alembic.

At Miano, there are now three pits, two of which yield the oil unmixed, except with earth; the third pouring out alſo a brackiſh water, on the ſurface of which a petroleum ſwims, not inferior to the others when carefully ſeparated. The quantity collected in different pits is very various, from half a pound to four pounds, in 24 hours.

A ſpecimen of the Terreno Cocco was ſent by Mr Ferrarini to the Author, who found it by experiment to be an argillaceous earth, exactly correſponding with that left by the oil in diſtillation. With a few more general obſervations on the Natural Hiſtory of the country, Mr Fougeroux concludes this Memoir.

V.

Second Memoire, ſur le Petrole, et ſur des Vapeurs Inflammables communes dans quelques Parties de l' Italie. Par M. Fougeroux de Bondaroy. *Vid. Hiſtoire de l' Académie Royale des Sciences année* M,DCC,LXX. 4to, Paris.

MR FOUGEROUX, in this Memoir, attempts to explain the ſource of the inflammable vapours, ſo common in many parts of Italy, particularly

ticularly among the mountains between Bologna and Florence, near Pietra Mala. From the irregular ſhape of theſe mountains, the author thinks it beyond doubt, that they have once been volcanos; and, though they have now no open mouth, he has ſome reaſon to imagine that they ſtill exiſt, though at a great diſtance below the ſurface of the earth. The author next deſcribes four ſources of inflammable vapour on the mountain Canida; three of which always burn; but, as the fourth affords the cleareſt view of the phaenomena, we ſhall only offer Mr Fougeroux's account of it.

The fire, known by the inhabitants under the name of di Legno, from the ſimilarity of its flame to that of wood, is ſituated in a valley, on the declivity of the mountain, and is often extinguiſhed by violent winds. It occupies a ſmall depreſſion in the earth, about ſeven feet diameter, where a vapour ariſes, only viſible, when approached by a flame, when it inſtantly takes fire, runs along the ſurface of the depreſſion, and is generally confined to a ſmall part of it at once. This fire is of the moſt innocent nature, and does not even kindle pieces of paper, tho' it gradually deſtroys their texture. It is only this vapour that is ſuſceptible of inflammation, the earth from whence

whence it ariſes being cool at a few inches depth, but ſmelling ſtrongly of petroleum, and ſomewhat like a ſcorched coal, or cinders. If a pit be dug near this fire, the petroleum is plainly obſerved on its ſides, the quantity proportioned to the diſtance from the ſurface; and a great number of half deſtroyed vegetables are found in the digging. The author propoſes, as a query, Whether the petroleum may be in part a product of theſe, an oil being extracted from them by boiling, which ſwims in water? Mr Fougeroux is of opinion, that, if we allow the probability of a ſubterraneous fire ſtill exiſting, the appearance of the inflammable vapour ſeems to be a natural conſequence of the application of heat to a ſoil loaded with petroleum, and that in reality theſe vapours are raiſed from the petroleum by the action of deep fires. There is no certainty of our having diſcovered the ſecret operations of nature, till we are able to imitate their effects. This Mr Fougeroux has accompliſhed. He put into a large earthen pot a quantity of the earth found in the bottom of the pits at Miano, mixed with that left by the petroleum in diſtillation; and both he covered with ſeveral inches of common earth. He then ſurrounded the pot with burning coals, and, in a ſhort time, a warm vapour aroſe, taking fire when approached

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ed by a candle, and ſpreading along the ſurface of the earth, burning with a blue flame, and often ſhifting its place. Paper, when thrown in, was conſumed without flaming; and, in every reſpect, this fire ſo exactly reſembled thoſe of the mountain Canida, that there ſeems to be no doubt of their having both ariſen from the ſame cauſe.

VI.

Premier Memoire ſur la Nature de l' Eau, et ſur les Experiences par leſquelles on a pretendu prouver la Poſſibilité de ſon changement en Terre. *Par* M. Lavoiſier. *Vid. Hiſtoire de l' Académie Royale des Sciences, année* 1770. 4to, Paris.

MANY eminent philoſophers having aſſerted, that the elementary ſubſtances in nature are capable, by various proceſſes, of being converted into each other; and, particularly, that water often changes into earth: The author of this memoir attempted the following candid examination of the opinion; the reſult of which he here lays before the academy. Without paying much attention to the hypothetical opinions of antiquity, he obſerves, that the arguments favouring the change of water into earth are chiefly drawn from two ſources; 1ſt, from the growth of

of vegetables in pure water; and, 2d, from the effect of frequent diſtillations, and other chymical operations on that body.

Of the firſt kind, the experiments of Van Helmont were, of all others, made the earlieſt, and are not the leaſt deciſive. He put into a flower-pot 200 pounds of earth, carefully dried, in which he planted a willow of five pounds weight, watering it conſtantly with rain or diſtilled water. At the end of five years he cut down the tree, which then weighed 169 pounds 3 ounces, and, drying the earth remaining in the pot, he found it only two ounces diminiſhed. From this he concluded, that he had here obtained 164 pounds 1 ounce of vegetable matter from pure water. The ingenious Mr Boyle made a variety of experiments, much to the ſame purpoſe; and he farther proved, that odorous plants poſſeſſed their peculiar ſmell in as ſtrong a degree, when growing in water alone, as when planted in their natural ſoil. Paſſing over a number of experiments by Eller, Bonnet, and Du Hamel, the author allows that, from all of them, we may juſtly conclude, that a very ſmall quantity of earth paſſes into the ſubſtance of vegetables; but, to imagine that, by the proceſs of vege-

vegetation, water is converted into earth, ſeems to him inconſiſtent with the idea he entertains of that fluid; and, beſides, if we grant this change of water into earth, we cannot deny that it may be converted into oily, reſinous, ſaline, and odorous bodies.

The experiments on this ſubject, numerous as they are, in general lie open to many objections; and moſt of them were only made with common water, which often contains calcined earth, and a variety of ſaline or ſelenitic compounds. The experiments of Helmont and Eller are the only ones where pure water was employed; but this, if collected from the tops of houſes, could not fail to be mixed with a great many foreign ſubſtances. And Margraaf has clearly proved, that even the pureſt rain-water contains a ſmall quantity of ſea-ſalt. There ſeems indeed to be a great diſproportion between the quantity of vegetable matter, and of theſe ſubſtances contained in the water; but, had the wood been chymically analyzed, the real quantity of earth would have been found to be very ſmall. The author, however, foreſees that theſe objections are of no force againſt the experiments of Eller, which were made with diſtilled water: But here the reſult ſeems to favour his opinion; for, after analyzing the vegetable, the remaining earth amounted

mounted only to a few grains, which might have been afforded even by the pot in which the plant was contained. Independently of all theſe, the author mentions another ſource whence vegetables have been ſhown, by Bonnet, to draw the largeſt ſhare of nutritive matter, viz. from the ſurrounding air, by means of their leaves. Of all the fluids in nature, there is perhaps none ſo complex as the air at the ſurface of the earth; and it ſeems far from improbable, that, from it, a quantity of ſolid matter may be received into vegetables. But, excluding all theſe extraneous matters, the air itſelf has been ſhown by Dr Hales to enter the ſubſtance of plants in very conſiderable quantity. Here, then, the author is of opinion, are two ways in which vegetables may be furniſhed with the real earth they contain, without having recourſe to the change of water, either by ſubſtances contained in the water, or floating in the ſurrounding atmoſphere.

The author next proceeds to take notice of the ſecond ſet of experiments in favour of the converſion of water into earth. Borrichius collected a great quantity of rain and ſnow-water, which, on evaporation, was found to contain a quantity of an inſipid earth; and, after repeated diſtillations, he found an earth left in the retort.

Nearly at the ſame time, and without knowing of the experiments of Borrichius, Mr Boyle, from frequent diſtillations of water, drew a ſimilar concluſion, and even found one ounce to afford ſix drams of a white inſipid earth. Boerhaave, the next author on this ſubject, attempted a refutation of all theſe obſervations, and thinks the quantity of earth found in diſtillation is ſo ſmall, that it might eaſily have been ſupplied by duſt floating in the air. Soon after, Geoffroy repeated the experiment of Boyle by frequently diſtilling the ſame water; and, after every diſtillation, found a conſiderable quantity of earth. To render the experiment ſtill more deciſive, Mr Margraaf performed it in ſuch a manner as to exclude every poſſibility of duſt mixing with the water. Of late, Mr Le Roy has taught us, that all water diſſolves a certain quantity of earth, which he imagines has hitherto impoſed on philoſophers, and given riſe to the notion, that water could be changed by diſtillation into earth; but this opinion Mr Lavoiſier conſiders as liable to many objections. For, was there a quantity of earth diſſolved in the water, it would ſeparate in greateſt quantity at the firſt diſtillation, and diminiſh every time the operation was repeated. But, with Boyle and Margraaff, the event was

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different, the laſt diſtillation leaving as much, or more, earth than the firſt. Mr Lavoiſier finiſhes this memoir with obſerving, that, from all theſe experiments, we would ſtill conclude, that, on no other principle, but the converſion of water into earth, have the phaenomena of theſe chymical proceſſes hitherto been accounted for; and that they are at beſt much involved in doubts and uncertainty.

VII.

Second Memoire ſur la Nature de l' Eau, et ſur les Experiences par leſquelles on a pretendu prouver la Poſſibilité de ſon changement en Terre. Par M. Lavoiſier. *Vid. Hiſtoire de l' Académie Royale des Sciences, Année* 1770. 4to, Paris.

THE author having ſhown, in his firſt eſſay, that little was to be truſted to the arguments for the converſion of water into earth, drawn from the vegetation of plants, and that the truth of the doctrine ſeemed only ſupported by chymical experiment; he now goes on to examine how far theſe in reality favour that opinion. As a more expeditious way of working than by diſtillation, Mr Lavoiſier reſolved to repeat the experiment of Boyle with a pelican, an inſtrument where the condenſed fluid is again returned into the body of the veſſel. Having aſcertained, with the greateſt nicety, the weight of

the pelican, and that of the water when poured in, he accurately ſhut up the inſtrument, and applied a heat to it ſufficient to excite a gentle ebulition. At the end of 25 days, when almoſt deſpairing of the ſucceſs of his operations, he began to perceive, by means of glaſſes, whitiſh flakes of earth ſwimming in the water, which ſoon began to ſettle to the bottom, and, conſtantly falling through the fluid, rendered it ſomewhat turbid. After this conſtant diſtillation had gone on for 100 days, he removed the veſſel and its contents from the fire, and, on weighing them together, with the ſame exactneſs as at firſt, he found they had only loſt one fourth of a grain. He then opened the pelican, pouring out the water, with its ſediment, he found that the veſſel had loſt, and the water gained, upwards of 17 grains. This immediately ſuggeſted, that the earth he found in the water was in fact nothing but a part of the glaſs diſſolved by the long continued boiling. To fix the truth of this opinion beyond the poſſibility of a doubt, he weighed the ſediment of the water, which he was diſappointed to find fell far ſhort of the quantity loſt by the pelican; but, imagining a quantity of the diſſolved glaſs to be ſtill ſuſpended by the water, he poured it into a clean retort, and, diſtilling it off with

a gentle heat, found a quantity of an earthy matter, which, joined to the ſediment formerly collected, exceeded by three grains the weight loſt by the pelican. This difference, however, the author conſiders as immaterial, ſince, in the effuſion of the water out of the inſtrument, and during a ſhort time it was expoſed in the open air, ſome grains of duſt might eaſily have got into it. From all theſe, Mr Lavoiſier finiſhes his paper with the important concluſion, that water has ſome power of diſſolving glaſs, and that it was this alone which miſled Boyle, Margraaf, &c. and gave riſe to the idea that water, by diſtillation, was capable of being converted into earth.

VIII.

Recherches ſur quelques Conformations Monſtreuſes de doigts dans L'Homme. Par Mr Morand. Vid. Hiſtoire de l' Académie Royale des Sciences, Année 1770. 4to, Paris.

AMONG all the wanderings of nature in the formation of the human ſpecies, there is none, at firſt ſight, leſs ſtriking than a ſupernumerary finger or toe; but, to the inge-

nious author of this memoir, the exiſtence of ſuch ſlight deviations from the common ſtructure of the body, has opened a field of curious and intereſting inquiry. After preſenting the academy with a full narrative of the beſt authenticated inſtances of ſuch monſtrous productions, and which does not admit of any abridgement, Mr Morand goes on to diſtinguiſh theſe luſus naturae into two claſſes; the one, where the additional toe or finger was formed ſymmetrically with the reſt, both in appearance and intimate ſtructure; and the other, where an irregular excreſcence only adhered to ſome part of the natural ones.

It is chiefly from the appearance of the firſt claſs that the author draws thoſe judicious concluſions which compoſe the ſequel of the paper; and, fortunately for him, he had the opportunity of diſſecting a young man who had ſix regular fingers on each hand, and an equal number of toes to every foot. Theſe additional members he found compoſed of bones, tendons, and muſcles, in ſuch a manner, that their ſtrength muſt have been conſiderable, and their motions very compleat; nor were they in any way different from the natural toes and fingers. From an attention to theſe circumſtances, an anſwer natu-

naturally aroſe to a philoſophical queſtion, warmly ſupported on either ſide, by authors of learning and genius.

We have only two ways of accounting for the monſtrous productions of nature in the formation of the foetus; either that they originally exiſt, or that two or more foetus are ſome how confounded or united in the womb of the mother. The firſt conſiders monſters as created by the Author of nature; the laſt looks on them as produced by accidental and mechanical cauſes. It is impoſſible for Mr Morand to conceive how theſe organs ſhould be ſeparated from one foetus, the reſt of which is deſtroyed, and ſo artfully joined to the correſponding parts of the other; and from the conſideration of theſe complete fingers alone, he forms the rational concluſion, that theſe ſpecies of monſters muſt have been originally ſuch; and, on the other hand, where irregular maſſes are joined, or the parts of two foetus's united to each other, he has no doubt that this configuration can be produced by mechanical cauſes in the uterus. Thus does he ingeniouſly endeavour to reconcile the opinions of Lemery and Winſlow, by ſhowing that they are both in the right, but that each has applied his own idea without the neceſſary limitations.

The author concludes his eſſay with obſerving, that fingers of the firſt kind muſt be a valuable acquiſition; but that the irregular excreſcences, which he has referred to the ſecond claſs, are fit objects of chirurgical practice.

IX.

Experiments and Obſervations on different kinds of Air. By Joſeph Prieſtley, L. L. D. F. R. S. 8*vo*, London.

IN the introduction to this work, we are preſented with a general account of the properties of the different kinds of air already known, and with a deſcription of the apparatus employed in performing the experiments; both of which are in ſome meaſure neceſſary for underſtanding the obſervations afterwards delivered.

The work itſelf conſiſts of two parts. The firſt contains the obſervations which were publiſhed in the Philoſophical tranſactions for the year 1772, and of which we have given an account in a former number of theſe Commentaries. We now propoſe, therefore, to preſent our readers with a view only of what our author has

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ſince done on this ſubject. And of theſe obſervations an account is contained in the ſecond part of the preſent volume, and in the appendix.

The author begins this part with his remarks on alkaline air. This air he obtained from the volatile ſpirit of ſal ammoniac, which is procured by diſtillation with ſlacked lime. This ſpirit contains about as much alkaline air as an equal quantity of ſpirit of ſalt contains of acid air. Alkaline air readily unites with water, and may be made to form with it a much ſtronger ſpirit of ſal ammoniac than can be obtained in any other way. Upon the mixture of acid air with alkaline air, a beautiful white cloud was formed, which preſently filled the whole veſſel in which they were contained. When this cloud ſubſided, a white ſalt appeared, which was found to be common ſal. ammoniac.

The author next relates the phaenomena which appeared on the mixture of alkaline air with nitrous, fixed, inflammable, and common air, with ſpirit of wine, oil, and aether.

He found that ſulphur, nitre, common ſalt, and flints, did not imbibe any part of it; but that charcoal, ſpunge, and bits of linen-cloth, condenſed it upon their ſurfaces; and, particularly, that a bit of ſpunge, about the ſize of a hazel-

hazel-nut, preſently imbibed about an ounce meaſure of it. This ſpunge, he imagines, from the ſmell which it thus acquires, might perhaps be of uſe to recover people from ſwooning. He did not find that the inſpiſſated juice of turnſole had its colour changed by it. The effects of alum were very curious. The ſhape and ſize of the alum were not in the leaſt altered, but its internal ſtructure was totally changed. This appeared from its becoming opaque, and beautifully white, to all appearance like roaſted alum. This our author imagines proceeds from the alkaline vapour ſeizing upon the water which enters the conſtitution of the crude alum. He found alkaline air to be inflammable, but heavier than common inflammable air. And, laſtly, he obſerved, that, as well as acid air, it diſſolved ice as faſt as hot fire could do it.

In the ſecond ſection, we are preſented with obſervations on common air, diminiſhed and made noxious by various proceſſes. Beſides the methods formerly mentioned, by which common air may be rendered noxious, our author has now found, that it may alſo be diminiſhed by liver of ſulphur, by Homberg's pyrophorus, by the firing of gun-powder, by a cement made with one half of common coarſe turpentine, and the other of bees-wax, and by the electric ſpark. All theſe caſes, our author ſuppoſes to agree in one

one circumſtance; that is, that the diminution ariſes from the air becoming overcharged with phlogiſton, which having a nearer affinity with ſome of the conſtituent parts of air, than the fixed air which enters the compoſition of it, this laſt is precipitated.

Dr Prieſtley obſerves, that the calces of metals contain air of ſome kind or other, which contributes to their additional weight above that of the metal from which they are formed. In attempting to revivify lead by the electric ſpark, fixed air was expelled, and, along with it, a quantity of water. Theſe two our author conſiders as the occaſion of the increaſe of weight in that calx. And this revivification, he obſerves, compleats the proof, that electric matter either is phlogiſton, or contains a large proportion of it.

If it be admitted, that common air, in all the caſes of diminution which have been mentioned, is made to depoſite the fixed air, which enters its compoſition by means of phlogiſton, our author thinks that the precipitation of lime, from breathing into lime-water, is to be accounted for in a different manner from what has commonly been done. He concludes, that the fixed air which incorporates with the lime comes not from the lungs, but from the common air, which is decompoſed by the phlogiſton expelled from them.

them. For the phlogiſton which is taken in by the aliment, after having performed its functions in the animal ſyſtem, is diſcharged by this outlet. He farther concludes, that animals die when confined to a ſmall portion of air, in conſequence of the phlogiſtic matter diſcharged from their lungs ſoon ſaturating the common air, and from the want of a menſtruum by which it may be taken up. To this ſection on air diminiſhed and rendered noxious by different proceſſes, or, as it might have properly been called, phlogiſticated air, our author has ſubjoined a letter, addreſſed to Sir John Pringle, which appeared in a late volume of the Philoſophical Tranſactions. In this letter, he attempts to overturn the opinion of Dr Alexander, lately phyſician in Edinburgh, who maintains, that no danger is to be apprehended from the neighbourhood of putrid marſhes. Although he expreſſes great ſatisfaction with the ſpirit of philoſophical inquiry, which Dr Alexander's publications diſcover; yet he is fully ſatisfied that this opinion is not only ill founded, but muſt be dangerous.

In the third ſection, Dr Prieſtley treats of nitrous air. Upon the mixture of a combination of inflammable and nitrous air with common air in a trough of water, which had been putrid, a phae-

phaenomenon ſometimes occurred, which, our author obſerves, both puzzled and delighted him for a long time. But it was afterwards the means of giving him a farther view of the conſtitution of nitrous air. When the diminution of air was nearly compleated, the veſſel in which the mixture was made began to be filled with the moſt beautiful white fumes, exactly reſembling the precipitation of ſome white ſubſtance in a tranſparent menſtruum, or the falling of very fine white ſnow, except that it was much thicker below than above. The ſame proceſs, however, did not always produce this appearance. From conſidering this experiment, our author at length perceived, that it muſt have been occaſioned by the mixture of the nitrous and common air, and that the white clouds muſt be nitrous ammoniac, formed by the union of volatile alkali, and the nitrous acid ſeparated from the common air and phlogiſton with which it was combined.

Dr Prieſtley now finds, that it is not peculiar to nitrous air to be a teſt of the purity of air for reſpiration, as any air made noxious anſwers the ſame purpoſe. He ſuppoſes, therefore, that phlogiſton is the teſt; for, if the air be ſo loaded with this principle, that it can take no more of

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it, noxious qualities are inſtantly perceived from it. He concludes, therefore, that air muſt be wholeſome in proportion to the quantity of phlogiſton which it is able to contain.

A mixture of fixable air and water has been found capable of diſſolving iron; but it does not appear that this effect can be produced by fixable air alone. For our author finds that neither iron nor fixed air are altered on their being expoſed together. But a moſt remarkable change was induced, on iron's being expoſed to nitrous air. The nitrous air was, by this means, tranſformed into an air, in which a candle naturally and freely burns, while, at the ſame time, it was in the higheſt degree noxious to animals. Whereas, in general, animals live with little ſenſible inconvenience in air, in which a candle is burnt out. By this expoſure, it ſeems even to acquire a peculiar kind of inflammability; for long candles burn with an enlarged flame, but without any thing like exploſion. This peculiar inflammability is ſoon taken off by agitation; ſo that it extinguiſhes a candle, retaining its noxious qualities, and diminiſhing common air. But it is again rendered fit for animal life and flame, by further agitation with water. From many experiments, our author infers, that all

all the difference in nitrous air, whether in its freſh ſtate, in that in which it is partially inflammable, or wholly ſo, in that in which it extinguiſh s candles, and, finally, in that in which it becomes fit for reſpiration, depend upon ſome difference in the mode of combination of its acid with phlogiſton, or on the proportion between the two ingredients in its compoſition. On this ſubject, it further deſerves to be remarked, that nitrous air, rarified in an air-pump, was found to diſſolve iron, and to be diminiſhed by it as much as when in its native ſtate of condenſation.

This ſection on nitrous air is concluded with a few obſervations of a miſcellaneous nature. The chief of theſe are, that nitrous air is as much diminiſhed, both by iron-filings, and alſo, by liver of ſulphur, when confined in mercury, as when it is expoſed to water; and that frogs, ſnails, and probably other animals, whoſe reſpiration is not frequent, will bear being expoſed to nitrous air for a conſiderable time; but that other animals die very ſoon in it. From conſidering this fatal tendency of nitrous air to animal life, and its great antiſeptic power, it occurred to the author, that it might be of conſiderable uſe in medicine, eſpecially in the form of clyſters, in the ſame

ſame manner, as fixed air had been exhibited with ſucceſs. To aſcertain its effects, a quantity of it was injected by the anus into the inteſtines of a dog. While he retained it, he gave manifeſt ſigns of uneaſineſs; but, in a few hours, he was as lively as ever, and ſeemed to have ſuffered nothing from the operation. The author, therefore, propoſes, that nitrous air ſhould be uſed in injections, when diluted, either with common air or fixable air. In this ſtate, the bowels would be better able to bear it, while, at the ſame time, it would continue noxious to animals. And he thinks, that it might thus be uſed againſt worms, or for checking putrefaction in the inteſtinal canal, or other parts of the ſyſtem.

The ſubject of the fourth ſection is acid air. This ſpecies of air Dr Prieſtley had formerly procured from ſpirit of ſalt; but he afterwards found, that it might be obtained at much leſs expence, by having recourſe to the proceſs by which ſpirit of ſalt is itſelf originally made. Beſides the properties before deſcribed, the author now found, that this air will extract phlogiſton from ſubſtances, from which at firſt he concluded he was unable to obtain it, as from dry wood, cruſts of bread not burnt, dry fleſh, flints, pit-coal uncharred, ſpirit of wine, and various oily

oily ſubſtances. From its ſtrong affinity with phlogiſton, our author expected that the fumes of liver of ſulphur would have united with it ſo as to form inflammable air. But, in this expectation, he was diſappointed. Dr Prieſtley next relates the effects of this ſubſtance upon concentrated acid of nitre, vitriolic acid, metallic ſalts, neutral ſalts, ſugar, ice, &c. This air is alſo noxious to animals. Flies and ſpiders die in it, but not ſo quickly as in nitrous air. And he concludes, from an experiment, although we apprehend by no means an accurate one, that it is heavier than common air.

In the fifth ſection, to the experiments formerly made on inflammable air, our author now adds, that it may be produced by the electric ſpark with any kind of oil. Common air, increaſed by aether, was increaſed ſtill more by the electric ſpark, and was not imbibed by water, or much diminiſhed by a mixture of nitrous air. When the electric ſpark was taken from aether alone, without acceſs of any other air, our author found that it was ſtrongly inflammable; and he has no doubt of its being genuine inflammable air, like that which is produced from metals by acids, or by any other chemical proceſs. Air poſſeſſing

ſimilar qualities was obtained from eſſential oils, ſpirit of wine, and even from volatile ſpirit of ſal ammoniac. When our author endeavoured to procure air, by the electric ſpark, from a cauſtic alkaline liquor, and from ſpirit of ſalt, he found that it could not be made viſible in either. From this, he concludes, that they are much more perfect conductors of electricity than water or other fluids.

The additions which Dr Prieſtley has made on the ſubject of fixed air, of which he treats in his ſixth ſection, are, he obſerves, neither numerous nor conſiderable. The moſt important fact ſeems to be a confirmation of his opinion, that fixed air is capable of uniting with phlogiſton, and thereby forming a kind of air, which is not miſcible with water.

In the two ſubſequent ſections, we are preſented with miſcellaneous experiments, queries, hints, and ſpeculations; which, according to our author's own account, contain many random thoughts. But a view of theſe we cannot at preſent propoſe to exhibit.

This treatiſe is concluded with an appendix, containing communications from other gentlemen; particularly, experiments from Mr Hey, proving,

proving, that there is no oil of vitriol in water, impregnated with fixed air; obſervations by Dr Percival on the medical uſes of fixed air; and a letter from Dr Franklin, on the raiſing of a flame on the ſurface of ſome waters in America.

SECT. II.

Medical Obſervations.

The Caſe of an Angina Pectoris, which terminated fatally with the Diſſection; by Thomas Percival, M. D. F. R. S. and S. A.

IN November 1773, I was deſired to viſit a gentleman near Knutsford in Cheſhire, aged upwards of fifty, who had been, for ſeveral years, ſubject to frequent attacks of a moſt alarming and oppreſſive ſenſation in his breaſt, which he knew not how to deſcribe. This ſymptom was attended with a pain about the middle of the *ſternum*, inclining to the left ſide; and he was generally affected, at the ſame time, with a pain in his left arm where the deltoid muſcle is inſerted.

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As I viſited the patient only once, and took no notes of his caſe, I cannot give a minute detail of it, and muſt content myſelf with ſaying, that I apprehended his diſorder to be what Dr Heberden hath ſo accurately deſcribed under the name of *Angina Pectoris*. Various anodyne and antiſpaſmodic remedies were preſcribed; but theſe produced only a temporary alleviation of his complaints. And it was obſerved, that nothing afforded ſuch inſtantaneous eaſe, during the paroxyſms of his diſorder, as venaeſection or vomiting. In July 1774, he died; and his body was examined by Mr Allen, an ingenious ſurgeon in Knutsford, who has favoured me with the following account of the diſſection.

The left lobe of the liver was conſiderably enlarged, and full of indurated, white, tumors; and nearly one half of the right lobe was beginning to be affected in a ſimilar manner. The gall-bladder was diſtended with bile; the ſtomach was hard and ſchirrous, as far as it was in contact with the liver; the lungs were pale and livid; and the blood-veſſels as diſtinct as if they had been injected with Pruſſian blue. The heart and aorta deſcendens were in a ſound ſtate; very little water was found in the pericardium, or

mediaſtinum; and there was nothing preternatural in the appearance of the diaphragm.

This gentleman had lived freely, but was not ſubject to the gout.

Dr Heberden has favoured me with the following remarks upon this caſe. "The diſſection of this ſufferer by the angina pectoris, as well as that of a few others, which I have heard of, teaches us, that the diſeaſe is neither owing to inflammation, nor to any mal-conformation of the parts. We muſt not therefore ſeek for the cure amongſt the means which lower the *vis vitae*; and we need not deſpair of finding it elſewhere. But we ſhould not expect to find it very ſoon, when we conſider how little ſucceſs has attended all our ſearches after a remedy for the gout, and for ſome other diſtempers, with whoſe natures we have had, for ſome thouſand years, ſuch abundant means of being acquainted."

II.

Obſervations on the Uſe of Cold Bathing in the Cure of Tetanus, communicated in a Letter from Mr Thomas Cochran *Surgeon at Nevis, to* Mr John Balfour *Surgeon in Edinburgh.*

AN Eaſt Indian, a boy about twelve years of age, landed on this Iſland in February 1774, and, in March, was unfortunately gored by a cow on a paſture, where he lay for ſome hours expoſed to rain and dampneſs of the air. Next morning, on viſiting him, he complained of ſtiffneſs in his neck, pain in his throat and ſtomach, difficulty of ſwallowing, and a contraction of the whole muſcles of his ſhoulders, with all the ſymptoms of a locked jaw. On examining his body carefully, nothing was found but a ſwelling of his ſhoulders, and a few ſlight excoriations alongſt their ſurface. As he was coſtive, and complained much of gripes, a doſe of caſtor oil was given him, which procured ſeveral ſtools. Dr Niſbet, in the evening, bled him, and ordered ſixty drops of laudanum to be given him every three hours. On the ſecond day, after this treatment, finding that the ſymptoms rather in-

creaſed than abated, we determined to try the effects of the cold bath, rather than perſevere in a courſe which has ſo often proved unſucceſsful. It was indeed a hazardous experiment, and might have been attended with fatal effects; but, as it was almoſt a certainty that the patient would have died, it was worth while to determine the effects of cold, inſtead of warm, applications. I accordingly ſaw the boy ſtripped, and put into a large tub, and a pail of water daſhed upon him. The ſhock was very ſevere, and, as might be expected, rather contracted the muſcles of the throat more than before; however, I was pleaſed to find that it produced no worſe effects. As ſoon as he came out of the bath, he was ſtrongly rubbed with a dry coarſe cloth, and his throat and ſhoulders anointed with oil of Turpentine, afterwards wrapping him in warm cloaths, a hundred drops of laudanum were given. This was at mid-day; and the ſame doſe was ordered to be repeated in the evening. Upon viſiting him next day, we were happy to find his ſymptoms were not increaſed; and, tho' his jaw ſtill continued ſtiff, yet he could open it ſufficiently to receive nouriſhment. He was again put into the bath, which he bore very well, though he had a great dread of it, more perhaps for the coldneſs

of

of the water, than fear of the ſymptoms being exaſperated. And immediately afterwards he was put on horſeback before a negroe, deſiring him to trot briſkly for a quarter of an hour.

The boy returned in a profuſe ſweat, and another hundred drops of laudanum were given him. The ſame was repeated in the afternoon and evening. On viſiting him the next day, the ſymptoms were ſtill much the ſame; and we had almoſt reſolved to give over this method, thinking, if the experiment failed, the patient would even loſe the chance he might have had of trying the effects of mercury, which we are told has ſometimes ſucceeded; however, curioſity, with the conſent of the maſter, inclined the Doctor and myſelf to puſh the experiment further; and accordingly the ſame method was followed for five days longer, bathing him oftener, and giving the laudanum in larger quantities than before; and we had the pleaſure to ſee our patient open his jaws pretty freely, and walk tolerably upright, in a few days after.

I forgot to mention, that glyſters and gentle laxatives were given frequently, and that his diet was as light as poſſible.

I have heard that, at St Euſtatia, and St Kitts, ſome caſes have been treated ſucceſsfully by cold water.

water, with the bark; and, ſince that, by a gentleman of the profeſſion here, that he was told of a Dutch practitioner in this iſland, about fifty years ago, having carried it ſo far as to lay the patient in wet ſheets, by which means he cured one patient; but, as the practice was new, and not having the conſent of the proprietors, he could not take upon him to try this method, however deſirous he might be, well knowing the riſk a man runs in going out of the old beaten track, however unſucceſsful.

But, from the good effects obſerved in this caſe, during the uſe of cold water, we are determined to repeat the ſame in the firſt that occurs; and a few more, perhaps, may be ſufficient to determine us in this practice. At any rate, the cauſe of the patient's death can never be imputed to cold applications.

Dr Lind, I ſee, propoſes the experiment; but, for ought I know, there are no hiſtories of its being tried. Sauvages, I find, mentions one of a patient's being cured of the tetanus by being let down into a well, where he continued ſome time over the cold moiſt air of the water, and was cured in ſeven days. This ſeems a ſtrange practice, and perhaps, in theory, may not be accounted for ſatisfactorily. But, I ſhould imagine,

imagine, that the effects this remedy produces are merely from the general ſhock given to the ſyſtem, by which the particular ſpaſm may be taken off. However, theſe are only conjectures, which I muſt leave to abler heads to determine.

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Since the above communication, Mr Balfour has received another letter from Mr Cochrane, in which he mentions his having of late employed cold bathing in ſeveral other caſes of Tetanus, with great ſucceſs.

III.

The Hiſtory of an exceſſive diſcharge of Water from the Uterus during Pregnancy; by Dr John Alexander *Phyſician in Halifax, Yorkſhire.*

A Gentlewoman of the age of 30, on Tueſday April 22. 1770, in the latter end of the ſixth month of her fifth pregnancy, was ſuddenly ſeized with a great weight and oppreſſion in the bottom of the abdomen, ſo that ſhe was not able to walk up ſtairs, but was under the neceſſity of being carried. The morning after this happened, I accidentally called upon her, and found the abdomen conſiderably larger than it ought to have been for the time. She was ſcarce able to walk a-croſs the room. In the afternoon, ſhe had ſome labour-pains, and parted with

near

near a quart of water, which came from her all at once, and continued running from her for ſeven days ſucceſſively, from the time of her riſing in the morning, till the time of her going to bed at night, ſo as to wet ſixteen or ſeventeen double cloths every day; but it always ceaſed when ſhe lay down, either night or day.

On Monday April 29. the running of the water ceaſed; but her inability to walk ſtill continued. Tueſday May 7. ſhe had a relapſe of her diſorder; the circumſtances of which were in every reſpect the ſame as above. May 9. ſhe was able to walk a little by the help of a perſon to lean upon. In this ſtate ſhe continued parting with water in the manner above related, at intervals of three or four days, when it generally run from her for the ſpace of one day, excepting that part of it when ſhe lay down upon the bed, till the 30th of June. After this time, the water began to run from her every morning, as ſoon as ſhe got out of bed, and continued all the day, excepting the time ſhe lay down, as before, till within five days of her delivery, which happened on the 15th July. In the evening of July 4. I was ſent for again, ſhe appearing to the perſons who attended her to be in ſtrong labour. I found her ſeemingly in extreme pain; the os uteri was

open

open the ſize of a ſhilling or more, and the edges of it were very ſoft and thin. Her pain preſſed down the child againſt my fingers; the membranes were plainly to be felt before the child's head; but I could not perceive they were in the leaſt protruded. In about two hours, the pain entirely left her, and ſhe was as well as uſual. I was ſent for again the following evening, and found her exactly in the ſame ſituation, excepting that her pains were ſomething ſtronger. She was ſeized both nights at the ſame time, and continued in pain about two hours. After this, I was deſired to lie every night at her houſe, which was at the diſtance of ſix miles from me; ſhe kept continually parting with water, as uſual, every day, during the time ſhe was out of bed, till July 9. when it ſtopped again, and ceaſed for the ſpace of five days, in which time her belly ſwelled to as large a ſize as I ever remembered to have ſeen one in an *aſcites*. In the morning of July 14. ſhe was taken ill again, and parted with a greater quantity of water that day than ſhe had ever done before. She began to have ſlow lingering labour-pains, about ten o'clock that night, which gradually increaſed till about three in the morning, when I was called up. I found the os uteri much dilated, the waters collecting, and the membranes puſhing ſtrongly down; her pains

pains were very regular and ſtrong; the membranes came to the os externum before they broke; and, after two more pains, ſhe was delivered of a large healthy child about five o'clock in the morning. The lady recovered extremely well. Since the above, the ſame lady has had three children. The circumſtances of her pregnancy in each were exactly ſimilar with the above caſe, except in the following particulars. In the ſecond, the water began to come from her three weeks ſooner than in the firſt; and her inability to walk was full as bad. In the third, the water began eight weeks ſooner than in the firſt, i. e. in the 4th month of her pregnancy; but ſhe had longer intermiſſions, it ſeldom coming oftener than once in a fortnight, and continuing but one day. In the interval, alſo, ſhe was as capable of walking or riding as any perſon in her condition uſually is. In the laſt, the circumſtances were exactly ſimilar to the ſecond. The children ſhe had all the times were large and healthy; ſhe always recovered well.

I boiled ſome of the water every time, to try if it would coagulate; but it always evaporated to dryneſs.

IV. *Ob-*

IV.

Obſervations on the Flowers of Zinc, and Cuprum Ammoniacale, and on two Affections of the Throat, communicated in a Letter from Dr Louis Odier, *Phyſician at Geneva, to* Dr Andrew Duncan *Phyſician in Edinburgh.*

THE flowers of zinc are a pretty good antiſpaſmodic remedy, though not equal, by any means, to the praiſes Dr Gaubius beſtows upon them. I have often employed them with ſucceſs, but much oftener in vain. In general, however, they give relief from the very firſt doſe; but then it often ceaſes. As I thought it pretty ſimilar in virtue to the cuprum ammoniacale, I wanted to try what a combination of theſe two remedies would do, and, though the ſucceſs did not anſwer in that caſe as I wiſhed it, yet I diſcovered ſomething that may be uſeful; and it is, that one may bear the ſame doze of each of the two remedies combined, as if they were ſeparate. For, having given flowers of zinc to a lady till I found ſhe could not bear more than two grains and a half of them for a doze, without nauſea, I then gave her cuprum ammoniacum, increaſing the doſe

doſe to two grains, which was the utmoſt ſhe could bear; but, by combining the two remedies together, I found ſhe could bear a doſe of four grains and a half; two of which were of the cuprum ammoniacum, and two and one-half of zinc. I apprehend this may be of uſe for increaſing the ſtrength of the remedy, in caſes of a ſpaſmodic nature.

I have had one caſe here, which I do not remember to have ſeen deſcribed any where; it is a Cynanche Oeſophagea. I was called to a girl of 22 years old, who complained of a pain between the ſternum and the fifth vertebra of the back, but rather more towards the back. That pain was not increaſed by drawing in her breath; but it was exceedingly violent whenever ſhe attempted to ſwallow any thing, and then ſhe referred it ſtill to the ſame place. She had no cough, nor any dyſpnoea; but her pulſe was hard, full, and frequent; ſhe had not the leaſt redneſs nor ſwelling in the tonſils. She was cured by bleeding, and the antiphlogiſtic regimen. Nothing can be clearer than this caſe, I think; and yet I do not remember to have ſeen it deſcribed any where. It reſembles very much, indeed, the Cynanche Pharyngea; but yet it differs from it in its ſeat.

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We have had here a young nobleman, affected with a very ſingular diſeaſe, which, after many fruitleſs attempts, was cured by a very ſimple method. His oeſophagus was conſtricted in ſuch a way as not to let down any aliment, not even of the liquid kind, except as a filter would do. What he took for his nouriſhment remained for one hour or two in the upper part of the oeſophagus, which had gradually dilated itſelf above the conſtriction, into two large bags, which appeared exceedingly big on each ſide of the neck, and then was thrown up; how far digeſted, I have not been able to learn. He was for a long time in Dr Haller's hands, who rather increaſed than relieved his diſeaſe. All the phyſicians and ſurgeons he conſulted failed likewiſe in the attempt; and he was already deſpairing of a cure, and in a moſt pitiful ſtate of emaciation and diſcouragement, as you may ſuppoſe, after a year or more of ſuch a diſeaſe; when, at laſt, he met with a very ſkilful and eminent ſurgeon we have here, Mr Cobaniſh, who adviſed him conſtantly to wear on the neck a bandage particularly contrived for that purpoſe, to compreſs the large bag formed by the oeſophagus on each ſide; and, at the ſame time, to ſwallow hemlock pills. Theſe remained in the bags, or at the conſtricted

place, one or two hours, and then were thrown up like the reſt of his aliment; when he took ſome more, ſo as to have them always applied to the ſeat of the diſeaſe. He ſoon felt the relief of this advice, and was gradually cured, the bags diſappearing, the aliments getting down into the ſtomach, and the oeſophagus reſuming its former caliber. He is now perfectly well, and has been ſo for a year or two. I forgot to tell you, that he was ſounded, and the oeſophagus found ſchirrous at the place of conſtriction.

V.

The Hiſtory of a Caſe of Imperforate Hymen; by Mr Fielding Beſt Fynney, *Surgeon at Leek in Staffordſhire.*

SARAH WORDLE, in her eighteenth year, of a plethoric habit of body, ſervant at a public-houſe in this town, came to me, on the 24th of January 1772, for relief for a bearing down at the vagina, which ſhe had been troubled with about 18 weeks; and a violent cough which ſhe had ſince contracted, and which had great-

greatly increaſed her former complaint, eſpecially at the time of coughing.

As I was then very buſy, I only took ſome blood from her arm; but ordered her to come again, if ſhe did not get better, in a few days. However, I heard nothing about her until Saturday the 22d of February, when I was called to her, and I found her much convulſed; but, as I was not permitted to examine the part affected, I only ordered her an anodyne, to appeaſe the irritation of the nervous ſyſtem.

The day following, I was ſent for; but, being out upon buſineſs, another ſurgeon was called in, as ſhe ſeemed likelier to die than to live; and he gave it as his opinion, that ſhe was irrecoverable, and left her without uſing any methods for relieving her. As ſoon as I returned home, I viſited her, and found her whole frame ſtrangely diſtorted, but that ſort of convulſion called Opiſthotonos was moſt predominant; her bearing-down pain was conſtant, and frequently as violent, as though ſhe had actually been in labour, and at the point of delivery. I gave her ſome foetid drops; which having no good effect, I was ſent for again, when I was determined to examine what ſort of bearing-down this was, which ſhe ſo much complained of, as I then looked upon it

to be the primary cauſe of her preſent indiſpoſition; and I found the vagina quite cloſed by the hymen, which was greatly upon the ſtretch, by an accumulation of the menſes. I gave her an anodyne that night, which procured her a good deal of refreſhing ſleep; and, as I was not allowed to perform any operation upon her until ſhe had ſeen her parents, a meſſenger was immediately diſpatched for them; they came on the following morning, when I deſcribed her complaint, with the method of cure, to her mother, and adviſed her to take her home to a village called Basford, about three miles from this town; which was complied with. She could not ſit; therefore was obliged to walk, which fatigue cauſed her fits to return with ſuch violence, that her father came for me immediately after ſhe was got home. I made all the haſte I could to her, and, after getting proper women-aſſiſtants, and placing her in the ſame poſition as when I cut for the ſtone, I ſtood by her left ſide, and cautiouſly divided the hymen, which was at leaſt an inch thick, beginning at the perinaeum, (that the diſcharge might not incommode me during the operation,) and continuing the inciſion quite up to the urethra; I let out three pints and one half of blood; at firſt, it came away thin and florid,

florid, but, towards the laſt, exceeding tough, and of a darker colour, but without the leaſt offenſive ſmell. After I had got away as much as poſſible, by preſſing upon the abdomen, and all other methods which I could make uſe of, I introduced a large tent made of rolled linen, firſt ſmeared over with an emollient ointment, and ſecured it with the T bandage; all which I ordered to be removed, whenever the fœcal or urinal diſcharges demanded, and to be carefully replaced again. I ordered her an anodyne; and, after giving very particular directions about her diet, I left her greatly relieved indeed.

On the 25th and 26th, the ſame treatment was obſerved, and I found her, both days, as well as I could expect. On the morning of the 27th all dreſſings were removed for that day; and, as ſhe was rather coſtive, ſhe took a doſe of purging ſalts, which operated well; and ſhe had likewiſe a great diſcharge of blood from the uterus, which, towards night, became more watery. Her cough was very troubleſome; therefore I gave her ſome paregoric elixir, acidulated with oil of ſulphur, which greatly relieved her.

The next day, ſhe was very faintiſh; and, as the linen-tents gave her pain, I changed them for ſponge-tents.

On the 29th, ſhe was not quite ſo diſpirited, and ſhe continued getting better until the evening of March the 3d; when, being unfortunately alarmed by ſome children, who were in danger of falling into a well, it brought on her fits in a violent manner. I was ſent for immediately; but, before I arrived, ſhe was much better; however, I removed the tent, as I imagined it might keep up an irritation of the part; and, as it was late, I ordered her nothing that night except a ſmall quantity of rum and water, as her ſpirits were much depreſſed, and ſhe complained of being cold.

I ſent her ſome foetid pills the next day, and ſhe was much altered for the better. On the 6th, I applied the ſponge-tent again, and ordered one to be made uſe of every day, until the 11th, on which day I introduced a leaden canula. Its ſhape was a flattened cone, with a grove or depreſſion all the length of that edge which was next the oſſa pubis, as an eaſy bed for the urethra; this was tied to a piece of folded linen, to prevent its ſlipping in too far, and ſecured with the T bandage. She wore it until the 18th of March, on which day ſhe returned to her place perfectly recovered, and has been in a good

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ſtate of health from that day, for theſe ſeveral years paſt.

VI.

Extract of a Letter from Dr Percival *to* Dr Duncan, *on the* EXTERNAL *Uſe of Preparations of* LEAD.

THOUGH I entertain a very high opinion of the uſefulneſs of Saturnine preparations, externally applied, and frequently preſcribe them; yet I am fully convinced that they *ſometimes* produce the ſpecific effects of lead upon the body. And I could wiſh that more attention were paid to the operation of ſuch topical remedies, eſpecially when applied to conſtitutions to which we are ſtrangers. There are indeed ſome habits which appear very little expoſed to be affected by this mineral poiſon, of which I have given ſeveral examples in my *Obſervations and Experiments on Lead*, and can now add two others. The firſt was communicated to me by Mr Barker, ſurgeon in Bakewell; the ſecond, by the late Dr Small, an excellent philoſopher, and a phyſician of great eminence at Birmingham.

Two ſmelters, who have worked *nineteen years* at the ſmelting mills, have conſtantly, during that time, toaſted the cheeſe, and broiled the bacon, and other proviſions which they uſed, on the hot pigs of lead, without the leaſt apparent inconvenience. They are ſtout, healthy men, and have never experienced any pains in their bowels. And, as this method of dreſſing meat renders it remarkably ſweet and palatable, Mr Barker could not prevail upon them to diſcontinue it.

A gentleman, who had been long troubled with the heart-burn, diſcovered, from repeated trials, that his malady was relieved by ſwallowing a large quantity of ſaliva. To increaſe this ſecretion, he chewed, many hours every day, a piece of lead, which being neither hard, friable, nor offenſive to the palate, ſuited his purpoſe better than any other ſubſtance. This practice he continued many years, with great advantage, and without injury, in any reſpect, to his health.

But the ſame learned phyſician informed me, that he had ſeen three inſtances of the fatal effects of Goulard's Extract of Lead externally applied. Two of the caſes were incipient white ſwellings; the third was a tumour of a leſs uncommon kind. Each of the patients became paralytic, and two of them were convulſed ſeveral days

days before death. I lament that Dr Small did not favour me, in his letter, with a more circumſtantial relation of theſe caſes; but his judgement and accuracy may be relied upon with confidence.

From the preſent univerſal uſe of the Saturnine Water of Goulard, it may be thought ſurpriſing that ſuch melancholy examples as theſe do not more frequently occur. But this preparation happily contains ſo ſmall a portion of lead, that it is capable, in the moſt irritable habits only, of producing its peculiar effects. An ounce phial, filled to the brim with the *Extractum Saturni*, weighed ſixty-five grains and a half heavier than the ſame quantity of the vinegar with which it was prepared. A hundred drops of this Extract, the quantity uſually mixed with a quart of rain-water, are about the fifth part of an ounce, and may be ſuppoſed to ſuſpend thirteen grains of lead, if no change be produced, by combination, in the ſpecific gravity of the compound. Each ounce, therefore, of the vegeto-mineral water contains only four tenths of a grain of this metal.

The *Aqua Saturnina*, employed in the following caſe, was ſtrongly impregnated with lead, having

having an ounce of the Extract in every quart of water. On Thurſday February 16. 1775, Mr P——, a young man of a delicate habit of body, had a tea-kettle full of boiling water thrown upon his leg, by which the cuticle was ſeparated from the knee to the toes. Oily applications were immediately uſed; but the pain and inflammation were ſo great the following day, as to require the aſſiſtance of the ingenious ſurgeon to whom I am indebted for this account. A gentle laxative was directed; the patient's leg and foot were well waſhed every three hours with Goulard's Saturnine Water, and afterwards covered with linen ſoaked in the ſame lotion, and wetted with it from time to time. The relief obtained by theſe means encouraged the young man's friends to uſe the lotion in an immoderate quantity; for, in ſix days, no leſs than 7 quarts of water were conſumed. On Wedneſday night, the ſixth from the firſt application of this remedy, the ſurgeon was called to his patient, and found him violently afflicted with the colic, trembling of his limbs, continual nauſea, and frequent vomitings. He had been coſtive three days, and had neglected to take a purgative medicine preſcribed for him. It may be proper to point out the progreſs of theſe ſymptoms, as they

ſeem

ſeem to mark the gradual operation of the lead. On Monday the conſtipation commenced, and a ſlight tremor was perceived in the ſcalded limb: The tremor continued on Tueſday: On Wedneſday the colic ſupervened, which grew extremely ſevere and alarming in the evening, and was aggravated by the ſickneſs and reachings which accompanied it. Directions were given to diſcontinue the lotion; the *Ceratum Sambucinum*, ſpread upon linen, was applied to the parts affected, and the following draught was adminiſtred every four hours.

℞. Ol. Ricini V. O. Subact. ℥ſs.
Aq. Menth. Pip. Simp. ℥ i.
Tinct. Thebaicae gutt. vii.
Syr. e Meconio ʒ i. M. F. hauſtus.

Several motions were procured by the repetition of this draught; the complaints of the patient became more moderate; and the colic entirely ceaſed before the next evening. But a ſoreneſs of the *abdomen* remained, and the body was left in a very irritable ſtate. The ſcalded leg and foot, in eight days, were more healed, than is uſual after ſuch accidents, in three weeks, when unctuous remedies are employed.

I have

I have ſeen and examined the patient, whoſe caſe is here related, and can atteſt the faithfulneſs and accuracy of this account.

The facts which I have now laid before you, in conjunction with thoſe contained in my treatiſe on the poiſon of lead, afford a ſtrong preſumption, that Saturnine preparations, externally applied, are not ſo perfectly innocent as they are too generally aſſerted and believed to be. One poſitive proof, well authenticated, outweighs a thouſand negative ones; eſpecially when ſuch poſitive evidence is acknowledged but rarely to occur. And I ſhall be happy in the idea of having done ſome ſervice to the community, if I can excite more attention to the operation, and more caution in the uſe of theſe topical remedies, which are deſervedly eſteemed, and univerſally employed. My deſign is not to diſparage them, but only to recommend a juſt diſcrimination of their effects. Whenever tremors of the limbs, paralytic affections, coſtiveneſs, yellowneſs of the countenance, or pains in the bowels, ſucceed the application of any Saturnine compoſition, the uſe of it ſhould be for a while ſuſpended, or entirely diſcontinued; and the proper antidotes to the poiſon of lead ſhould be ſeaſonably adminiſtred.

niſtred. Thus will the danger be obviated on its firſt approach; and we ſhall not be reduced to the ſorrow and diſgrace of having cured an ulcer, a burn, or a contuſion, by inflicting the moſt excruciating tortures, or perhaps at the expence of life.

SECT.

SECT. III.

Medical News.

AN extract from the journals of the Board of Police for Scotland, concerning the recovery of perſons drowned, and ſeemingly dead, has been lately printed at Edinburgh, by order of the board. From this extract it appears, that Lord Cathcart, the preſes, had preſented to the board a paper, relative to perſons drowned and recoverable, though ſeemingly dead; together with a letter from Dr Cullen, his Majeſty's firſt phyſician for Scotland, who had been conſulted on the ſame ſubject; both which are ſubjoined. The paper preſented by Lord Cathcart, after pointing out the ſingular ſucceſs which has attended inſtitutions, in other countries, for the recovery of perſons drowned, ſtrangled, frozen, or ſuffocated by noxious vapours, propoſes, that a general eſtabliſh-

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ment for the ſame purpoſe ſhould be ſet on foot in this country. And that, with this view, the board ſhould compoſe a proper advertiſement, containing the neceſſary advice to the public in ſuch caſes, and informing them of a reward being offered, by way of encouragement, to thoſe who ſhall follow it. That this advertiſement, together with the reſolution of the board, ſhould be tranſmitted to the ſheriffs of counties, magiſtrates of royal boroughs, and moderators of preſbyteries, all over Scotland. That each diſtrict ſhould make proper proviſion to ſupply the expence of procuring inſtruments, and of iſſuing rewards, in caſe a life be ſaved, or attempted to be ſaved. And an advertiſement ſuited to this purpoſe is here ſubjoined, in which we are preſented with the following directions.

"*1ſt*, In removing the body to a convenient place, great care muſt be taken that it be not bruiſed, nor ſhaken violently, nor roughly handled, nor carried over any one's ſhoulders, with the head hanging downwards, nor rolled upon the ground, or over a barrel, nor lifted up by the heels, that the water may run out of the ſtomach.

"Both reaſon and experience prove, that all theſe methods are extremely dangerous, and often deſtroy the ſmall remains of life.

"The

" The unfortunate object ſhould be cautiouſly conveyed by two or more perſons, or in a carriage upon ſtraw, lying as on a bed, with the head a little raiſed, and kept in as natural and eaſy a poſition as poſſible.

" 2*d*, The body, being well dried with a cloth, ſhould be placed in a due degree of heat, but not too near a large fire: The windows or doors of the room ſhould, however, be left open, and no more perſons be admitted into it than thoſe who are abſolutely neceſſary, as the life of the patient greatly depends upon their being expoſed to a pure air.—The warmth, moſt promiſing ſucceſs, is that of a bed or a blanket properly warmed.—Bottles or bladders of hot water, or hot bricks wrapt in cloths, ſhould be laid at the ſoals of the feet, in the joints of the knees, under the armpits, &c. the ſhirt or cloaths of an attendant, the ſkin of a ſheep freſh killed, the natural and kindly warmth of a healthy perſon, lying by the ſide of the body, have been found, in many caſes, very efficacious.

" Should theſe accidents happen in the neighbourhood of a warm bath, brew-houſe, baker, ſalter, ſoap-boiler, or any fabric where warm lees, aſhes, grains, ſand, water, &c. are eaſily procured, it would be of the utmoſt ſervice

to

to place the body in either of theſe, moderated to a degree of heat, but very little exceeding that of a healthy perſon, viz. 98 deg. of Fahrenheit's thermometer.

"3*d*, The ſubject being placed in one or other of theſe advantageous circumſtances, as ſpeedily as poſſible, various ſtimulating methods ſhould then be employed.—The firſt and moſt efficacious is, to blow with force into the lungs, by applying the mouth to that of the patient, cloſing his noſtrils with one hand, and gently expelling the air again, by preſſing the cheſt with the other, imitating the ſtrong breathing of a healthy perſon.

"Whilſt one aſſiſtant is conſtantly employed in this operation, another ſhould throw the ſmoke of tobacco up by the fundament into the bowels, by means of a tobacco-pipe or fumigator, ſuch as are uſed in adminiſtering tobacco-clyſters: A pair of bellows will ſerve until the others can be procured. A third attendant ſhould, in the mean time, rub the body, cheſt, back, and arms, with a coarſe cloth or flannel dipped in brandy, rum, gin, ſalt and water, or ſtrong vinegar, ſo as not to rub off the ſkin: Spirit of hartſhorn, ammoniacal ſalts, or any other ſtimulating ſubſtance, muſt alſo be applied to the noſtrils, and rubbed

upon the temples very frequently.—The body ſhould at intervals be ſhaken alſo, and varied in in its poſition.

" N. B. Bronchotomy, or opening a paſſage to the lungs through the wind-pipe, may be neceſſary, when the air will not paſs by the mouth into the cheſt; but this muſt be always left to the judgment of a ſurgeon.

" *4th*, If there be any ſigns of returning life, ſuch as gaſpings, twitchings, or any convulſive motions, the return of the natural colour and warmth, and of the pulſe, bleeding, either in the arm or jugular vein, or temporal artery, now becomes particularly neceſſary. The throat ſhould alſo be tickled with a feather, in order to excite a propenſity to vomit; and the noſtrils alſo with a feather, ſnuff, or any other ſtimulant, ſo as to provoke ſneezings.—A tea-ſpoonful of warm water may be adminiſtered now and then, in order to learn whether the power of ſwallowing be returned; and if it be, a table-ſpoonful of warm wine, or brandy and water, may be given with advantage, but not before, as the liquor might get into the lungs before the power of ſwallowing returns.—The other methods ſhould be continued with vigour, until the patient be gradu-

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ally reſtored; and, even in caſes where immediate ſucceſs does not follow the endeavours uſed, they ought not to be remitted for two hours or upwards; as frequently, after that term, ſymptoms of life have appeared.'

The apparatus here recommended, conſiſting of a fumigator for injecting tobacco ſmoke, wooden pipes for blowing into the noſtrils, phials with ſpirits, &c. may be obtained for the ſum of L. 1 : 9 : 6; and, this excepted, no other expence, unleſs when an accident does happen, is required.

Of the letter from Dr Cullen to Lord Cathcart, which ſtates, in a new point of view, many intereſting particulars reſpecting this ſubject, we propoſe to give a full account in a future number.

Meanwhile, when we conſider that it is impoſſible to ſay, whoſe friends and family may firſt be benefited by this inſtitution, or who may ſooneſt be plunged into the depth of diſtreſs, if it be neglected, there can be little doubt that it will be carried into execution with a zeal, activity, and perſeverance, proportioned to the patronage by which it is introduced, and to the humane and valuable purpoſes which it propoſes.

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Dr Haygarth, phyſician at Cheſter, in a letter to Dr Duncan, communicates the following particulars reſpecting the flowers of zinc. "Soon after Dr Gaubius's Adverſaria were publiſhed, I tried the flowers of zinc in epileptic and other convulſive diſorders, increaſing the doſe from one grain to twenty, without producing any ſenſible effect, and hence concluded the remedy to be perfectly inert. But, upon reading Dr Wall's letter inſerted in the Medical Commentaries, I procured ſome other flowers of zinc, which I could depend on as genuine, from my friend Mr Aikin, who gives chemical lectures to the ſtudents of the Warrington academy; and, in one caſe that I have given theſe, beginning with one grain, and increaſing the doſe to two, they produced a ſlight nauſea, were gently laxative, and ſeemed to have a good effect in ſtopping the fits, which had been produced by affections of the mind in a young woman of great ſenſibility. From comparing theſe facts, I was induced to ſuſpect that the flowers I had at firſt uſed were not genuine, though

ſaid

ſaid to be procured from a celebrated chemiſt in London. In order to aſcertain this point, I made two comparative trials of the different ſpecimens. On adding vitriolic acid to the London flowers, it effervesced; Mr Aikin's did not. On expoſure to a ſtrong heat, the white colour of the former was not changed; but the latter, when hot, became yellow, and, on cooling, became white again. As this laſt property is the beſt and eaſieſt teſt of the flowers of zinc, and perhaps not generally known, it may be uſeful to give ſuch a hint, that others may not be impoſed upon by abſorbent earth, as well as myſelf.

* * * * * * *

Dr Parr, phyſician in Exeter, in a letter to Dr Duncan, has the following obſervations reſpecting a caſe of angina pectoris. "I have lately met with a caſe of angina pectoris. It anſwers perfectly to Dr Heberden's deſcription in the Medical tranſactions, except that the fits were, from the firſt, accompanied with a ſhortneſs of breathing. They have been of eight years continuance, ſo that you cannot ſuppoſe I have much power over them. They were come too to ſuch a height as to at-

tack him in the night, or when ſitting ſtill. They are a little mitigated by the frequent uſe of laudanum. As they were moſt probably convulſive, I applied a large bliſter to the ſternum, from whence they uſually began. This has entirely prevented their ariſing from that part, and now they begin from about the middle of the biceps muſcle. This is, to me, almoſt a certain proof of there being no local affection of the breaſt from whence they generally ariſe; and it gives us ſome light into the nature of the affection.

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Mr Rouelle of Paris has, we hear, lately preſented ſeveral very curious memoirs to the royal academy of ſciences. The titles of the moſt intereſting are, 'Memoir ſur la preſence de l'alkali mineral tout formé dans les vegetaux, et ſur le moyen de l'en retirer ſans le ſecours de la combuſtion ou d'incineration.' In this he ſupports and confirms an opinion before taught by Margraaf. 'Experiences et obſervations ſur le ſel qu'on trouve dans le ſang de l'homme et des animaux, ainſi que dans les eaux des hydropiques.' This ſalt he proves to be the foſſil alkali or Natron

tron of the antients. With the acid of vitriol, and the ſerum of the blood, he can form a true ſal. Glauberi.

* * * * * * * *

The college of phyſicians of London will, we are informed, publiſh, in a ſhort time, the firſt part of the third volume of their Medical tranſactions, with an advertiſement ſignifying the diſcontinuance of the work for the preſent.

* * * * * * * *

We learn that ſome ingenious philoſophers in London, have lately made upon themſelves ſome curious experiments, to try how much heat the human frame can bear without apparent injury. They ſtaid in a ſtove till the thermometer ſhewed two hundred and eleven degrees on Fahrenheit's ſcale; the chains of their watches were too hot to be touched, and the buckles of their ſhoes bliſtered the ſkin underneath. A full account of theſe experiments will appear in the next volume of the Philoſophical tranſactions. In the meantime, the bare mention of this fact may afford curious reflections to our readers.

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Dr Prieſtley, in a letter to Dr Percival at Mancheſter, communicates to him the following curi-

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ous fact. "Since I wrote you, I have made many experiments on vegetable acid air, and on the extraction of air from various ſubſtances. From Roman vitriol and ſedative ſalt, I get air of nearly the ſame goodneſs as common air. But Mercurius calcinatus per ſe, red precipitate of mercury, and red lead, yield air about ſix times as good as common air. This appears both by the teſt of nitrous air, and by a mouſe living in it. I have made many other original experiments ſince I wrote you; but the particulars are too tedious for a letter."

* * * * * * *

Whan At Tong, a native of China, at preſent in London, happening to be at the houſe of a gentleman there, who, among other Chineſe articles, had in his poſſeſſion a drawing repreſenting a naked man, with ſtraight lines in different parts of the figure, was aſked what theſe meant? He replied, that ſuch figures were intended for the younger practitioners in phyſic, to teach them to what parts of the body the cauterizing pin ſhould be applied, in order to remove a diſorder in other correſponding parts. The Chineſe practitioners attribute very great powers to the actual cautery, and have frequent recourſe to it. He, at the ſame time, ſhewed a ſcar near the firſt joint of his thumb,

thumb, where he had been cauterized for a pain in his head.

* * * * *

On the 21ſt of April, in an area granted by the College of Surgeons of Edinburgh, in the neighbourhood of their hall, the foundation-ſtone of a building, for the uſe of the medical ſociety of ſtudents in the univerſity, was laid by Dr Cullen, attended by the other medical profeſſors, and by all the members of the ſociety at that time in Edinburgh.

In this building, it is intended that the ſociety ſhall be furniſhed with a hall for their weekly meetings, with an apartment for the reception of their valuable library, with a laboratory for chemical experiments, and with a repoſitory for anatomical preparations, and other curious ſubjects in the different branches of natural hiſtory. It may with ſome confidence be preſumed, that, from each of theſe particulars, the improvement of attentive ſtudents, in the fundamental parts of medicine, will be greatly forwarded.

Before proceeding to lay the foundation-ſtone, the company aſſembled in the Surgeon's-hall, and were addreſſed in an elegant, and very ſuitable oration by Mr Blane, one of the annual preſidents of the ſociety. In this oration, after diſplaying

playing the advantages which the univerſity of Edinburgh has for many years paſt enjoyed, as a ſchool of medicine, and the particular benefits which the moſt induſtrious of its ſtudents have derived from the medical ſociety, he pointed out, with great propriety, the ſingular improvements which will ariſe to the ſtudy of phyſic from the building now intended.

For defraying the expence of this building, contributions have been received from moſt of the members of the ſociety, now ſettled in different parts, or ſtill in the courſe of their ſtudies; and from ſome other gentlemen who wiſh to encourage and improve an inſtitution which has had no inconſiderable ſhare in raiſing and ſupporting the reputation of the firſt medical college in the Britiſh dominions. The ſum, however, which has hitherto been obtained, is by no means ſufficient for the purpoſe. Drs Cullen, Hope, and Duncan, are appointed to receive farther contributions; and theſe gentlemen, with the annual preſidents of the ſociety, are a committee to whom the conduct of the building is entruſted.

SECT.

SECT. IV.

Liſt of New Books.

CHIRURGICAL Obſervations relative to the cataract, the polypus of the noſe, the cancer of the ſcrotum, the different kinds of ruptures, and the mortification of the toes. By Percival Pot, F. R. S. and Surgeon to St Bartholemew's Hoſpital. 8vo, London.

Eſſays and caſes in ſurgery. The whole illuſtrated with copper-plates. By John Aitken Surgeon, Fellow of the College of Surgeons, and one of the ſurgeons of the Royal Infirmary, Edinburgh. 8vo, London.

Preſtwich's diſſertation on mineral, animal, and vegetable poiſons; containing a deſcription of poiſons in general, their manner of action, effects on the human body, and reſpective antidotes. With experiments and remarks on noxious exhalations from earth, air, and water. Together with ſeveral extraordinary caſes, and elegant engravings of the principal poiſons of the different countries. 8vo, London.

A critical inquiry into the ancient and modern manner of treating the diſeaſes of the urethra, with an improved method of cure. By Jeſſe Foot of Saliſbury-ſtreet, one of the Company of Surgeons in London, and privileged practitioner from the College of St Peterſburgh. 8vo, London.

Remarks on Mr Thomas Henry's improved method of making magneſia alba; with an eaſy proceſs for preparing it without any gritty matter. To which is added an appendix. By a phyſician.

A diſcourſe on the Torpedo, delivered at the anniverſary meeting of the Royal Society, November 30. 1774. By Sir John Pringle Bart. Preſident. 4to, London.

Inquiries into the nature of a new mineral acid diſcovered in Sweden, and of the ſtone from which it is obtained. To which is annexed an idea of an artificial arrangement, and of a natural method of foſſils; with examples in the cryſtals, ſpars, and earths. By Sir John Hill. 8vo, London.

Myographiae comparatae ſpecimen; or, A comparative deſcription of all the muſcles in a man, and quadruped. By James Douglas, M. D. A new edition, with improvements; to which is

now

now added an account of the blood-veſſels and nerves. 8vo, Edinburgh.

A treatiſe upon the extraction of the cryſtalline lens; by George Borthwick, ſurgeon of the fourteenth regiment of dragoons. 8vo, Edinburgh.

Les avantages de l' inoculation, et la meilleure methode de l' adminiſtrer, ouvrage traduit de la diſſertation Latine couronnée par l' Academie Royale des Sciences, Inſcriptions, et Belles Lettres de Toulouſe; et compoſé par M. Camper, M. D. profeſſeur d' anatomie, de chirurgie, et de medicine dans l' univerſité de Groningue, des academies de Paris, de Londres, de Harlem, &c. 8vo, Toulouſe.

Artis medicae principes, Hippocrates, Aretaeus, Alexander Tralianus, Celſus, Aurelianus, &c. Recenſuit, praefatus eſt Albertus de Haller; 11 vols. 8vo Lauſannae.

L' inoculation juſtifiée; ou, diſſertation pratique et apologétique ſur cette méthode, avec un eſſai ſur la mue de la voix; nouvelle edition. Par M. Tiſſot. 12mo, Lauſanne.

Abrégé des elemens de botanique; ou, methode pour connoitre les plantes. Par de Tournefort. 12mo, Avignon.

Con-

Conchyliologie nouvelle et portative ; ou, collection de coquilles propres a orner les cabinets des curieux. 12mo, Paris.

Obſervations ſur differents cas ſinguliers relatiffs a la médecine pratique, a la chirurgie, aux accouchements, et aux maladies vénériennes, auxquelles on a joint quelques reflexions en faveurs des étudiants. Par M. Fichet de Flechy, M. D. 12mo, Paris.

Manuel ſecret, et analyſe des remedes de MM. Sutton, pour l' inoculation de la petite-verole. Par M. de Villiers, Docteur-regent de la faculté de medecine en l' univerſité de Paris. 8vo, Paris.

Traité de medecine, theorique et pratique, extrait des ouvrages de M. de Bordeu, avec de remarques critiques. Par M. Minvielle M. D. de la faculté de Montpellier. 12mo, Paris.

La ſecret des Suttons devoilé; ou, l' inoculation miſe à la portée de tout le monde, par M. J. J. Gardane, docteur-regent de la faculté de medecine de Paris, cenſeur royale, des Sociétés royales des ſciences de Montpellier, de Nancy, et de de l'academie de Marſeille. 12mo, a la Haye.

Index foſſilium quae colligit, et in claſſes et ordine depoſuit, Ignatius á Born. 8vo.

Joannis

Joannis Antonii Scopoli principia mineralogiae ſyſtematicae et practicae. 8vo.

Joannis Antonii Scopoli diſſertationes ad ſcientiam naturalem pertinentes. 8vo.

Medicina ex p ..ſu, ſive ſyſtema doctrinae ſphygmicae. 8vo.

Examen hiſtorique ſur l' apparition de la maladie vénérienne en Europe, et ſur la nature de cette epidemie. 12mo, Liſbonne.

Traité analytique de eaux minerales, de leurs proprietés, de leur uſage dans les maladies, fait par ordre du gouvernment. Par M. Raulin, M. D. Tome 2de, des eaux mineraies en particulier. 12mo, Paris.

Sammlung auſerleſener abhandlungen, &c. i. e. A ſelect collection of memoirs, for the uſe of practical phyſicians. Part I. Concerning diſeaſes ariſing from the repulſion of the milk. 8vo, Leipſic.

Racolta di Teorie, &c. i. e. A collection of theories, obſervations, and rules, reſpecting the means of diſtinguiſhing and curing aſphyxia, or apparent death, when produced by different cauſes, whether external or internal. By J. Targioni Tozzetti, M. D. 8vo, Florence.

CON-

CONTENTS.

Books

White, W. Obſervations on the Uſe of Dr James's powder, and other antimonial preparations in fevers. 115
Kirkland, Thomas. Treatiſe on child-bed fevers. 124
Minvielle, M. Traité de medicine, theorique, et pratique, extrait des ouvrages de M. de Bordeu. 137
Fougeroux, M. Premier memoire ſur le petrole de Parme. 153
Fougeroux, M. Seconde Memoire ſur le petrole, et ſur des vapeurs inflammables. 155
Lavoiſier, M. Premier memoire ſur le nature de l' Eau. 158
Lavoiſier, M. Second memoire ſur le nature de l'Eau. 163
Morand, M. Recherches ſur quelques conformations monſtreuſes des doigts. 165
Prieſtley, J. Experiments and obſervations on different kinds of air. 168

Medical Observations.

The caſe of an angina pectoris, which terminated fatally, with the diſſection. By Thomas Percival, M. D. F. R. S. and S. A. 180
Obſervations on the uſe of cold bathing in the cure of tetanus. By Mr J. Cochrane ſurgeon in Nevis. 183
The hiſtory of an exceſſive diſcharge of water from the uterus during pregnancy. By D. J. Alexander phyſician in Halifax. 187
Obſervations on the flowers of zinc, and cuprum ammoniacale, and on two affections of the throat. By Dr Louis Odier phyſician in Geneva. 191
The hiſtory of a caſe of imperforate hymen. By Mr Fielding Beſt Finney, ſurgeon at Leek. 194
Extract of a letter from Dr Percival, to Dr Duncan, on the external uſe of preparations of lead. 199

Medical News. 206
List of New Books. 219

MEDICAL

AND

PHILOSOPHICAL

COMMENTARIES.

By a SOCIETY in EDINBURGH.

Udum et molle lutum es, nunc nunc properandus, et acri
Fingendus ſine fine rota. PERSIUS.

VOLUME THIRD.

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M,DCC,LXXV.



MEDICAL COMMENTARIES.

SECT. I.

An Account of Books.

I.

The Anatomy of the Human Gravid Uterus exhibited in Figures. By William Hunter, *Phyſician Extraordinary to the Queen, Profeſſor of Anatomy in the Royal Academy, and Fellow of the Royal and Antiquarian Societies.* Folio, London.

FROM the title of the work now before us, it will neceſſarily be concluded, that in a publication of this nature, no proper idea can be conveyed of the diſcoveries or improvements which it contains. The information derived from figures, ariſes only from accurate and attentive inſpection. But, while we can attempt nothing

farther than to give ſuch of our readers as have had no opportunity of examining theſe figures ſome account of the ſubjects which are here delineated, we conſider this to be a work in its nature too important to be totally neglected. It illuſtrates a branch of the anatomy of the human body which has been hitherto imperfectly underſtood; a branch which is the foundation of a ſcience on which the preſervation of many of the human ſpecies muſt depend. For, admitting that the interpoſition of art in the birth of infants is ſeldom requiſite, and that, upon the whole, it has been productive of greater evils than advantages; yet, no one will refuſe, that it is frequently the only means of preſerving both mother and child. A proper application of the art of midwifery, however, can be founded only on an accurate knowledge of the parts principally concerned. But, beſides the advantages thus reſulting from the anatomy of the gravid uterus, it muſt farther be viewed as the only baſis for a proper knowledge of the diſeaſes of the pregnant ſtate; hence, that it claims the attention of every practitioner, can admit of no doubt.

That the anatomy of the gravid uterus, however, has hitherto been inveſtigated with

leſs

leſs ſucceſs than moſt other parts of the human frame, will not be refuſed; nor does this defect ſeem to have proceeded from want of attention, or of a juſt ſenſe of the importance of the ſubject. From the wiſe proviſions of the author of our nature, death is a leſs frequent occurrence during the pregnant ſtate, than at any other time; and, when it has happened, the body has ſeldom been ſubjected to the attentive examination of men of ſufficient abilities to make the proper uſe of it. It is now to be hoped, however, that the inconveniences which have hitherto ariſen from ſuch circumſtances, are in ſome meaſure removed. The author of the work before us, ſeems to have employed uncommon opportunities to the utmoſt advantage. Of the accuracy of his figures, without ſimilar means of inveſtigation, we cannot pretend to give any opinion; of their elegance, our readers may conſider us as by no means competent judges; yet, while the well known abilities of the author muſt remove all doubt reſpecting the former, the very names of the artiſts he has employed can leave no heſitation with regard to the latter. For us, it is enough to ſay, that, in the execution of the

preſent work, neither pains nor expence have been ſpared to improve this branch of anatomy.

The ten firſt figures are taken from the diſſection of a woman, who died about the end of the ninth month of her pregnancy. Thus they exhibit the uterus at its greateſt degree of diſtenſion, and the ſtate of the ſurrounding viſcera in that ſituation. The firſt plate repreſents the ſubject as it appeared when the abdomen was opened by a crucial inciſion; the four angles of the containing parts being turned outwards. In this figure, the womb poſſeſſes all the umbilical and hypogaſtric regions; its ſurface is interſperſed with a number of ſmall veſſels, the greateſt part of which are veins, which, we are told, were filled with blood only, and diſappeared after the ſubject had been preſerved for ſome time. In point of ſituation, it is a little oblique, inclining towards the right ſide. Its form is irregular at ſome places, projecting more than at others; this, Doctor Hunter ſuppoſes, may be owing partly to its being moulded on the neighbouring bowels, particularly at its fundus, and partly to its contents. From the laſt of theſe circumſtances, a ſwelling is obſervable on the left ſide of it, where the middle of the placenta adhered, and on the right, where the buttocks of

the

the child lay. The round ligaments appear very conſpicuous in this figure, the left being conſiderably longer than the right, from the oblique ſituation of the womb. The Fallopian tubes are almoſt hid, little more than the beginning of the right, and the middle part of the left, being expoſed to view.

In the ſecond plate, we have a view of the ſame ſubject from the right ſide; the upper abdominal flap, and the containing parts of the hypochondrium being removed, that the abdominal viſcera may be ſeen in their natural ſituation. In the third, a view from the left ſide. Here the convolutions of the ſmall inteſtines are conſiderably lower, and in greater quantity than on the right ſide, in ſome meaſure, from the obliquity of the womb, but principally from the liver coming low down in the right ſide, and leaving little ſpace for the inteſtines.

The fourth plate exhibits a fore view of the womb, and of the contents of the pelvis. In the fifth, the womb in the ſame ſituation is laid open; its ſubſtance is cut through on the right ſide, and turned to the left; by which means, part of the decidua and of the placenta, as well as the inſide of a portion of the womb, are expoſed in the

ſtate in which they appeared when injected. Dr Hunter obſerves, that there was a manifeſt conſtriction at that part of the womb which is ſurrounded by the brim of the pelvis, immediately above which, the womb ſwelled out, being there embraced by more yielding parts. In the ſection of the womb, the veins are of a light colour and large, the arteries dark, and in ſmall proportion. At the upper part of the womb, both arteries and veins are ſmall, in compariſon with what they are lower down, where they were paſſing from the ſides of the womb to the placenta; and the thickneſs of the womb bears ſome proportion to the ſize of its veſſels in theſe different places. The decidua or external membrane is ſeen full of ſmall branching veins, which paſſed into it from the external ſurface of the womb. At one part, the opaque decidua being removed, the chorion and amnion appear, both of which were ſo tranſparent, that the child's ſkin could be ſeen diſtinctly through them. In theſe membranes, there is no appearance of injected veins. From that part of the inſide of the womb which covered the placenta, many veins are delineated of a flattened figure, with

numerous

numerous anaſtomoſes paſſing from the womb to the placenta in a ſlanting direction.

The ſixth plate repreſents the child in its natural ſituation in the womb. The head is lodged in the lower part, or in the cavity of the pelvis, and the body lies principally on the right ſide. Its poſition is diagonal, ſo that its poſterior parts are turned forward, and to the right ſide of the mother; and its fore parts are directed backwards, and to the left ſide. The ſeventh exhibits a fore view of the cavity of the womb, as it appeared when the child was taken out, the inveſting membranes being left. The womb is repreſented in a looſe rugous ſtate, its whole internal ſurface is covered by the membranes, through which the injected veins are diſtinctly ſeen.

In the eighth plate, the empty womb is turned down over the pudendum, to afford a view of the parts which lie immediately behind it, and which were in contact with it. The ninth plate gives a full ſide-view of the pelvis, with its contents and adjacent parts. The tenth plate conſiſts of three figures. The firſt gives a view of the outſide of the forepart of the womb as it appeared when quite dry, and is a ſpecimen of the uterine

uterine veſſels at the part where they adhered to the placenta. The veins are readily diſtinguiſhable by their largeneſs and frequent anaſtomoſes, from the arteries, which are ſmall, leſs numerous, and ſerpentine. The ſecond figure gives a view of the inſide of the placenta injected by the umbilical veſſels, after it was taken out of the womb. The wax had ſo completely filled all the cellular ſubſtance of the placenta, that we are informed it appeared every where through the chorion. We are farther told, that it was manifeſtly granulated, from which Dr Hunter concludes, that it had filled natural cavities. For, if it had filled the ſubſtance of the placenta by common extravaſation, he thinks it would have formed itſelf into irregular and large maſſes. The third figure is taken from a different ſubject, and gives a view of a portion of the internal ſurface of the womb, from a woman who died two days after delivery. It was our author's intention to have publiſhed theſe ten plates by themſelves immediately after the drawings were made, which was in the year 1750, and this laſt figure was added, as the only ſupplement which he could give at that time.

The eleventh and twelfth plates are taken from another ſubject, a woman who died of a flooding during

during the ninth month of her pregnancy. The one repreſents a fore view of the womb with the oſſa pubis in their natural ſituation. The appearance of the large veſſels which were injected, ſhews that the placenta was attached forwards, and to the lower part of the womb. The other gives a view of the womb and vagina fully opened on the back part, ſhewing the ſituation of the child, and of the lower part of the placenta at the inſide of the mouth of the womb under the child's head, and detached from the womb, which occaſioned the fatal haemorrhage.

The thirteenth plate is taken from a third ſubject, alſo in the ninth month of pregnancy. It repreſents a fore-view of the womb, all the incloſing parts being cut through, and turned up, to ſhew the ſituation of the child, which in this caſe had its head upwards. The fourteenth plate is taken from a fourth ſubject of nine months, and conſiſts of three figures, repreſenting the muſcular faſciculi on the inſide of the womb.

The fifteenth plate conſiſts of five figures taken from another ſubject at the full time. This woman, immediately after a natural labour, grew faint, without any apparent cauſe, and died within the ſpace of two hours. The arteries were injected

jected with red wax; and the figures are intended to explain the arterial ſyſtem of the pregnant womb. From all theſe figures, it is evident, that the arteries on the womb have a ſerpentine courſe, and frequent anaſtomoſes. From comparing the arteries in the ſecond and third figures, it appears, that they are much larger and more convoluted in that ſide of the womb to which the placenta is fixed, than in the oppoſite. The fifth figure repreſents the right ovary and tube; in the ſubſtance of the ovary, the corpus luteum is ſeen ſplit through the middle; no veſſels appear at its centre, but all around that centre it is very vaſcular.

The ſixteenth plate is taken from a ſixth ſubject, at eight months, and repreſents a full view, from the right ſide of the womb, ſo injected and diſſected as to ſhew the approach and firſt general branchings of the uterine veſſels. The hypogaſtric veſſels ſend down numerous branches to the vagina, and mount up upon the ſide of the womb, to anaſtomoſe with the reſpective ſpermatic veſſels. The ſpermatic veſſels, in their approach to the womb, ſend up numerous branches forward to the tube, and backwards to the ovary; then paſſing to the ſide of the fundus uteri, they anaſ-

anaſtomoſe with the hypogaſtrics. The principal branches of both, in the preſent figure, go to the fore-part of the fundus uteri, where it ſeems the placenta was attached.

The four following plates are taken from the ſame ſubject. One of them repreſents a direct fore-view of the womb after the outer ſtrata of its ſubſtance had been diſſected off, and ſhews the large uterine veſſels in their way to the placenta. Another gives a view of the fundus uteri, and ſhews the plexus of large veſſels, eſpecially the veins oppoſite to the placenta. In a third, the ſubſtance of the womb is cut through at the under part, and turned up over the fundus. It repreſents a part of the membranes, and about half of the placenta, together with the correſponding internal ſurface of the womb, and the veſſels paſſing between the womb and the placenta. And, in the laſt, we have a fore-view of the womb fully opened, to ſhew the child in its natural ſituation.

The twenty-firſt and twenty-ſecond plates are taken from a ſubject about the ſeventh month of pregnancy. One of them repreſents the womb opened by a crucial inciſion; the four corners being turned aſide from the ſecundines, to ſhew the child, and the waters, through the encloſing

mem-

membranes. The other repreſents the ſituation of the contents of the pelvis.

The two following plates are taken from a ſubject at the ſixth month of pregnancy. In the twenty third, we have a fore-view of the womb injected; the anterior part, both of the womb and membranes, being cut away, and the liquor amnii taken out, to ſhew the foetus, with a part of the placenta and the navel-ſtring. Here the placenta is ſeen adhering to the poſterior part of the womb towards the fundus, and the navel-ſtring paſſing firſt downwards over the left ſhoulder of the child, and then upwards behind its body, till it terminates in the placenta. The twenty-fourth conſiſts of four figures. The firſt ſhews the placenta adhering to the fundus and back-part of the womb, its ſpungy ſubſtance being filled by the injection of the uterine veſſels. Dr Hunter obſerves, that none of the wax injected into the veſſels of the womb had paſſed into the branches of thoſe veſſels which compoſe the navel-ſtring, but that the cells in the ſpungy part of the placenta were univerſally loaded with wax. The ſecond repreſents a ſection of half of the placenta, to ſhew the thickneſs which it had acquired, by its ſpungy cavities being filled with wax. The third and

fourth

fourth figures repreſent the decidua from the forepart of the womb, with the convoluted uterine arteries which are diſperſed through it.

The twenty fifth plate is taken from a ſubject at the fifth month of pregnancy. Here we have a repreſentation of the womb fully opened, and the foetus taken out, to ſhew the exact dimenſions and proportions of the child at this period of utero-geſtation. The twenty-ſixth plate is taken from another ſubject at the fifth month, and contains four figures, ſhewing the circumſtances of a retroverted womb. The firſt gives a view in miniature of the abdomen fully opened, and the bladder enormouſly diſtended. In the ſecond, the bladder is repreſented cut through the middle, and opened at its lower part, to ſhew the ſituation of the os uteri. The third exhibits a back view of all the contents of the pelvis, conſiſting principally of the retroverted womb. And the fourth repreſents the womb opened, to ſhew the ſecundines, and their contents.

The three following plates are taken from a ſubject in the beginning of the fifth month. One of them contains two figures; in the firſt of which we have a back-view of the womb, with the vagina ſlit up, to ſhew the ſtate of the cervix and

os

os uteri ; and the ſecond repreſents the ſame womb fully opened, ſhewing the decidua reflexa upon the chorion, and the inſide of the neck and orifice of the womb. Another conſiſts alſo of two figures ; in the firſt of which the womb is turned upſide down, that the weight of its contents might carry them towards the fundus. Thus we have a view of the border of the placenta, where the decidua is reflected from the inſide of the womb to the outſide of the chorion ; at which laſt place it makes the decidua reflexa. From this figure Dr Hunter thinks it evident, that the decidua was not, like the other membranes, extended croſs the paſſage in the neck of the womb, but that it is continued a little way down that paſſage, and there inſenſibly loſt in the glutinous cement. The ſecond figure repreſents the inſide of the womb after the placenta had been ſeparated. The laſt of theſe plates conſiſts of five figures. The firſt repreſents the ovum taken out of the womb, ſhewing the external ſurface of the placenta, and the ragged edge all round, where the decidua reflexa was torn through. In the ſecond figure, we have a view of the internal ſurface of a portion of the decidua conſiderably magnified, ſhewing its peculiar

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cribriform appearance. The third is a delineation of the ovarium and corpus luteum cut thro' the latter of which, even at this period of pregnancy, had an apparent cavity. The two remaining figures in this plate are taken from ſubjects at nine months; the one repreſents a portion of the decidua, having its veſſels filled with red blood; the other, a portion of the womb and ſecundines, ſo diſpoſed as to exhibit diſtinctly the different ſtrata of theſe parts.

The thirtieth plate is taken from a ſubject at the fourth month of pregnancy. Here the womb is injected, and opened on its fore-part; ſo that we have a full view of the external ſurface of the placenta, with the veſſels paſſing into it from the womb. It ſhews likewiſe the ſtate of the cervix uteri externally, and its relation to the bladder and urethra. The thirty-firſt plate contains three figures from the ſame ſubject. In the firſt, we have a back-view of the womb, ſo opened as to expoſe the outer ſurface of the decidua, and to ſhew the ſtate of the neck of the womb. The ſecond exhibits the ſame object, the inverted portion of the womb being cut off, and the decidua removed. Thus we have a view of the foetus in the liquor amnii, through the tranſparent

membranes. The third repreſents the corpus luteum in the left ovary cut through, and ſhews its cavity at this period.

The thirty-ſecond plate contains two figures taken from a ſubject at the end of the third month of pregnancy. The firſt repreſents the womb opened, to ſhew the child, and the ſtate of the cervix uteri at this period. The ſecond exhibits a longitudinal ſection of the womb, placenta, and membranes, together with the child, at ſome diſtance, but ſtill attached by the navel-ſtring. The thirty-third and thirty-fourth plates, which conclude this work, contain many figures repreſenting the womb at the earlieſt periods of utero-geſtation, viz. from nine to three weeks after conception. From theſe figures, it appears that the decidua is at firſt a thick membrane of a gelatinous texture, which adheres to the whole triangular cavity of the fundus uteri; that the tubes terminate on its internal ſurface; that the chorion is lodged in its duplicature; and that, in proportion as the chorion extends, it encroaches upon the cavity of the decidua, ſtretching its interior lamella, till at length, the cavity being obliterated, that lamella comes in contact with the inſide

inſide of the decidua. And it farther appears, that the decidua conſtitutes the uterine part of the placenta.

II.

Extract from the Journals of the Board of Police, concerning the recovery of Perſons drowned, and ſeemingly dead. 4to, Edinburgh.

OF this publication, which is written on a ſubject in its nature highly intereſting, mention was made in our laſt number. It conſiſts of ſeveral parts. But the chief of them are a paper preſented to the Board of Police in Scotland, by Lord Cathcart the preſident of that Board, reſpecting the recovery of drowned perſons; and a letter from Dr Cullen, firſt phyſician to his Majeſty in Scotland, to Lord Cathcart, on the ſame ſubject. From the firſt of theſe, we have already extracted the directions given by the board of police, for the information of perſons not acquainted with the medical art. In the ſecond, the author enters further into the explanation of principles, and the detail of practice. We imagine, therefore, that a ſhort view of it, will not be unacceptable to our readers.

Dr Cullen begins with obſerving, that, in general, few endeavours are uſed for the recovery of drowned perſons, becauſe by-ſtanders, and even practitioners in medicine, have hitherto been too precipitate in concluding them to be in an irrecoverable ſtate. Miſtakes on this ſubject, however, he hopes will now be corrected, from the many inſtances which there are of the recovery of perſons, in whom all the ordinary ſigns of life had diſappeared, and from engaging men to conſider the reaſon of the thing itſelf. To this purpoſe, he obſerves, that, in men and other animals, life does not entirely ceaſe on the ceſſation of the action of the lungs and heart. Though circulation be neceſſary for the ſupport of life, yet the living ſtate more eſpecially depends upon a certain condition in the nerves, and muſcular fibres, by which they are ſenſible, and irritable, and upon which the action of the heart itſelf depends. This may be called the vital principle in animals, and, as long as it ſubſiſts to ſuch a degree, that it may again be reſtored to its activity and vigour, the action of the heart and lungs, the circulation of the blood, and all the other functions of life, although they have long ceaſed, may be again perfectly

fectly reſtored. The author, however, does not pretend to determine how long the vital principle may ſubſiſt in the human ſyſtem after its ſeeming extinction. But, from the analogy of other animals, and from many well atteſted facts, he concludes that it may ſubſiſt very long; which ſhould prevent us from raſhly ſetting bounds to the poſſibility of the recovery of drowned perſons.

Beſides this, as from the diſſection of drowned perſons, it appears that water ſeldom enters the cavity of the lungs, and that, in moſt caſes, no hurt is done to the organization of the vital parts, he ſuppoſes that the ſeeming death of drowned perſons is entirely owing to the ſtoppage of reſpiration, and conſequently of circulation, by which means the body loſes its heat, and with that the activity of the vital principle. But it muſt be poſſible to recover drowned perſons, as long as this principle is capable of being again rendered active, which the experience of late years has ſhewn may be effected by different means. Hence, although perſons have lain for ſeveral hours in the water, and be to all appearance dead, attempts ought to be made for their recovery; nor is the labour of many fruitleſs trials

to be put in competition with one inſtance of ſucceſs.

Beſides mentioning the means to be employed for the recovery of drowned perſons, Dr Cullen takes notice of thoſe practices hitherto in common uſe, which he thinks ſhould be forbid. He is of opinion, that all thoſe practices, which were recommended, upon the ſuppoſition that the death of the patient was occaſioned by a quantity of water being taken into the body, and that a recovery muſt be brought about by its being again evacuated, proceeded upon a hypotheſis altogether falſe; while, at the ſame time, they were always attended with the danger of burſting ſome veſſels in the brain or lungs, and thus, of rendering caſes incurable, which were not ſo from the drowning alone. Hence, he diſſuades from the hanging up of perſons by the heels, from ſetting them on the crown of the head, from rolling them upon a caſk, or ſuch like rough practices. Although he allows, that, where the natural heat is not entirely extinguiſhed, and where the irritability of the moving fibres is not greatly impaired, briſk agitation may be the only means neceſſary for reſtoring the action of the vital organs; yet he aſſerts, that, in all caſes, violent concuſſion can never

never be ſafe, and is never neceſſary. He therefore adviſes, that, even in tranſporting the body from one place to another, it be kept ſtretched out, laid upon one ſide, with the head and upper parts a little raiſed, care being taken to avoid the neck's being bent much forward, or any other poſture expoſing to an improper compreſſion. When laid upon ſtraw in a cart, in the manner deſcribed above, he allows that, in moſt caſes, a briſk motion will do no harm.

For bringing about a recovery, he conſiders the reſtoration of heat to be the firſt and moſt eſſential ſtep. With this view, he adviſes that the body, if not naked when the accident happened, ſhould be immediately ſtripped, and wrapped in warm blankets, if the air be cold. But if the ſun ſhines out very hot, he thinks that the naked body, after being carefully dried, may, with advantage, be expoſed to it.

As another means for the recovery of heat, he adviſes, where the ſituation of the accident will allow it, that the body ſhould be immerſed in a warm bath. At breweries, diſtilleries, or the like, a ſufficient quantity of warm water may in general be immediately obtained. And even in ſmall villages, where there is no ſuch conveni-

ence, it may be had in a very ſhort time, by many fires being at once employed in heating ſmall quantities. He adviſes that the temperature of the water, in which the body is at firſt immerſed, be ſomewhat under its natural heat, and that by the addition of warm water, it be raiſed, gradually, to a heat a little above it. Another means by which the body may be conveniently warmed, particularly if it be of a ſmall ſize, is by a perſon's lying in bed with it, taking care to turn it frequently, and to rub attentively thoſe parts not in contact with the warm body.

Where theſe meaſures cannot be taken, Dr Cullen recommends careful friction with coarſe cloths well warmed, and the application of hot bricks, or bottles filled with warm water, to the feet. He diſſuades from friction with ſpirits, as proving an impediment to the rubbing; and he thinks that nothing farther in this way is admiſſible, than the application of vinous ſpirit of ſal ammoniac, to the wriſts and ancles only. It has been a common practice to cover the body with warm grains, aſhes, ſalt, ſand, and the like. Theſe, however, he imagines, will ſeldom be obtained here, while, at the ſame time, they may interfere with other meaſures more eſſentially neceſſary.

Next

Next to the recovery of heat, Dr Cullen thinks, that endeavours ſhould be directed for reſtoring the action of the moving fibres. As the inteſtines, both from their internal ſituation, and peculiar conſtitution, retain irritability the longeſt, he thinks, that ſtimulants will have more effect when applied to them, than when applied to any other part. The action of the inteſtines will, he imagines, be moſt effectually excited by diſtenſion with air. Heated air is preferable to cold. But ſtill farther advantages may be obtained from impregnating the air with ſomething which, by its acrimony, may be powerful in ſtimulating the inteſtines. Hence he recommends that the ſmoke of tobacco ſhould be thrown into the inteſtines by a fumigator of a particular conſtruction, and which, for this, as well as other purpoſes, ought to be in the hands of every ſurgeon. Where tobacco-ſmoke, or warm air, cannot be thrown in, he adviſes the injection of warm water, to the quantity of three or four Engliſh pints, half an ounce of common ſalt being diſſolved in each pint, and a little brandy or wine added to it.

The third intention of cure which Dr Cullen propoſes, is the reſtoration of the action of the lungs

lungs and heart. Means for this purpoſe may be uſed while the meaſures already propoſed for reſtoring the heat of the body and the activity of the moving fibres are employed. But they are more eſpecially neceſſary, after the former have been employed for ſome time. For reſtoring the action of the lungs, it is neceſſary that they ſhould be inflated. On this ſubject Dr Cullen acknowledges his obligation to Dr Monro, who has made many experiments for aſcertaining the method in which it may be done moſt advantageouſly. Dr Monro has found, that it may be much more conveniently effected, by blowing into one of the noſtrils, than by blowing into the mouth. He has alſo found, that, with the aſſiſtance of a wooden pipe, fitted at one extremity for filling the noſtril, and at the other for being conveniently blown into, a perſon of ordinary ſtrength will be able to inflate the lungs to a ſufficient degree. And he thinks, that at firſt, warm air from the lungs of a living perſon, will be moſt conveniently employed. But where long inflation is requiſite, a pair of bellows muſt be employed, large enough to contain at once the quantity of air neceſſary to inflate the lungs to a due degree. While

blowing

blowing is practiſed, the paſſage of air into the ſtomach, by the gullet, may be prevented by gently preſſing the head of the wind-pipe backwards, as thus the gullet will be ſtraitened, while the paſſage through the larynx is not interrupted. The other noſtril and mouth muſt, at the ſame time, be accurately cloſed, to prevent the eſcape of air by theſe paſſages. After the blowing has produced a ſufficient diſtenſion, the air muſt be again expelled, by preſſing the breaſt and belly, and thus imitating, as exactly as poſſible, the alternate motions of natural reſpiration.

Where the lungs cannot be inflated by blowing into the noſtril, Dr Monro maintains, that a crooked tube, reſembling the catheter uſed for a male adult, may be introduced directly into the trachea. For this purpoſe, the ſurgeon ſhould place himſelf on the right ſide of the patient, and introducing the fore-finger of his left hand at the right corner of the patient's mouth, he ſhould puſh the point of it behind the epiglottis, and uſing this as a directory, he muſt enter the tube, which he holds in his right hand, at the left corner of the patient's mouth, till the end of it be paſſed beyond the point of his fore-finger; and it is then

then to be let fall, rather than puſhed, into the glottis. This practice, while it is equally certain, is unqueſtionably much preferable to bronchotomy, which, however, Dr Cullen allows may be tried, where a ſkilful operator is at hand. But he ſuppoſes that it will hardly be of any advantage where the blowing into the noſtril has entirely failed. By blowing into the lungs, reſpiration may not only be renewed, but that frothy matter, which is found in the cheſts of drowned perſons, and which our author ſuppoſes to be the moſt common cauſe of their mortal ſuffocation, may be expelled. Hence he recommends that it ſhould be aſſiduouſly continued, in the manner directed, for an hour or two together.

Theſe, according to Dr Cullen, are the means chiefly to be depended upon, for the recovery of drowned perſons. But, beſides theſe, he mentions alſo ſome others which may at times prove of conſiderable ſervice. The opening of the jugular veins may relieve congeſtion in the head, and is indicated where there occurs a livid or purple colour of the face. But, when ſome motion of the blood is reſtored, this evacuation muſt be made with great caution, leſt it ſhould weaken the recovering powers of life.

Stimulants

Stimulants applied to ſenſible parts of the body, ſuch as holding quick-lime ſpirit of ſal Ammoniac to the noſe, or putting a little of it, on a rag, into the noſtrils, will ſometimes be uſeful for recovering the activity of the vital principle. It has alſo been common to pour wine or brandy into the mouth; but till ſome marks of the recovery of ſwallowing and reſpiration appear, Dr Cullen conſiders this practice to be dangerous. As ſoon as the power of ſwallowing is reſtored, he thinks there can be no objection to an emetic, which will be ſerviceable, from the action of vomiting proving a ſtimulus to the whole ſyſtem. As an emetic, he recommends Ipecacuana wine, given by tea ſpoonfuls, till it produces its effect. Reſpecting ſtimulants in general, he obſerves, that, where the heat and irritalibity are but little impared, a recovery may often be effected by theſe alone; but, on the contrary, when the body has lain long in water, and the heat is very much extinguiſhed, he thinks, that the application of any other ſtimulant than that of tobacco ſmoke to the inteſtines, can be of very little ſervice; and that other meaſures ought never to interfere with thoſe which are to be uſed for recovering heat and the motion of reſpiration.

He

He concludes this letter, by obſerving, that, through the whole of this buſineſs, the proper means ſhould be employed for ſeveral hours together, unleſs it happens, that, while no ſymptoms of returning life appear, the ſymptoms of death conſtantly increaſe. He farther adds, that many of the meaſures here propoſed for the recovery of drowned perſons, will be equally proper in other caſes of ſuffocation; as for example, when it ariſes from ſtrangling, the damps of mines, the fumes of charcoal, or ſimilar cauſes.

III.

Obſervations ſur les Effets des Vapeurs mephitiques, ſur le corps de l'Homme, et ſur les Moyens de rapeller à la vie ceux qui en ont été ſuffoqués. Nouvelle edition. Augmentée d'un extrait de quelques obſervations nouvelles qui confirment l'avantage du traitment que l'on conſeille contre la ſuffocation par la Vapeur du Charbon; et dans laquelle on prouve, qu'il eſt avantageux de ſouffler dans la bouche de quelques nouveax-nés, pour les appeller a la vie. Par M. Portal, *Medecin conſultant*

ſultant de Monſieur, Profeſſeur de Medecine au College royal, de l'Académie des Sciences de Paris, de l'Inſtitut de Bologne, de la Societé royale des Sciences de Montpellier, et de la Societé Medicale d'Edinbourg. 8vo. Paris.

IN the month of Auguſt 1774, two perſons having been killed at Paris by the vapour of charcoal, the royal academy of ſciences recommended it to Mr Portal to examine into the circumſtances attending their death, and to make a report upon the ſubject. To this appointment we are indebted for the following treatiſe.

Mr Portal introduces his ſubject, by preſenting us with the report which he made to the academy. He ſaw the two perſons who had been ſuffocated, about five o'clock in the evening of the day on which the accident happened. At that time, their faces were coloured, their eyes bright, their limbs and under jaw flexible; their ſkin pliant, and ſufficiently warm; and their bellies much ſwelled. Upon inquiry, he was informed, that they had been found dead about two hours after the ſmoke had got acceſs to them; that they had been blooded at the jugular vein; that a vomit had been given; and that many attempts had been made

made to introduce the ſmoke of tobacco by the anus. All theſe means however had proved fruitleſs.

After there was ſufficient evidence that the patients were in a ſtate beyond the poſſibility of recovery, Mr Portal was anxious to add to our knowledge reſpecting the appearances to be met with in people killed in this manner, by opening their bodies. He, at the ſame time, hoped, that he ſhould then be able more fully to elucidate the cauſe of their death. But the friends of the ſufferers oppoſed his deſign. From this caſe, however, he was induced to enter upon the conſideration of the ſubject, hoping to diſcover a more ſafe and certain method of recovery, than he imagines has hitherto been employed.

He begins, by enumerating the obſervations that have been made on the opening of the bodies of perſons ſuffocated by the vapour of charcoal, by that of fermenting liquors, or other mephitic vapours. And he gives the following account of the appearances on diſſection.

1ſt, The veſſels of the brain are, he ſays, gorged with blood, and the ventricles of that viſcus are filled ſometimes with a frothy, ſometimes with a bloody ſeroſity.

2d,

2*d*, The trunk of the pulmonary artery is much diſtended, and the lungs appear nearly in a natural ſtate.

3*d*, The right ventricle and auricle of the heart, the venae cavae and jugular veins are full of frothy blood.

4*th*, Bloody ſeroſity is often found in the bronchiae.

5*th*, The trunk of the pulmonary veins, and the left auricle, are either empty, or almoſt empty of blood.

6*th*, The blood found in the places that have been mentioned, is generally fluid, and as it were in a diſſolved ſtate. It is eaſily extravaſated into the cellular texture, of the head particularly, becauſe it is in this part that it abounds moſt.

7*th*, The epiglottis in ſuffocated perſons is raiſed, and the glottis open and free.

8*th*, The tongue is much ſwelled, and can hardly be contained within the mouth.

9*th*, The eyes protrude and preſerve their luſtre to the ſecond or third day. They are often even brighter than natural.

10*th*, The body preſerves its heat for a long time. Nay, the heat is ſometimes greater than it is during life, or at leaſt conſiſtently with health.

11*th*, The limbs are flexible for a long time after death.

12*th*, The face is more ſwelled, and often more red than uſual.

13*th*, The neck and upper extremities are ſometimes ſo much ſwelled, that they appear to be inflamed. Theſe ſwellings, however, do not, like oedematous ones, preſerve the impreſſion of the finger.

In proof of the accuracy of theſe different appearances, Mr Portal either refers to the obſervations of practical authors, or to experiments made by himſelf upon animals.

After theſe remarks, our author proceeds to inquire into the cauſe of death in perſons ſuffocated by mephitic vapours. He aſks, whether there be not, among all the changes which appear in the bodies of perſons ſo ſuffocated, ſome one upon which the others depend, and which may be regarded as the immediate cauſe of death? He conſiders the air charged with mephitic miaſmata to be unfit for reſpiration; the ceaſing of which

which ſtops circulation, accumulates the blood in the head, and induces apoplexy. He farther imagines, that mephitic vapours act upon the nerves, and affect them in a dangerous manner. He is of opinion, that they act alſo upon the blood, and rarify it ſo much, that it burſts the veſſels which ought to contain it; hence the circulation is diſturbed, and even ſtopt, the blood at the ſame time becoming diſſolved. Of theſe three cauſes of death, he ſeems to inſiſt chiefly on the ſtoppage of reſpiration; and he proceeds to ſhew, from the connexion of the blood-veſſels, and the ſtructure of the lungs, that the action of expiration muſt be attended with a flow of blood to the head.

He next takes notice of the opinion of ſome phyſicians who imagine, that the lungs of ſuffocated perſons are in the ſtate of full inſpiration. After combating this opinion, and producing caſes from diſſection in oppoſition to it, he ſuppoſes, for the ſake of argument, that it does happen. But he maintains, that ſtill determination to the head muſt follow a long continued inſpiration, as he affirms, that it is only by the expiration ſucceeding inſpiration, that the blood is forced from the pulmonary artery into the veins.

He obſerves, that the circulation of the blood may be thus abated, or even to appearance ſuſpended for a longer or ſhorter time, without the principle of life being extinguiſhed; and that, for recovery in ſuch caſes, it is ſufficient again to reſtore the circulation, or to wait till nature do it herſelf, an event which has taken place oftener than once.

Mr Portal next proceeds to the means of relief which ought to be employed with thoſe who have been ſuffocated by mephitic vapours. He propoſes, in the firſt place, copious bleeding at the jugular vein, to empty the veſſels of the head, which are filled with blood in a highly rarified ſtate; and, if one bleeding does not appear to be ſufficient, he recommends that the operation be repeated.

He next recommends vinegar diluted with three times its bulk of water. This he thinks ought to be forced down the patient's throat, injected by the anus, and applied, in the way of friction, to the ſkin.

He urges much the neceſſity of expoſing a ſuffocated perſon to cool and open air; and this he tells us may be done without the dread of any bad effect from cold.

With

With the ſame view, he recommends the throwing of cold water upon the body, a practice which, he obſerves, has been ſtrongly enjoined, both by Meſſrs Borel and Sauvages, and which he maintains to be conſonant both to ſound theory and accurate practical obſervations.

He condemns the uſe of emetics, as imagining that they occaſion too great determination to the head. He ſeems alſo at a loſs to conceive the propriety of injections of tobacco-ſmoke. He imagines that the quantity of air thus introduced into the bowels muſt diſtend them. Thus it will puſh the diaphragm upwards, and prevent the expanſion of the lungs. In this manner, it muſt muſt prove an unſurmountable obſtacle to the return of circulation and of life. In place, therefore, of tobacco-ſmoke, he propoſes the uſe of irritating injections.

The laſt practice which he recommends, and which he conſiders to be the moſt certain means of recovery is, the inflating the lungs with air.* For this purpoſe, he adviſes that it ſhould be blown through the noſtril, which he conſiders to be a more certain, and leſs hazardous method of introducing it than by the mouth. This he directs to be done by a tube inſinuated into one noſtril, while the other, together with the mouth

is kept ſhut. But, if every effort in this way ſhould prove ineffectual, he recommends that bronchotomy ſhould be ſpeedily performed. This he conſiders to be, in ſuch a caſe, the only expedient in our power for diſtending the lungs, and ſetting them again in motion.

When all theſe methods have failed, that nothing may ſeem to be omitted, he adviſes the ſcarification of the palms of the hands, and ſoles of the feet, and the application of dry cupping glaſſes to different parts of the body.

To the treatiſe, of which we have now given an analyſis, ſome particular caſes and obſervations, from different periodical works, are added, with a view of demonſtrating the propriety of the practice which Mr Portal has here propoſed.

IV.

An Oration delivered February 4th 1774, *before the American Philoſophical Society, held at Philadelphia, containing an Inquiry into the Natural Hiſtory of Medicine among the Indians in North America, and a comparative View of their Diſeaſes and Remedies with thoſe of civilized Nations. Together with an Appendix, containing Proofs and Illuſtrations. By* Benjamin Ruſh, M. D. *Profeſſor*

ſeſſor of Chemiſtry in the College of Philadelphia. 8vo, Philadelphia.

DR RUSH has prefixed to this treatiſe a ſhort advertiſement, in which he mentions that many facts which he employs are taken from La Hontan's and Charlevoix's hiſtories of Canada; but that he has derived the moſt material of them from perſons who had lived and travelled among the Indians; and that he has been particularly indebted to Mr Edward Hond ſurgeon to the 18th regiment, who, during ſeveral years reſidence at Fort Pit, directed his inquiries into the cuſtoms, diſeaſes, and remedies, of the Indians, with a ſucceſs which does equal honour to his ingenuity and diligence.

The author begins this oration by anouncing the ſubject of which he propoſes to treat, and by ſtating the difficulty of doing juſtice to it. He then obſerves, that civilians have divided nations into ſavage, barbarous, and civilized. And he is of opinion, that the tribes of Indians who inhabit that part of North America which extends from the 30th to the 60th of North latitude, partake chiefly of the manners of ſavages. Theſe are the ſubject of the following oration. Before

attempting to aſcertain the number or hiſtory of their deſeaſes, he thinks it neceſſary, 1*mo*, To mention a few facts relating to the birth and treatment of their children. 2*do*, To ſpeak of their diet. 3*dly*, To make a few obſervations on the cuſtoms peculiar to each of the ſexes.

The treatment of children among the Indians tends, in our author's opinion, to ſecure hereditary firmneſs of conſtitution. To harden them againſt changes of temperature, they are plunged every day into cold water. To facilitate their being moved from one place to another, and to preſerve their ſhapes, they are tied to a board, where they lie on their backs, for ſix, ten, or eighteen months. For the ſpace of two years, ſome times for a longer period, the chief nouriſhment of a child is the milk of its mother.

The diet of the Indians is, we are told, of a mixed nature, partly animal, partly vegetable. During the ſummer-months, they live more upon fiſh than land-animals. Their vegetables conſiſt of roots and fruits, either mild in themſelves, or capable of being rendered ſo, by the action of fire. Dr Ruſh is of opinion, that they uſed no ſalt in their diet, till they were inſtructed to do ſo by the Europeans. Their meat is preſerved by cutting

cutting it into ſmall pieces, and expoſing it in ſummer to the ſun, and in winter to the froſt. They have no ſet time for eating; and, after whole days ſpent in the chace, it is not uncommon for them to ſpend three or four hours at a time in ſatisfying their hunger; which, however, is occaſioned, not more by the quantity they eat, than by the pains they take in maſticating it.

As to the cuſtoms peculiar to the ſexes, the author obſerves, reſpecting the women, that their menſes ſeldom flow till they are eighteen; that they are in general in ſmall quantities, but at regular intervals; and that they ſeldom marry till they be above twenty. During pregnancy, the women are exempted from labour, and miſcarriages very rarely happen among them. Nature is their only midwife. Each woman is delivered in a private cabbin, without ſo much as one of her own ſex to attend her, and, in a few days, ſhe returns to her uſual employment. Between the eruption and ceaſing of the menſes, there is hardly a period in which they are not pregnant, or giving ſuck. The employments of the men are hunting and war. In times of peace and plenty, they are given to indolence, but ſometimes ſhake off theſe, by the ſalutary exerciſes of

dancing

dancing and ſwimming. They ſeldom marry till they be above thirty; and it is deemed a mark of heroiſm to bear the moſt exquiſite pain without complaining. No young man can be admitted to the honours of manhood or war, till he has well acquitted himſelf in trials of patience and fortitude.

As cuſtoms peculiar to the Indians, but common to both ſexes, our author mentions painting, and the uſe of the cold bath. The pigment which they uſe for the firſt of theſe purpoſes is bear's greeſe mixed with clay. This, our author thinks, prevents exceſſive perſpiration, leſſens the ſenſibility of the extremities of their nerves, and fortifies them againſt the action of exhalations. While the cold bath renders them leſs ſubject to thoſe diſeaſes which ariſe from the extremes and viciſſitudes of heat and cold.

After this inquiry into the cuſtoms of the Indians, our author next proceeds to ſpeak of their diſeaſes. From conſidering the cauſes of diſeaſe, to which they are expoſed, Dr Ruſh thinks it unneceſſary to appeal to facts for determining that fevers conſtitute the only diſeaſe among Indians. Theſe, he obſerves, are occaſioned by the ſenſible and inſenſible qualities of the air.

Thoſe

Thoſe which are produced by cold, are of the inflammatory kind, ſuch as pleuriſies, peripneumonies, and rheumatiſms. Thoſe which are produced by the inſenſible qualities of the air, or by putrid exhalations, are intermitting, putrid, or inflammatory, according as the exhalations are combined with more or leſs heat or cold. The ſmall-pox, and the venereal diſeaſe, have been communicated to them by the Europeans. But, our author maintains, that they are never ſubject to the ſcurvy. He has heard of two or three inſtances of gout, but it was only among thoſe who had learned the uſe of rum. From their employments, they are ſubjected to many accidents; hence ariſe wounds, fractures, and luxations. Upon the whole, he concludes, that, among Indians, old age, fevers, caſualties, and war, are the only natural outlets of human life.

Having thus taken a view of the diſeaſes, he comes next to ſpeak of the remedies of the Indians. Theſe our author reduces to natural and artificial. To the head of natural remedies, he refers the abſtracting from patients all kinds of ſtimulating aliment, ſweating, purging, and vomits. While they prohibit ſtimulating diet, they give free indulgence in the uſe of cold water.

The

The Indian method of procuring ſweating is, by confining the patient in a cloſe tent, over a hole in the earth, in which a red hot ſtone is placed. A quantity of water being thrown upon the ſtone, the patient is inſtantly involved in a cloud of vapour. In this ſituation, he ruſhes out, and plunges himſelf into a river, from whence he retires to bed. This remedy is uſed, not only to cure fevers, but to remove that uneaſineſs which ariſes from fatigue of body. And when it has the deſired effect, the patient riſes from his bed in twenty-four hours, perfectly recovered from his indiſpoſition.

They excite purging by the fruits of the earth, and the fleſh of birds, and other animals living upon particular vegetables. Ipecacuanha is one of the many roots which they employ for the purpoſe of exciting vomiting.

The artificial remedies of the Indians, according to Dr Ruſh, are bleeding, cauſtics, and aſtringents. They produce a diſcharge of blood by ſharp ſtones and thorns, and this operation they confine entirely to the parts affected. As a cauſtic, they place a piece of rotten wood on the affected part, and afterwards ſet fire to it. The fire gradually conſumes the wood, and its aſhes burn

burn a hole in the fleſh. As aſtringents, they employ ſeveral vegetables, to which our author thinks they have been led, from the undue efforts of nature in thoſe fevers, which are connected with a diarrhoea and dyſentery, together with the haemorrhages, to which their mode of life expoſes them. Dr Ruſh acknowledges himſelf uncertain, whether they rely upon aſtringent or any other vegetables for the cure of the intermitting fever. But, he thinks it probable, that, with them, this diſeaſe requires no other remedies than the cold bath, or cold air. In caſes of wounds, fractures, and ſuch like accidents, nature alone performs the office of ſurgeon for them. Their practice for attempting the recovery of drowned people conſiſts in ſuſpending them by the heels, and is, our author thinks, irrational and unſucceſsful. In the accounts of their antivenerial medicines, he is of opinion, that ſome abatement ſhould be made for the love of the marvellous which is apt to creep into the writings of travellers and phyſicians. Upon inquiry, he finds, that the Indians always aſſiſt their medicines in this diſeaſe, by a regimen which promotes perſpiration. In the treatment of the ſmall pox, it is ſaid, that they plunge themſelves into cold water in the beginning

of

of the diſorder; and that it generally proves fatal to them. Although much has been ſaid of the Indian antidotes againſt poiſons; yet, our author obſerves, that, if he were to judge of all of them by thoſe which have fallen into his hands, he would not aſcribe much to them.

Having thus finiſhed his inquiry reſpecting the diſeaſes and remedies of the Indians, he next comes to ſpeak of the diſeaſes of civilized nations, and has no heſitation in pronouncing theſe to be much more numerous. Reſpecting their remedies, he obſerves, that all the products of the vegetable, foſſil, and animal kingdom, tortured by mixture and heat into an almoſt infinite variety of forms, beſides numerous operations, as bleeding, ſetons, iſſues, and the like, are employed for this purpoſe. This, he thinks ſhews, that although phyſicians be in ſpeculation the ſervants, yet that, in reality, they are the maſters of nature. From theſe remarks, he is naturally led to take a comparative view of the diſeaſes and remedies of the Indians, with thoſe of civilized nations. He thinks it probable, that the want of ſucceſs with the former, is always occaſioned by want of efficacy in their medicine. While, among civilized nations,

tions, ignorance of the ſeats of diſeaſes will make us often bluſh at our preſcriptions; and, with all the advantages of the whole circle of ſciences, we are ſtill unacquainted with antidotes for their chief diſtempers. In conſidering, therefore, whether the bleſſings of civilization compenſate for the diſadvantages of which it is productive, he obſerves, that, if we arm the whole elements againſt our health, and render every pore of the body an avenue for diſeaſe, we pay too high a price for theſe benefits. He obſerves, however, that civilization does not always multiply the avenues of death; and that it appears from the bills of mortality of ſome countries, that fewer in proportion die among civilized than among ſavage nations. Luxury and effeminacy he conſiders to be the great cauſes of diſeaſe; and, as America has not advanced far in theſe, ſhe may yet recal her ſteps, and give life to thoſe parts which are decayed. For this purpoſe, he adviſes that children be educated in a manner agreeable to nature, that the common people be preſerved from the effects of intemperance, and that caution be uſed reſpecting the manufactures which are admitted; thoſe particularly which admit not of free air, and the

exerciſe

exercise of all the limbs; and he recommends agriculture as the true basis of populousness, national health, and riches.

V.

Dissertatio Historico-Medica, De Medicina Lapponum Lulensium, auctore Lars Montin, *Gothoburgense.* 4to, Londini Gothorum.

THE author of this dissertation introduces his subject with observing, that every nation has in some particulars a regimen and medicine peculiar to itself; and that, from attention to these, even in the most barbarous state, important discoveries have been derived. He proposes, in the present dissertation, to make some remarks on the state of medicine in that part of Lapland which is distinguished by the title of the Lap-mark of Lulah. The inhabitants of this country were long supposed to be in a state of total ignorance respecting medicine. The researches of learned men, however, have of late demonstrated the contrary. Our author proposes, in the dissertation

diſſertation now before us, to add to the information which we have already received on this ſubject the remarks which he has himſelf had an opportunity of making; and he imagines, that, while others have treated of the country in general, ſome advantage may ariſe from his confining himſelf to a particular diſtrict, which is not without its peculiarities.

Of thoſe branches of medicine which are denominated anatomy and phyſiology, our author obſerves, that the inhabitants of this part of Lapland are totally ignorant. Their judgment of health is entirely formed from attending to alacrity of mind, vigour, agility, and ſtrength of body. The regimen which they uſe for the preſervation of health is of the moſt ſimple nature, and founded upon no rules. It is founded ſolely upon long habit, and the experience of one generation tranſmitted to another. As they inhabit a mountainous part of Lapland, they enjoy a more pure air, and are more healthful, than thoſe who employ the ſummer in fiſhing, and live in the woods. Their dreſs, compoſed of wool and furs, while it is ſufficiently warm, is at the ſame time very looſe, and no where compreſſes their body. Frequently they ſhew equal anxiety in defending their face

and hands as other parts of their body; and they are always more anxious to render their beds warm than ſoft. With reſpect to diet, they live in a manner equally parſimonious and healthful. They very rarely uſe more than one kind of food, and that only twice a day, in the morning and the evening. From that time in the ſpring, when the rein-deer bring forth their progeny, till the autumn, they live almoſt entirely upon the milk of theſe animals. During the reſt of the year, they live chiefly on the fleſh of buſtards, hares, ducks, and other wild animals, but chiefly on that of the rein-deer. They ſometimes uſe alſo a few vegetables, as the acetoſa Laponica, and Angelica ſativa. They are unacquainted with every kind of ſeaſoning to their food, except ſalt, which they uſe even in great quantities. When they can obtain bread, they are very fond of it, although it is not to be had from their own climate; but our author aſſerts that they do not, as ſome have alledged, uſe dried fiſh inſtead of it. For this ſimple food, the only drink with which they are provided is that of pure water.

It is has been maintained, that they are ſubject to habitual coſtiveneſs. Reſpecting this diſcharge, however, our author affirms that there is no

ſingularity.

ſingularity. He thinks that the quantity of urine which they diſcharge is in general large in proportion to what they drink. But he obſerves that it is conſiderably varied, being leaſt during the ſummer, when perſpiration is free. Concerning the ſtate of the menſes with females, he acknowledges that he could obtain no proper information. But he ſeems to entertain doubts reſpecting the aſſertion of Mr Linnaeus, that ſome of them menſtruate during the ſummer only.

The Laplanders in general, our author obſerves, are ſubject to very few diſeaſes. They are almoſt totally exempted from fevers, eruptive diſeaſes, leproſy, dropſy, lues venerea, apoplexy, epilepſy, and the like. And, when theſe diſeaſes do occur, they are very ſeldom dangerous. The deaths happening during infancy, however, are very numerous, in ſo much, that it is computed a half of the nation die before they be one year old. This, our author has little heſitation in aſcribing to the exceſſive cold to which infants are expoſed, as it is a practice with them, not only to hold infants naked in their hands, during the cold weather in the ſpring time, but, even at this age, immediately after taking them out of a warm bath, to plunge them in a river. They

imagine that, by theſe practices, peculiar ſtrength is added to the conſtitution; and, notwithſtanding the fatal effects which our author aſcribes to it, yet he admits that thoſe who are able to overcome ſuch trials may, by means of them, be rendered ſtronger.

The diſeaſes to which adults are chiefly ſubjected, are of the inflammatory and catarrhal kind, and he aſcribes them to the drinking large quantities of cold water. They are alſo ſometimes affected with colic, looſeneſs, headach, toothach, and the like. Yet, notwithſtanding that their diſeaſes be thus few in number, they are by no means accurate in diſtinguiſhing one from another.

After theſe remarks on the manners and diſeaſes of the Laplanders, our author concludes this treatiſe with ſome obſervations on their remedies. Theſe, he obſerves, are of equal ſimplicity with their diet, and may naturally be divided into two claſſes, thoſe, viz. taken from the vegetable, and thoſe from the animal kingdom. Among the vegetables which they employ, the firſt place is, he thinks, to be attributed to the angelica ſativa, as being the chief medicine which they uſe. They eat the root and ſtalk with a view of promoting the action of the ſtomach, and remo-

removing colic. It is very common alſo, both for the men and the women, to chew it in the ſame manner as tobacco. The leaves and flowers, before they be opened, are boiled in milk, and exhibited in this ſtate to patients labouring under catarrhal affections, internal inflammations, and diarrhoea. Concerning the uſe of this plant, however, our author remarks that, by miſtake, they frequently ſubſtitute for it a ſpecies of the Cicuta, the exhibition of which is attended with very fatal conſequences. A ſecond vegetable which they employ in medicine is the Sonchus Laponicus; it is uſed in the ſame caſes as the preceeding; but they have ſeldom recourſe to it, unleſs when the angelica is wanting. Another ſubſtance, which enters the medicine of the Laplanders is tobacco. They uſe the oil of it in caſes of ſpaſmodic colic, and the powder for promoting diſcharge from the noſtrils, and relieving headachs. Among the more violent medicines which they employ, may be ranked the berries of the Laureola; two, or, at moſt, three, of theſe they ſwallow entire, in caſes of inflammation, or ſuppuration of the oeſophagus. A medicine no leſs dangerous which they uſe is the Nux Vomica. The half of one of them they exhibit in water

or ſpirits to thoſe affected with colic. For the ſame affection they ſometimes alſo uſe the following cure: They boil a quantity of the bark of the willow in water for the ſpace of ſome hours; of this decoction the patient takes two pounds, and, afterwards, a conſiderable quantity of common ſalt. For the cure of dyſentery, they pour a quantity of cold water on the aſhes of the birch, and, after allowing it to ſtand for a day and a night, they give to patients about half a pound of the filtrated liquor every third hour. From the birch, alſo, they prepare their moxa, which is their great panacea for the cure of all pains. One, two, or three cones of this, are ſucceſſively burnt upon the affected part. Beſides theſe medicines, the plaſter which they apply againſt all wounds and ulcers, is likewiſe prepared from the tender bark of the birch. To excoriated feet, they apply a ſpecies of the lichen, which either cures their ſores, or, at leaſt, affords conſiderable relief from drying them. Our author, however, refuſes that they ever uſe the lichen internally, as ſome have alledged.

Among the medicines which they take from the animal kingdom, that which is in moſt frequent uſe is the gall of the bear, which they em-

ploy

ploy for anointing pained joints. They hold in high eſtimation caſtor, in its liquid ſtate, againſt all affections of the inteſtines; and they employ internally the fat of the tail of the beaver for promoting ſuppuration. They apply oil obtained from the cheeſe of the rein-deer held at the fire, againſt external inflammations of the breaſts, and different excoriations. The gall of the hawk or ſwan is their remedy againſt diſeaſes of the eyes. The yolk of eggs taken from the bodies of birds before they have obtained a ſhell, are alſo a frequent remedy with them againſt different affections. Viper's greaſe rubbed upon the breaſt is the cure which they employ againſt internal inflammations of that part; and the ſkin of the viper is celebrated as a purgative, about the ſize of a nail, in the form of a powder, being taken in water. Concerning different operations in ſurgery, which they have been ſaid to perform, as bleeding, cupping, ſcarification of the palpebrae, and of the uvula, our author could learn nothing. He makes mention, therefore, of two only; the careful extraction of the gordius when any part of this inſect appears through the ſkin, and the forcible drawing of the hair for the cure of headach.

VI.

Medical Memoirs of the General Diſpenſary in London, for part of the years 1773 *and* 1774. *By* John Coakley Lettſom, M. D. F. R. and A. S. S. *and Phyſician to the General Diſpenſary.* 8vo, London.

THE work before us is divided into ſeveral ſections. In the firſt of theſe, the author gives ſome obſervations on fevers with ſymptoms of putreſcency. Theſe he ſuppoſes to be produced from a determinate ſpecific ſource of human contagion. He declines the conſideration, whether miaſmata, a ſpontaneous putreſcency of the bile, or deſpondency of mind may alſo produce them. Reſpecting the cure, he obſerves, that delirium, dyſpnoea, with the pulſe even at 130 ſtrokes in the minute, provided it be diſtinct, are rendered as little tremendous as the common ſymptoms of an intermittent, by a method of treatment neither tedious nor unpleaſant. The remedies which he recommends, beſides good liquors, may be

be reduced to a very narrow compaſs. They are Peruvian bark and cold air. He adds, that it may appear neceſſary to evacuate putrid effuſions accumulated in the ſtomach and bowels, probably by an antimonial vomit; which, beſides its operation as an emetic, ſhould alſo be given in ſuch a manner, or with ſuch additions, as may procure as many ſtools as the patient can eaſily bear. But, where a patient has been previouſly much weakened, he thinks, that evacuation is not always neceſſary, or even ſafe; and, he obſerves, that the Peruvian bark itſelf generally proves laxative, either alone, or when joined with a mineral acid.

Immediately after evacuations, when they are neceſſary, he commences the exhibition of the Peruvian bark, without waiting either for remiſſions or intermiſſions. And he maintains, that a dry dark coloured tongue, a parched ſkin, urine without ſediment, delirium, dyſpnoea, and continued fever, which have deterred phyſicians from uſing the Peruvian bark, are the very reaſons for which he gives it thus early. He finds, that, in ſuch circumſtances, it is ſo far from having any bad effect, that it promotes a mild perſpiration, produces a ſediment in the urine, diminiſh-

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es the quickneſs of the pulſe, removes delirium, and effectually relieves the breathing. Theſe effects it produces by obviating the cauſe or cauſes which produce the fever.

Our author thinks, that, in a fever with urgent ſymptoms of putrefaction, two ounces of the Peruvian bark in a day is the leaſt quantity that can be depended on. He finds, however, that a ſtrong decoction ſits more eaſily on a patient's ſtomach, than the bark in ſubſtance; and that, by this means, it proves more effectual. His common formula is, to order three ounces of the powder to be boiled in a quart of water to ten ounces. This decoction is to be run through a courſe cloth, which will allow the fine powder of the bark to eſcape, and the whole of it is to be taken in 24 hours. In ſome caſes, he adds a dram of the elixir of vitriol, which, he thinks, proves laxative, prevents fermentation, and is probably antiſeptic. He next obſerves, that it ſhould be a general caution, that the patient have at leaſt one ſtool in the ſpace of 24 hours.

As to the ſecond remedy, cold air, Dr Lettſom remarks, that it is with him a general injunction to keep the patient out of bed, as Dr Dimſdale and others recommend in the ſmall pox; and that,

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where it is not convenient to take them abroad, he orders the windows and doors of the chamber to be kept open throughout the day; the patient being thus expoſed to a current of air. In confirmation of the utility of the practice here propoſed, the author relates fifty-one caſes of putrid fevers in which it was attended with remarkable ſucceſs. From ſeveral of theſe, he alſo deduces this concluſion, that children may even ſuck their mothers under the diſeaſe, without contracting the infection.

The ſecond ſection of this book contains ſpeculations on opium, with caſes and reflections. Here Dr Lettſom adopts the idea of Dr Cullen, that this medicine poſſeſſes a combination of ſtimulant and ſedative powers. Upon this ſuppoſition, he obſerves, that, as a ſedative, it may be uſed wherever there is an exceſs of excitement in the ſyſtem, as relating either to ſenſation or action. As it relates to ſenſation, it is to be uſed in caſes of pain, not the effect of increaſed impetus in the ſanguiferous ſyſtem, or of inflammation. He obſerves, however, that if the cauſe of the pain appear permanent, by increaſing irritability, it may augment the complaint it was given to remove. As it relates to action, it may be uſed when

when the excited action is in the ſenſorium, as in mania, provided the increaſed impetus of the blood, and determination to the brain be previouſly removed, by evacuation or diet. It may alſo be employed when the excitement is in the moving fibres, whether of proper muſcles or excretories, as in convulſions, ſpaſm, and increaſed excretions. It is, however, improper in theſe caſes, when fever, and increaſed action of the veſſels are preſent, or when there is any permanent ſtimulus.

As a ſtimulant, our author maintains, that it is indicated where-ever a ſtimulus is wanted, and where there is at the ſame time a ſmall degree of excitement in the ſyſtem; and that it is alſo indicated when we want to excite the ſanguiferous ſyſtem on the ſurface in producing ſweat. To obtain theſe effects, he adviſes, that it be given in ſmall doſes only. He thinks, however, that this medicine is improper in low fevers, on account of the atonia which ſucceeds its exhibition, eſpecially as wine is a more certain and permanent ſtimulus. He concludes this ſection, by relating ſome caſes in which opium was uſed.

The third ſection treats of that ſpecies of leproſy denominated by Sauvage ichtioſis, from its

its reſemblance to the ſcales of fiſh. In this obſtinate diſeaſe, Dr Lettſom has found the remedies moſt commonly recommended in cutaneous eruptions to be ineffectual. But he has obſerved very good effects from a decoction of the inner bark of the elm-tree. The uſe of this medicine he confirms by three caſes.

The fourth ſection is a defence of innoculation. In this, Dr Lettſom endeavours to obviate the great argument of its adverſaries, viz. that it appears from the London bills of mortality that more perſons have died of the ſmall-pox ſince the introduction of innoculation than before that period, which they aſcribe to the diſeaſe being more univerſally extended and propagated. Our author, however, aſſerts, that the increaſed number of deaths is not owing to the innoculation, but to a leſs reſerved intercourſe between the infected perſons, and the community at large, which has lately taken place during the treatment of the natural ſmall-pox. He contends, that, even leſs caution is then obſerved, than under innoculation, where public and private hoſpitals are erected, for the reception of the innoculated patients; moſt of theſe being ſituated at a diſtance from the metropolis. He adds, too, that the great number

ber of perſons who annually quit the country for a town-reſidence, muſt more frequently fall the victims of natural ſmall-pox than of innoculation.

In the fifth ſection, our author conſiders the method of treating the confluent ſmall-pox. In this diſeaſe, he has tried, without effect, the uſual method of relief by expoſure to air, Peruvian bark, and antiſeptics. He has now recourſe, with ſucceſs, to calomel, and ſtrong mercurial unctions. To theſe, however, he frequently adds different laxatives, acids, the Peruvian bark, and anodynes. He even thinks that mercury poſſeſſes the ſame antidotal quality to the variolous virus as it appears to do to the venereal; and he is confirmed in this opinion, from obſerving that it abates the inflammation of the arms after innoculation, and that the puſtules where the ointment is applied never ſuppurate, but ſoon die away.

The ſixth ſection contains remarks on the hooping cough. Here Dr Lettſom particularly conſiders the remedies generally uſed to obviate this diſeaſe, and then adds ſeveral caſes in confirmation of his own practice. As to bleeding, he does not think it generally applicable. But he allows that there are inſtances where children of a conſiderable

ſiderable degree of ſtrength and health have been attacked with the hooping cough, which has been early accompanied with fever, haemorrhagy, contraction of the extremities, pains in the breaſt, hard pulſe, and bloated face, indicating congeſtions in the veſſels. In theſe circumſtances, he admits that no reaſonable objection can be urged againſt veneſection, proportioned to the ſtrength of the patient, and the violence of the ſymptoms. To confirm the propriety of blood-letting in particular caſes, he gives an account of ſeveral diſſections, in which inflammations and ſuppurations were diſcovered. Vomiting he recommends, as it ſeems to be the natural cure; and, for this purpoſe, he prefers antimonials given in proportion to the quantity of the phlegm or mucus with which the patient ſeems to be loaded, and as the ſtrength of the ſyſtem will bear them. Bliſters are, he thinks, indicated by the ſame ſymptoms which require bleeding. As to the Peruvian bark, he obſerves, that experience has evinced its being inefficacious in numerous inſtances. But he maintains, that, when it is united with the paregoric elixir, and tincture of cantharides, it never fails in producing a cure of this alarming diſeaſe, if it be early exhibited, and proper evacuations,

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eſpecially by vomiting and purging, have been procured. For this practice, he acknowledges himſelf to be indebted to Mr Sutcliff an apothecary in the neighbourhood of Settle in Yorkſhire. With regard to the uſe of hemlock, he obſerves, that, notwithſtanding the avidity with which it was at firſt preſcribed, experience has proved its inutility; and that there are even no inſtances related by Dr Butter himſelf, the reſult of which was favourable to its reputation.

The ſeventh ſection contains miſcellaneous caſes. The four firſt are inſtances of the good effects of hemlock in cancerous and ſchirrous complaints. The fifth is a caſe of obſtinate headach, cured alſo by powder of hemlock. The ſixth is a tumour treated with ſaponaceous liniment. The ſeventh is an obſtinate palpitation of the heart, cured by white vitriol. The eighth is an inſtance of ſalivation brought on by watch gilding. The ninth, of tremors from the ſame cauſe. The tenth and eleventh are caſes of abſceſſes from infection, by means of wounds. In the two next articles, we have inſtances of the inefficacy of fixed air in gangrene, dyſentery, and phthiſis pulmonalis. The fourteenth article contains ſome diſſections of people who had died of pulmonary con-

conſumptions. And, in the fifteenth, we have ſome account of a deaf perſon, with whom it is poſſible to converſe with great facility by the motion of the lips.

In the eighth ſection of theſe memoirs, our author has given tables of the admiſſions, diſeaſes, and deaths, at the general diſpenſary, for the courſe of one year. And he concludes the work with a view of the formulae which are employed there.

SECT. II.

Medical Obſervations.

I.

The Hiſtory of a Caſe of the Rabies Canina; *by the late* Mr Archibald Bathie *Surgeon at Auchtermuchty, Fifeſhire. Communicated to Dr Hope.*

JAMES PATON, about fourteen years of age, ſervant to a farmer in the pariſh of Strathmiglo in the county of Fife, was, on the 18th of November 1774, bit by a ſtrange dog when he was herding in the field.

He was then in company with two of his fellow ſervants, who obſerved a ſmall ſheep-dog make up to the unfortunate lad, uſing the ordinary demonſtrations of tameneſs and affection, peculiar

ar to that ſpecies of animal in a ſtate of health. Far from exhibiting any appearance of madneſs, he deceived the boy by fawning upon him, and, without reluctance, eat bread, which he threw down to him. One of the men deſired the lad to tie a cord about the dog's neck, to ſecure him from running away, whilſt the other, ſuſpicious of hazard, by obſerving his eye very much inflamed and dull, called out to the boy to let him alone; but he was not attentive to this caution, and attempted to faſten the cord round the neck of the dog, in which act the dog turned, and bit the back of his right hand between the ſmall and ring-fingers, leaving behind the marks of two of his teeth, which bled freely. This dog inſtantly attacked another one belonging to the boy, which ſtood hard by him, and then ſet out to the weſtward. About four or five days after, he was overtaken in the pariſh of Orwell, and killed as a mad dog, by people who had not heard of this accident.

The young man's hand ſwelled conſiderably by the next day, and increaſed much the day following. At that time, the ſwelling, attended with an inconſiderable pain from the ſmall wounds upwards, reached to the ſhoulder. In this way, he

came to me the third day after he had been bitten, the ſores being filled up, and ſcabbed over. I was then informed only that the boy was bit by a dog which he had never ſeen before, and not until he had given provocation, by tying him; that the dog eat bread, and appeared tractable at firſt, none of the worſt circumſtances being related till afterwards. The fear which the boy or his friends was under, aroſe from the inſtant ſwelling of the arm after the bite, which might alſo have happened from wounds of the ſame depth on tendinous parts, from any other cauſe. To theſe favourable accounts, together with no rumour of madneſs prevailing among dogs in the country, it was judged moſt prudent not to alarm the boy with dreadful apprehenſions of danger upon an uncertain preſumption. Or, even had it been ſuppoſed that the dog was mad, the poiſon, by this time, was certainly too far advanced in the circulation to be extracted by opening the wounds, or overcome by medicine, without a tedious or troubleſome proceſs, which would not have been complied with, and which country-people are not liable to fall in with, till the laſt extremity.

It was therefore thought neceſſary only, to purge him with calomel, which was done four times, three days interveening betwixt each doſe. The parts affected were ordered to be fomented with emollient decoction, and the ſores to be kept open with baſilicon and precipitate, after removing the ſcabs. The ſwelling ſoon yielded to theſe means, and the little ſores would not, by the applications made to them, be prevented from cloſing in a ſhort time. I heard no more about the patient for near three months, when I was called to viſit him, after he had laboured three days under the ſymptoms of rabies canina.

I was informed that, during the period betwixt the bite and the 9th day of February 1775, on which day the poiſon began to manifeſt itſelf, he continued in his ordinary ſtate of health. He was obſerved to be rather melancholy and penſive on ſome occaſions, and ſhunned his uſual diverſions. This was imagined to be owing to the behaviour of his companions, who took a fooliſh ſatisfaction in teazing the poor boy with ſtories of people dying in various horrid ſhapes who had been bit by dogs.

On Thurſday the 9th February 1775, about eleven weeks after he was bit, he was attacked

with univerſal laſſitude, ſickneſs, loathing of food, and a ſlight headach. Theſe ſymptoms were, however, ſo little ſevere, that he found means to conceal them pretty well, and went about his day's employment with ſome difficulty.

10th, He ſtill hoped to overcome his complaints, and, as if ſuſpicious of the real cauſe, he had not reſolution to mention them to any body. He went, therefore, to drive the plough, and made a ſhift to follow the cattle to the field, but with much labour and fatigue. In ſpite of the uneaſineſs he laboured under, he drove a round or two, but ſo unactively, that his maſter reprehended him ſmartly for his lazineſs, not knowing he ailed any thing. The boy then ſat down, and complained of a pain between the ſhoulder and elbow of his right arm, a diſorder of his throat, and a headach. When he got home, he attempted to drink, but could not ſwallow liquid, from ſomething in his throat, which interrupted its paſſage. His diſappointment herein only created in him a ſtronger inclination to gratify his thirſt with a draught of cold water; he ſeemed melancholy at his ill-ſucceſs, often ſaying, he would be well again if he could ſwallow a drink.

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He walked alone that evening to the houſe of his parents, which is a mile from the place of his maſter's reſidence. This journey he performed with difficulty, being exceedingly fatigued and faintiſh when he got home. He was ſoon after ſeized with ſhivering, and complained greatly of the pain of his arm and throat. Being uſually fond of porridge, his mother made a few to warm him, of which he took four ſpoonfuls with difficulty, and then hung his head over the diſh, regretting as it were his inability to eat more. His arm now was chiefly the object of complaint, unleſs in the act of deglutition, when the contraction of the gullet overcame all his other feelings. It may be worth while to remark, that his mother, from his complaining ſo much of the pain in the arm, examined it, and obſerved that, between the ſhoulder-top, and down towards the elbow, the ſkin was of a yellowiſh hue, having both the appearance and feel of that of a dead perſon. He got very little reſt that night, his pains and anxiety ſtill continuing, with an incapacity to ſwallow liquids. He was conſtantly ſhifting from ſide to ſide, being in every poſture remarkably uneaſy, and often attempting to drink, without effect. In the ſame condition he continued all

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Saturday the 11th, rather worſe than better; and as, from repeated trials, he found it impoſſible to take a draught of any liquid out of a diſh, he aſked for a tea-ſpoon, endeavouring to ſatisfy his appetite from that ſmall vehicle. This experiment did not at all ſucceed to his wiſh; a few drops now and then found a paſſage, which only excited the more his deſire to ſwallow larger quantities; for, as ſoon as the liquid he ſipped out of the tea-ſpoon reached his fauces, it ſeemed at the peril of his life, he being, at each effort to ſwallow, threatened with inſtant ſuffocation.

Labouring under ſuch dread and apprehenſion of danger from drinking, he was thereby alſo deterred from trying to eat, ſuſpecting the entrance to his ſtomach to be entirely cloſed. In this deſperate ſituation he continued all Saturday. His caſe would have been ſtill more deplorable, if both the boy and his friends had not ſtill retained hopes that the diſorder of his throat was a common one, and not a ſymptom of rabies.

On the evening of Saturday, after a great deal of uneaſineſs from the pain of his arm, throat, and oppreſſion at his ſtomach, he was on a ſudden attacked with a feveriſh paroxyſm, or univerſal coldneſs and ſhivering, which was ſucceeded by a hot

a hot fit and ſweating. When this was completed, he felt no particular pain, that of his arm and throat being diffuſed over all his body. Then falling aſleep, he reſted for two hours.

About the middle of the night, he was ſeized with delirium, and ſtruck his mother who waited by him, imagining ſhe was ſome other perſon intending to do him miſchief. But, when ſhe reaſoned with him calmly, he became ſenſible of his miſtake, and expreſſed ſorrow for his behaviour. After this feveriſh attack, he generally ſeemed unconcerned, taking little or no notice of any perſon who came into the chamber, unleſs when he was ſpoken to. He had a timid look, was eaſily alarmed with noiſe, or the preſentation of luminous objects. He alſo had a ſubſultus tendinum, and raved much; but, when aſked queſtions relative to his health, he immediately appeared awake and collected, and gave diſtinct and ſenſible anſwers, returning ſoon into a reverie, as before, when permitted to be undiſturbed. Even to the concluſion of the ſcene, when he was carried to the ſummit of frenzy, as was the caſe before he expired, he had the power of ſummoning himſelf, and rationally anſwering queſtions all along with a diſtinct voice, ſuch as maniacs expreſs themſelves

ſelves in, but more or leſs impetuouſly, according to the degree of fury with which he was agitated when ſpoken to. At the appearance of a lighted candle, or a fire, he ſhrunk back in terror, calling out to remove them from his ſight. And when the bed-cloaths were adjuſted upon him, he always complained of being much hurt.

On Sunday the 12th I ſaw him for the firſt time, and learned all the circumſtances of this affecting caſe from his friends, who were ſtill willing to believe, that his diſeaſe was a fever and ſore throat of a particular ſort, though they were much impreſſed with fears from the bite, but ſhocked to expreſs them. I found him lying on his back rolling his eyes without intermiſſion; and he did not ſtir out of that poſition until I ſpoke to him. When I aſked how he did, he turned himſelf raſhly, having an anxious and timid look, with ſtarting of the muſcles of his face. He then called for a veſſel, ſat up on his knees and voided urine in a ſmall quantity, of a greeniſh colour, turning whitiſh when cold. Since the fever had begun, his inclination to diſcharge urine was frequent, and what was diſcharged, was always in colour and quantity as above noticed. There was a conſiderable heat and moiſture upon his ſkin,

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with a very white thin furr on his tongue, and he had a ſtrong inclination to drink. His pulſe was full, and beat about 125 or 130 in a minute. He complained of a pain of his head, and of oppreſſion or heat at his ſtomach, and that his throat was ſore, and grew ſtrait when he offered to drink. He had alſo an inclination to vomit, but was affraid to do ſo for the obſtruction in his throat. With all theſe ſymptoms of fever, and hydrophobia, the boy ſpoke to me ſenſibly, and in his ordinary tone of voice, as if his throat had been quite well. Two bluiſh marks remained where he had been bit; but the part was heal'd.

I propoſed to bleed him, at which he ſtarted up and held out his arm, adding, that he would do any thing I directed for his recovery. But, leſt his reſolution ſhould fail, or he might be troubleſome during the operation, I made him be held by an attendant, and then took away about a pound of blood without any diſturbance. There was nothing remarkable in the appearance of the blood, further, than that it was rather thick, long of ſeparating, the ſerum tending to viſcidity, and being greeniſh. The bed being in a dark corner, a candle was brought to ſhew light; it produced ter-

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ror in the patient, and made him ſo unhappy, that I ventured to perform the operation without it.

When he was bled, I wanted to ſee the effects from his ſwallowing liquid, and gave him a diſh with water wherein had been boiled a crumb of bread. Although he conſented readily to make the experiment, yet he took the diſh out of my hand with ſome reluctance and fear, and ſtarting in his face. He held it between his teeth for ſome time heſitating, whether he might venture to admit any of its contents into his mouth or not. At laſt he admitted ſome; but, as ſoon as it reached the fauces, he was thrown into a convulſion, let go the diſh, and ſtarting to his feet, he graſped his throat with both his hands, while his face was much fluſhed, and he continued as it were for a minute in a ſtate of ſuffocation, when the ſpaſm began to yield, and wore off gradually. He then lay down again, the ſpaſm of the gullet being ſucceeded by a quick involuntary action of the muſcles of his face, accompanied too with a convulſive motion of his whole cheſt, ſimilar to that in ſobbing, but in quicker paroxyſms, with a peculiar noiſe from the throat. In ſpite of this fruitleſs attempt to ſwallow liquid, his inclination to gratify

tify the inſatiable deſire for it, led him to try his accuſtomed experiment of drinking or gulping out of a tea ſpoon, whenever the effects of his laſt attempt wore over. He ſeemed to ſwallow a few drops in this manner with very great trouble and pain of his throat, ſtarting or drawing back of the muſcles of his face, and ſobbing, as happened from his former endeavours. Upon the ceſſation of the muſcular actions, I deſired him to make another trial of ſwallowing a drink, but I obſerved, that even the idea of this operation, ſo recent in his mind, and ſevere in its conſequences, produced ſpaſmodical affections upon the organs of deglutition, and other parts as before. The ſame ſymptoms were pretty remarkable when a drink was preſented to him, going off again very ſoon when the object was removed from his ſight, or the converſation changed.

As he had not eat any thing ſince Friday night, imagining it as impoſſible for him to ſwallow ſolids as liquids, I got him adviſed to eat a bit of bread, which he at firſt refuſed, ſaying, its paſſage at the throat would be interrupted, as had hitherto been the caſe with drink. He chewed a a morſel of dry bread, which with difficulty found its way over, and finding it practicable, he eat another

nother mouthful or two. Since he ſucceeded ſo well in ſwallowing dry bread, I gave him a piece ſoaked in water, this he rolled about in his mouth, and then ſpat it out, ſaying he could eat no more, and laid himſelf down for reſt.

To try whether the water in which the bread was ſoaked could be the cauſe of his refuſal, I propoſed another ſop in the ſame manner, which he ſwallowed with ſevere ſtraining, and muſcular action, as before. With perſuaſion he took another mouthful, which had the ſame effect, and then abſolutely refuſed to take any more. Whilſt I was preparing the ſecond ſpoonful, his mother aſked if I was mixing water in his bread, which the boy took notice of with change of colour; and with a ſort of horror refuſed to take it, till I told him it was a medicine to do him ſervice. After this taſk was concluded, he ſaid that he felt himſelf a great deal eaſier, and better by the cold bread, which relieved his breaſt; and he appeared contented with what he had done.

The hydrophobia being now ſo ſtrong, that although a medicine could have been contrived, capable either of deſtroying or expelling the poiſon, it could not poſſibly be introduced into the ſyſtem; nothing perhaps remained but to caution his attendants of their danger; and to recommend

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it to them to be watchful over his motions, on their own account. But his friends, anxious for relief, wiſhed ſomething ſtill to be tried, although there was no proſpect of ſucceſs. I gave him therefore a grain of Tartar Emetic, in one of the ſpoonfuls of ſoaked bread, with a view to eaſe the oppreſſion at his breaſt, by aſſiſting a propenſity which he had to throw up; and as nature ſeemed to favour a ſweat, from the moiſture over his ſkin, if the emetic tartar did not operate upwards or downwards, I thought it might promote the determination to the ſurface with ſafety. I alſo ordered emollient injections to be given every hour, and, to remove the ſpaſm, a bliſter was applied to his throat. The perſon appointed to adminiſter the glyſters declined that office through fear, ſo that nothing was done, after I left him, for his relief, except offering him now and then a bit of bread, which he ſometimes accepted of. About an hour after he got the tartar emetic, he vomited a great quantity of green viſcid matter, and, ſoon after that, had a looſe ſtool. But, inſtead of relief, he every minute increaſed in fury and madneſs, fancying, in his frenzy, that his friends and attendants were all conſpiring againſt his life. At laſt, he was exhauſted by ſtrong muſcular

muſcular exertions, in which he could ſcarcely be held in bed by three or four men. He to the laſt knew his friends when they ſpoke to him, raving and toſſing about when he had anſwered them. About eight o'clock in the evening, he turned ſuddenly quiet and motionleſs; he lay in this condition for little more than half an hour, and then expired without a ſtruggle.

When an uncle of his was offering him a bit of bread, a little before he grew quiet, he made a ſnatch and bit his thumb; but the man had luckily the prudence and reſolution to cut out the part that was bit, and ſo remains free from any apprehenſion of hazard.

II.

The hiſtory of a caſe of Locked Jaw, with uncommon ſymptoms, which terminated favourably, by Dr James Moodie, *Phyſician at Newry in Ireland.*

A Young lady, of a pretty full habit of body, and florid complexion, having, on the 11th of November 1773, gone to bed in her uſual health, found, when ſhe awoke next morning, a ſtiff-

a ſtiffneſs and pain extending from the ear down the ſide of her neck, and over the ſhoulder, towards the baſe of the ſcapula, which prevented her from turning round her head, or raiſing up her arm. It rather increaſed that day and the next; ſometimes ſhooting through her breaſt, and affecting her breathing like a ſtitch. At this time ſhe had ten ounces of blood drawn from the arm, but found no relief from it. The following day, being the 14th, ſhe continued as uſual, till the evening; when, after having drunk a cup of tea, ſitting up in bed, ſhe was ſeized with a compleat locked jaw. Thoſe around her finding her ſo ſuddenly become ſpeechleſs, thought her dying, and ſent for me.

When I arrived about an hour after, I received the above account from her attendants. She was quite ſenſible, moaned much, put her hand up to her lower jaw, and ſtrove to pull it down. Her pulſe was ſlow, full, and regular. The caſe was then clear. I attempted, with a ſmall ſpatula, to ſeparate the teeth; but, after uſing conſiderable force, I failed. The maſſeter muſcles felt hard, and painful. I ordered a bliſter to be immediately applied along the pained part of the ſhoulder and neck; and the ſtiffened maſſeter

muſcles, with the neighbouring parts, to be well rubbed with aether, and a fourth part of Thebaic tincture. The bliſter had a plentiful diſcharge; but the aether could not be procured, and therefore ſhe was not rubbed. She could ſuck in no liquid through her teeth that night, nor the next day, the 15th, till the evening, when ſhe was put into a warm bath, where ſhe continued half an hour; at which time ſhe ſucked in a good deal of weak tea. She was then rubbed dry, and put into warm blankets, where ſhe ſweated profuſely for two hours; during which time ſhe continued to take in a little drink. She ſlept a good deal during night, but was very reſtleſs and uneaſy in her ſleep. As ſhe could now ſuck in any fluid, I ordered her to get twenty drops of Thebaic tincture every three hours; and, having made no urine for thirty-ſix hours, and being much pained and ſwelled in the region of the bladder, I ordered fomentations with flannels out of warm water to be applied, and a clyſter of chicken-broath to be given. She paſſed a very little clear urine after this, but immediately rejected the glyſter. I ordered the warm bath to be repeated again this evening, the ſweating to be encouraged as before; and the glyſter to be tried immediately after

after the warm bath. When I viſited her the next morning, the 17th, I found that ſhe had ſlept a good deal in the night; that ſhe had paſſed a little urine with much pain; and that the ſwelling in the region of the bladder continued; that ſhe had ſweated freely after the warm bath; that ſhe had rejected the glyſter at night, but received one in the morning; and that the Thebaic tincture had been given regularly every three hours, except once, while ſhe was ſleeping. Beſides this, the aether being procured, ſhe had been well rubbed with it both at night and in the morning. I ordered her to be well rubbed a third time with it; and, immediately after, I made an attempt to open her jaws, and, with much leſs force than I had uſed in three or four former trials, I ſeparated them. They flew ſuddenly open, and came together again with ſome violence. The ſpatula was not withdrawn, and ſhe kept it between her teeth with her own hand, and could with it depreſs the lower jaw half an inch. As ſhe could then ſpeak, ſhe informed us, that the pain and ſtiffneſs in the neck continued, and that ſhe had been affected with a ſevere pain over the fore-part of her head, ſince the time that her jaw became locked. She complained of being ſick, and faint. Her pulſe, as

on the former days, was full, ſlow, and regular, though once or twice it was found rather quick and ſmall, but continued ſo for a very ſhort time only. She got for food panada, ſtrong chicken-broath, and beef-tea. The Thebaic tincture was continued, and the warm bath and glyſter ordered to be repeated morning and evening. On the 18th, I found ſhe had ſlept a good deal the preceeding night, had ſweated freely after the bath, and that her jaws ſtill continued a little open. The glyſters had procured a ſtool after each; but her urine ſtill continued in ſmall quantity. The Thebaic tincture, warm bath, and glyſters, were ordered to be repeated as before. On the 19th, ſhe complained more of her head, had ſlept little in the night, and threw up whatever drink ſhe took; and ſhe had a conſtant nauſea. She had ſweated, as uſual, after the bath, and had a ſtool after the glyſter, and made rather more urine. Her jaws were ſtill very ſtiff. I ordered her three grains of opium in two pills, to be taken at bed-time, and the ſame quantity in the morning, and two ſpoonfuls every two hours of the following mixture:

℞. Moſch.

℞. Moſch. puriſſ. Scrupulum, Sacch. Albiſſim. Dr. duas; conterantur ſimul, ſenſim affundendo mixturam ſequentem, Sal. abſinth. (cum ſucc. limon. ſaturat.) ſeſquidrachmam, aq. menth. vulg. ſimp. aq. cinnam. ſimp. ana unc. tres, tinct. Thebaic. gutt. ſexaginta.

At my viſit on the 20th, I found that ſhe had vomited none ſince ſhe took the ſecond doſe of the mixture, but reſted none in the night. Her pain was very violent over the whole head. She was very thirſty, and could open her jaws more than hitherto, but with much pain. She had a ſtool by a glyſter, and ſweated after the bath as uſual. The mixture, warm bath, and opium, in the doſe of three grains night and morning, were ordered to be continued as before.

Next day I was informed ſhe ſlept none in the night, and that her headach was very violent. The vomiting had returned, and ſtill continued. She threw up the mixture always, except once, when in the warm bath. Suſpecting that the opium occaſioned the wachfulneſs, I ordered it to be omitted, eſpecially as the jaws were pretty free, though very painful, when moved. She remarked

to me, that, every time, during the night, when a candle came in her ſight, it appeared double to her. Other objects, however, did not always appear ſo, though ſometimes her eyes were remarkably large and protruded; and it was always obſervable, that the pupils of them were uncommonly large, but not more ſo now than formerly.

I ordered the warm bath to be continued, and alſo the ſaline mixture with muſk.

On the 22d, I found that ſhe had ſlept none in the night, and that her headach was increaſed to perfect diſtraction. She had taken no opium for twenty-four hours, except what was in the ſaline mixture. Her vomiting continued when ſhe took any drink, and at all times a nauſea. She had a natural ſtool in the night, for the firſt time ſince ſhe grew ill, and her urine was in greater quantity, and diſcharged with leſs pain. She ſweated after the bath moſt profuſely for two hours. I ordered her a vomit of ipecacuanha to be taken in the evening, and deſired her to omit the bath, but to continue the ſaline mixture with muſk.

The vomit operated well, but neither relieved her head, nor abated the nauſea and vomiting.

She

She ſlept none in the night. She did not obſerve the double viſion for twenty-four hours. I then directed that her head ſhould be ſhaved, and a large bliſter applied over the whole of it.

The bliſter was applied at three o'clock on the evening of the 24th, and all the ſymptoms continued, as uſual, till about twelve hours after, when it was obſerved to have diſcharged a great quantity. It was taken off, wiped, and applied again with clean bandages; after which ſhe ſlept very compoſedly for two or three hours, and, when ſhe awoke, found the pain of her head much abated. At two o'clock, when I ſaw her, having ſlept a little more in the morning, ſhe found herſelf ſtill better, the nauſea gone, and a thirſt, which ſhe complained of, abated. Her menſes appeared that evening, which was the time when they were expected, as ſhe had in that reſpect been very regular for two years before. I ordered the bliſter to be kept on for ſome time longer; and, for a ſtrangury, which was troubleſome, a turpentine glyſter. During the courſe of the day, ſhe took a little food.

On the 25th, I found that ſhe had ſlept a good deal during the preceeding night, and that the

pain in her head was much leſſened, without return of the nauſea. Her ſtrangury was gone. She had a natural ſtool, and her pulſe, as at every other time of the diſeaſe, was remarkably full, ſlow, and regular, with very little variation. A great diſcharge continued from the bliſter. From that time, till the firſt of December, ſhe continued to grow better; when the pain of her head being gone, the bliſter was removed, and the part allowed to heal. Her appetite returned very ſlowly. Her jaws, though ſhe could open them pretty well, were ſo ſore, that ſhe could chew no ſolid food.

Soon after this, ſhe began to walk about the houſe, and continued gradually to recover, though the ſoreneſs of her jaws, upon motion, remained for a conſiderable time. Since this ſevere illneſs, ſhe has remained a twelve-month without any return of theſe complaints, and enjoyed tolerable health.

III. *The*

III.

The Hiſtory of an anomalous tumour on the eye-brow of a Child of fifteen months old, extirpated by Mr James Hill, *Surgeon in Dumfries.*

ON the fifteenth of Auguſt 1769, a girl fifteen months old, was brought to me for advice reſpecting a tumour on her eye-brow. The mother informed me, that it firſt appeared in the ſhape of a red pimple no larger than a pin's head, when the child was about two months old. And that it increaſed as ſhe grew. But another woman, who alſo attended the child, ſaid it was there when ſhe was born. When I ſaw this tumour, it was of an oblong ſhape, of a conſiderable ſize, and preſſed ſo much upon the eye-lid as nearly to ſhut it.

The mother was very anxious to have it removed, and urged, that if it were allowed to proceed any further, it would render her child altogether blind, or perhaps, produce even worſe conſequences. In ſhort, ſhe was ſo importunate,

that

that ſhe prevailed on me to attempt extirpating it, though with a good deal of reluctance.

On the top of the tumour, there was a red part like a ſtrawberry, but not ſo rough. From this, as a center, a great many blood-veſſels ſhot out in all directions reſembling a ſtar. This occaſioned redneſs for ſome diſtance round; but the reſt of the tumour was not ſo much diſcoloured. It was moveable like ſome of the encyſted tumours, and felt much like one of the fatty kind; from which circumſtances, I was ſomewhat encouraged to attempt the removal of it.

A thread was run through it, by which I pulled it upwards. But the firſt touch of the inſtrument ſhewed me, that it was a bundle of blood-veſſels, which ſprung ſo briſkly, that I was obliged to hurry it off, and found great difficulty in ſtemming the ſtream. Pledgets dipt in tincture of myrrh were applied to it, and frequently renewed. This was the only method I could take to ſtop the bleeding; for the diſcharge was ſo quick as rendered it impoſſible for me to tie the veſſels. Beſides this, the bottom of the tumour was ſo exactly on the edge of the orbit, that the ſmalleſt motion turned the dreſſings either too far up, or preſſed them down on the eye-ball; ſo that frequently,

quently, when I thought all ſecure, I had the mortification to ſee the blood burſt out at one ſide or another. My aim, however, was at laſt accompliſhed by long and ſteady compreſſion.

No means were uſed to remove the dreſſings; but they came off in about forty hours. I had then an opportunity of viewing circumſtances more deliberately, and was ſorry to ſee, that, though the inciſion was begun within a ſtraw-breadth of the eye-laſh, yet part of the tumour which was within the ſocket was left behind. In this, the large red arteries and blue veins made a very ſingular appearance, reſembling net-work, in a kind of whitiſh tranſparent jelly. As I durſt not attempt any more cutting, two threads of cotton were drawn in by a crooked needle, below the bottom of that part of the tumour which remained; and were left as a ſeton-cord to conſume it gradually. Red precipitate and burnt alum were tried ſeparately with the ſame view. But they gave ſo much pain, that the infant could bear neither of them. The cord, however, in a few weeks, cut its way through, and deſtroyed the remainder of the tumour ſo fully, that ſlight dreſſings ſoon completed the cure.

IV. *The*

IV.

The Hiſtory of a caſe in which violent Convulſions were induced by Surprize and Grief. *By* Mr John Smith, *Surgeon in Uppingham, Rutlandſhire.*

ON the 18th of January 1772, Mr F——, a man aged forty, of a remarkably fat groſs habit of body, one of the domeſtics of the right Honourable Lord Carbery, upon going into the room of a fellow ſervant whom he had left in his uſual health about twenty minutes before, and finding him dead, gave three or four loud ſcreams, which brought the other people of the houſe to his aſſiſtance. They found him affected with univerſal coldneſs and ſhivering, and inſtantly carried him from the apartment of the dead perſon to his own. Before his cloaths could be got off, ſo that he might be put to bed, he was ſeized with ſtrong convulſions, which continued for a quarter of an hour, during all which time, four men were hardly able to hold him. He foamed

foamed at the mouth, and had a copious diſcharge of ſaliva. His tongue gradually ſwelled to ſuch a ſize, that it was impoſſible to introduce a tea-ſpoon into his mouth; and, at the ſame time, it became of a dark black colour. His face and neck were alſo much ſwelled. Upon the firſt alarm, I was ſent for. But, before I ſaw him, he was put to bed, and had been blooded to about eight ounces. Attempts had alſo been made to make him ſwallow ſome volatile ſpirits and white wine whey; but none had been got down. When I came, I found his tongue much ſwelled, of a black colour, and hanging from his mouth. He could ſpeak none. His pulſe was full, and pretty regular. His eyes were ſhut, and upon lifting up the eye-lids, the veſſels appeared to be remarkably full. There was a great degree of palpitation at his heart, and a kind of convulſive motion all over his abdomen.

In this ſituation, I had him raiſed up in bed, and the doors and windows opened. But, about ten minutes after my arrival, he was ſeized with a ſtrong convulſion fit, during which four or five people could ſcarcely keep him in bed. After it had ſomewhat ſubſided, getting his hand ſtretched out by an aſſiſtant upon the bed, I opened the

vena

vena cephalica policis, and took away about ſixteen ounces of blood, by a large orifice. Even during the operation, he breathed more eaſily, and his tongue diminiſhed in ſize. I then put two or three ſpoonfuls of white-wine whey, with the addition of a tea-ſpoonful of ſpiritus volatilis foetidus, into a tin inſtrument, ſuch as is uſed in forcing medicines down the throats of children. I preſſed down his tongue with a tea-ſpoon, and then introduced into his mouth the pipe of the tin inſtrument, and poured its contents down his throat. Immediately after this, I injected a ſtrong cathartic glyſter, which procured him three ſtools in four hours. But all of them came away without his being in any degree ſenſible of them. During theſe four hours, he was continually convulſed in ſome one part of his body or other. I then applied a bliſter between his ſhoulders, and ordered his aſſiſtants to get down as much of the white-wine whey as poſſible, in the manner I had done before. About four o'clock in the afternoon, one of his attendants came to me, and told me that he was dying in one of his fits. When I came to him, he had indeed every ſymptom that would ſeem to indicate approaching death. As the room was as cool and airy as poſſible, I made

him

him be taken out of bed, wrapped in blankets, and ſeated in a chair oppoſite to the window. I then removed the bandage from his wriſt, and took away about twelve ounces more blood. I afterwards poured down ſome more whey, with the ſpiritus volatilis foetidus, and I applied two bliſters to the calves of his legs.

About ten o'clock at night, I found him quiet, rather inclining to ſleep, his pulſe calm and depreſſed, and his tongue within his mouth, though ſtill ſwelled and black. I then aſked him where his complaint was, upon which he laid his hand upon his ſtomach. On this, I gave him three grains of emetic tartar in a cupful of chamomile-tea, which he ſwallowed voluntarily. In half an hour, it excited vomiting, and he diſcharged a conſiderable quantity of phlegm and undigeſted victuals. After theſe appearances, I ordered his aſſiſtants to give him a tea-cupful of the infuſion of chamomile, as often as he could take it, till his ſtomach was unloaded. About twelve at night, I went to his room, and found him aſleep. His attendants told me, that they had given him two cupfuls of chamomile-tea, which he had not vomited, but that he had had two ſtools; the laſt while he was aſleep; and that they found

it

it impoſſible to keep him awake. I ſtaid by him till he awaked; he ſtarted, but no other ſymptom of fit appeared. I then left him, with orders that, upon any other ſymptom of fit, the whey, with the drops, ſhould be repeated.

The day following, at nine in the morning, his pulſe was regular and free, his tongue was reduced to nearly its uſual ſize, but was ſtill of a black colour. He was free from any convulſive motions upon the abdomen, or palpitation. In the morning, he had ſlept comfortably for four hours, and awaked without ſtarting. He ſeemed, however, to be ſtill indiſtinct, and did not complain of the pain of his bliſters. I only ordered, that he ſhould drink freely of barley water, with a proportion of nitre; and, in caſe of any ſymptoms of fits, that the drops ſhould be repeated.

When I viſited him on the 15th, I found that he had been tolerably eaſy during the preceeding day and night. But that he had complained once or twice of a ſhivering. This the attendants ſuſpected to be a ſymptom of a returning fit, and they accordingly repeated his drops, ſoon after which the ſhivering left him. His belly continued open, and his bliſters diſcharged freely. I ordered

ordered nothing but a gargle compoſed of a decoction of ſage, melroſe, and lemon-juice.

On the 16th, he continued to recover, and had no particular bad ſymptom. I then indulged him with a more liberal diet, and the uſe of wine. And I learned from him that he had never before been affected with fits, and that he could recollect nothing that happened from the time of his having firſt ſeen his fellow-ſervant lying dead, till the evening of the 14th, which was the day following.

By the 20th of the month, he was in every reſpect in perfect health. But he ſtill complained of weakneſs, and had frequent ſighings, which he aſcribed to the loſs of his fellow-ſervant. As he was of a remarkably groſs habit of body, I ordered the ſize of a crown-piece to be kept open in the bliſter between his ſhoulders, till two iſſues, which I at that time put in his arm, ſhould have effect. Theſe ſoon diſcharged freely; his back was then healed, and he continued free from any return of his complaints.

SECT. III.

Medical News.

MR CRUIKSHANK of London, in a letter to Dr Duncan, gives the following account of Mr John Hunter's opinion of the puerperal fever:

"Mr Hunter, in ſome lectures which he read at his own houſe laſt winter, among other things, treated of the inflammation of cavities. He told his pupils, that he wiſhed to impreſs them with horror at the thought of expoſing any large cavity in the animal body. He affirms that, when any ſuch cavity is laid open, it begins ſoon after to inflame; that this inflammation, for the moſt part, ſpreads over the whole cavity, and terminates in ſuppuration, granulation, and an obliteration of the

the cavity. He admits that, ſometimes after the whole of a cavity has inflamed, the ſides may unite by what he calls the adheſive inflammation, without going on to ſuppuration or granulation. Of this, there are inſtances in the caſe of the tunica vaginalis propria teſtis, when the operation for the radical cure of the hydrocele is performed. Even parts of cavities may, he thinks, unite alſo in this manner, at the beginning of inflammation, and prevent the inflammation from ſpreading over the whole cavity. By this means, in caſes of the operation above alluded to, the ſurgeon will ſometimes be diſappointed in endeavouring to bring about a radical cure.

Mr Hunter thinks that, when the inflammation of a cavity terminates in adheſion merely, the danger is leſs than when it terminates in ſuppuration and granulation. And if the cavity be ſmall, and of little importance, the danger may ſometimes be very inconſiderable. More frequently, however, while cavities are going thro' the different ſtages of inflammation, ſuppuration, and granulation, the irritation thus induced on the ſyſtem is great enough to deſtroy the patient.

As an example of the inflammation of an internal cavity deſtroying a patient in this manner, Mr Hunter points out the inflammation of the peritoneum after labour; a circumſtance which, he maintains, frequently proves fatal to lying-in-women. This diſeaſe has commonly been called puerperal fever. But Mr Hunter thinks that it may more properly be denominated inflammation of the peritoneum, becauſe he finds the peritoneum to be only, or principally affected. He affirms, that the ſubſtance of the uterus, the abdominal viſcera, and the muſcular and villous coats of the inteſtines, in general, remain ſound. And when the inflammation does paſs to theſe, he thinks that it is from conſent with the peritoneum, the inflammation always beginning in that part.

" Mr Hunter does not refuſe that lying-in-women may have fevers peculiar to themſelves, and that ſuch fevers may kill. But he is convinced, from what he has ſeen on diſſection, that the diſeaſe moſt frequently fatal to them is merely an inflammation; and that the febrile ſymptoms are like thoſe after the amputation of a limb, owing to an injury done to a particular part, and not to any ſpecific diſeaſe.

This

This inflammation of the peritoneum is not, he thinks, peculiar to women. He has often ſeen it take place in men after the operation of the paracenteſis, for the dropſy of the abdomen. In ſuch caſes, the diſeaſe had the ſame conſequence, as well as the ſame cauſe, as in women.

" The cauſe he believes to be an injury done to the peritoneum, as forming a cavity. By ſuch cauſes, its preſent ſtate is either ſuddenly changed, or it is rendered imperfect. The injury done to the peritoneum, in the caſe of women after delivery, he aſcribes to two cauſes. Sometimes it proceeds from want of diſpoſition in the womb to recover itſelf after labour. By this means, the peritoneum, as a cavity, muſt neceſſarily be affected. At other times, it proceeds from the too ſudden emptying of the abdomen. By this means, the peritoneum will not always recover itſelf ſo as to be properly adapted to its new ſtate. This laſt cauſe may alſo hold with men after the operation of the paracenteſis. But, in them, beſides the ſudden emptying of the abdomen, there is the additional circumſtance of a wound, which renders the peritoneum, as a cavity, imperfect.

"The circumſtances mentioned above, have, he thinks, the ſame effect on cavities in animal bodies, as if theſe cavities were laid open, or as if they were ſtimulated internally, by ſome extraneous matter. They muſt inflame; and if that inflammation cannot terminate in adheſion, they muſt ſuppurate, granulate, and endeavour to adhere, in the ſecond method.

"The inflammation of the peritoneum ſometimes terminates in conſequence of an adheſion taking place between the ſides of the parts firſt inflamed. In theſe caſes, the progreſs of the inflammation is prevented, and the reſt of the cavity is ſecured. But, along the adhering parts, there are intermediate ſpaces, which, from want of vicinity, cannot adhere. Theſe go on to ſuppurate, and the abſceſs leads outwards to the ſkin. As a proof of this, Mr Hunter has opened abſceſſes in the groins of women, a ſhort time after delivery, which had begun with all the ſymptoms of puerperal fever. But, on opening the abſceſſes, theſe ſymptoms diſappeared, and the patients recovered.

"When, however, an inflammation of the peritoneum occurs, it moſt frequently happens, that it ſpreads over all the cavity of the abdomen. There

There takes place an extravaſation of fluids into that cavity, mixed with pus. The different viſcera adhere by their peritoneal coats. The inteſtines are diſtended with air. And the irritation thus induced, kills the patient long before granulations, or an obliteration of the cavity in the ſecond method can take place.

* * * * *

The ſame ingenious gentleman, whoſe opinion we have given above reſpecting the inflammation of the peritoneum, delivered alſo to his pupils many curious and intereſting obſervations reſpecting the inflammation of veins. With an account of theſe we propoſe to preſent our readers in a future number. We formerly gave a ſhort view of his opinion reſpecting the blood's being poſſeſſed of the living principle. We are now informed that he is every day more ſatisfied of its being well founded. Among other particulars, the following circumſtance has ſerved to confirm him in it. A man was brought into St George's Hoſpital for a ſimple fracture of the os humeri, and died about a month after the accident. As the bones had not united, Mr Hunter injected the arm after death. He found that

the cavity between the extremities of the bones was filled up with blood which had coagulated. This blood was become vaſcular; in ſome places it was very much ſo. He does not maintain that all coagulated blood becomes vaſcular; and indeed the reaſon is obvious: For it is often thrown out and coagulated in parts, where its becoming vaſcular could anſwer no end in the ſyſtem, as, for example, in the cavities of aneuriſmal ſacs. If it be ſuppoſed, that, in ſuch caſes as the preſent, the veſſels are not formed in the coagulum, but come from the neighbouring arteries, ſtill, he thinks, it is equally an argument that the blood is alive. For the ſubſtance into which veſſels ſhoot muſt be ſo. The very idea, that ſuch a quantity of dead matter as the whole maſs of blood, circulates in a living body, to him ſeems abſurd.

* * * * *

Mr de Buffon, in an advertiſement prefixed to the third volume of his hiſtory of birds, informs the public, that the ſtate of his health and other circumſtances having put it out of his power to execute his intentions, he has entruſted this part of his work to Mr Gueneau de Montbeillard, in-

to

to whoſe hands he has put all his own obſervations; and accordingly, we find, that the greateſt part of this third volume is the work of that gentleman. In this advertiſement, Mr Buffon expreſſes his obligations to that intrepid and indefatigable philoſopher, Mr Bruce of Kinnaird, in the following terms. 'A new aid which I have received, and which I am anxious to announce to the public, is the free and generous communication which I had of the drawings and obſervations of James Bruce, Eſq; of Kinnaird, who returning from Numidia, and the interior parts of Abyſſinia, ſtopt in my houſe for ſeveral days, and made me a partaker of the knowledge which he had acquired, in a tour no leſs fatiguing than hazardous. It filled me with the utmoſt aſtoniſhment to view the numerous drawings which he had made and coloured himſelf. He poſſeſſes the moſt perfect repreſentations and deſcriptions of the birds, fiſhes, plants, edifices, monuments, dreſs, arms, &c. of different nations, all of them objects worthy of knowledge. Nothing has eſcaped his curioſity, and his talents have been proportioned to it. The Engliſh government will without doubt take proper meaſures for the publication of his work. That reſpectable nation,

tion, which has given a lead to all others in diſcoveries of every kind, will not fail to add to its glory, by ſpeedily communicating to the world at large, thoſe of this excellent traveller, who, not contented with accurate deſcriptions of nature, has made many important obſervations on the culture of different kinds of grains, on the navigation of the Red ſea, on the courſe of the Nile, from its mouth to its ſource, which he has been the firſt to diſcover, and on different particulars which may be of the higheſt utility to commerce and agriculture, thoſe great arts which are but little known and ill cultivated. Yet, on theſe alone, the ſuperiority of one nation over another does depend, and for ever will depend.

* * * * *

Dr Garden of Charles-town, ſouth Carolina, in a letter to Dr Hope, gives the following account of the uſe of the aſhes of tobacco, in the cure of dropſy.

"Here we uſe with ſurpriſingly great efficacy, in dropſical caſes, the alkaline fixed ſalt of tobacco. It is given from the quantity of half a dram to a whole dram, twice a day, in as little liquid as poſſible. During its operation, alſo,

ſo, the patient is enjoned to uſe very little liquid and much exerciſe. This remedy proves deobſtruent, diuretic, and purgative, and does make very great cures. After it, however, I generally give purges of rhubarb and ſal. martis every ſecond or third day, according to circumſtances. Beſides this, I ſometimes uſe a ſtrong decoction of the radix Scillae, with ſome ſyrupus ſcilliticus, and two, three, or four grains of kermes mineral or tartar emetic. Theſe I find a moſt efficacious purgative and diuretic. I have often uſed the tinctura cupri, ſometimes with aſtoniſhing ſucceſs, but frequently without the leaſt obſervable effect.

The cream of tartar, in ſmall doſes, is a favourite medicine of mine in bilious complaints. I wiſh you would try ſmall dozes of it in your nervous fever, ſo as to keep the belly mildly open, now and then giving a pill of three grains of ipecacuanha to clear off the ſaburra of the ſtomach. I have often given theſe with good effect, forbidding the uſe of wine till the firſt and ſecond ſtages of the diſeaſe were over. The ſtomach and bowels ſeem to be chiefly affected at firſt in the nervous fever. This indiſpoſition of the ſtomach and hollow viſcera, is not the effect but the cauſe, of much

much of the affection of the nerves. Time and farther experience will ſhew whether I reaſon right.

* * * * *

Dr James Saunders, phyſician at Banff, in a letter to Dr Duncan, gives the following account of a trial which he made of the remedy prepared by Mr Hill of Ormskirk, which has been ſo much celebrated againſt the bite of a mad dog.

"In the month of May 1774, a mad dog got into a farm in this neighbourhood, and bit ſome cattle and ſheep. Some of them went mad, upon which, every animal which was believed to be bit by the dog, was killed. But ſome weeks after, a cat about this farm houſe, ſuddenly fixed on the naked arm of one of the ſervant maids, and immediately thereafter, bit the miſtreſs of the houſe through a courſe ſtocking. After biting the women, ſhe fell to tearing every thing about her, and was killed on the ſuſpicion of madneſs. The people were much alarmed, and aſked my advice. Some gentlemen were at that time with me, who were zealous advocates for Mr Hill's medicine. Accordingly, the perſons who were bit got next morning ſome doſes of it, which were

were taken agreeably to the printed directions. The wounds healed ſoon, and both patients were in their own minds perfectly ſecure. But, in the end of November laſt, the maid ſervant was ſeized with a pain in the hand which had been bit. This pain ſoon extended to the arm; and next day a hydrophobia came on; and ſhe died in two or three days thereafter, with every ſymptom of canine madneſs. The miſtreſs ſtill continues well, although her mind has been much diſturbed with a dread of the diſeaſe."

* * * * *

An Engliſh gentleman of experience and candour, who has travelled through Arabia Petrea, gives the following account of a method of curing the ſtone in the bladder, which he has frequently ſeen performed with never failing ſucceſs.

"On the coaſt of Arabia Petrea, beyond the mountains of Sohar, in the dominions of Muſcat, they have an effectual remedy for the ſtone in the bladder. By means of a catheter, they inject into the bladder a weak lee of alkali or aſhes, with the purified fat of a ſheep's tail, and a proper quantity of opium all compounded together. This never fails to diſſolve the ſtone, a complaint

to

to which the inhabitants of theſe parts are very ſubject. Their catheters are made of gold, and, in the performing of this operation, they are introduced quite into the bladder; ſo that the compoſition is ſafely conveyed to the ſtone, without injuring any other part. When a ſtone is ſituated in the kidney, this remedy is inadmiſſible, and they have no cure for it.

* * * * *

A practical treatiſe on midwifery, by Mr Alexander Hamilton, ſurgeon in Edinburgh, intended to afford a conciſe view of the moſt eſſential rules of that art, has been in the preſs for ſome time, and will probably be publiſhed in the beginning of winter.

SECT.

SECT. IV.

List of New Books.

PHiloſophical tranſactions, giving ſome account of the preſent undertakings, ſtudies, and labours, of the ingenious, in many conſiderable parts of the world. Vol. LXV. Part. 1ſt. 4to, London.

Obſervations on the abuſe of medicine. By Thomas Withers, M. D. 8vo, London.

Some thoughts on the nature of fevers; on the cauſes of their becoming ſo frequently mortal; and on the means to prevent it. 8vo, London.

An eſſay on Bath-waters. Vol. II. By William Falconer, M. D. 8vo, London.

An Eſſay on the peſtilential fever of Sydenham, commonly called the goal, hoſpital, ſhip, and camp-fever. By William Grant, M. D. 8vo, London.

A trea-

A treatiſe of a cataract, its nature, ſpecies, cauſes, and ſymptoms, &c. By George Chandler. 8vo, London.

An illuſtration of the ſexual ſyſtem of the genera plantarum of Linnaeus. By John Miller, Folio, London.

Infancy, a poem; book the ſecond. By Hugh Downman, M. D. 4to, London.

Experiments, reſearches, and obſervations, on the vitrous ſpar, or ſparry fluor; tranſlated into Engliſh from the French of M. Boullanger. 8vo, London.

The uſe and abuſe of ſea-water, impartially conſidered and exemplified, in ſeveral caſes, with obſervations. By Robert White, M. D. 8vo, London.

Elements of anatomy, and the animal oeconomy; from the French of M. Perſon. Corrected, and conſiderably augmented with notes. By Samuel Foart Simmons. 8vo, London.

Principes d' inſtitution, ou la maniere d'elever les enfants des deux ſexes, par rapport au corps, a l' eſprit, et au coeur. 12mo, Paris.

Eſſai ſur les Eaux Thermales de Balaruc, ou l' on aſſigne leurs vertus, la maniere dont on les emploie, les preparations neceſſaries avant leur uſages,

uſages, et les maladies auxquelles elles ſont utiles. 8vo, Montpellier.

Diſſertatio academica de Cancro, quam duplici premio donavit illuſtris academia ſcientiarum, humaniorum literarum, et artium Lugdunenſis, in conventu publice habito, die octavo Decembris anno 1675. Auctore Ber. Peyrilhe Doctore medico Toloſano, e regio chirurgorum Pariſienſium collegio academiae ſcientiarum, inſcriptionum, et humaniorum literarum Toloſonae, et ſcientiarum Monſpelienſis ſocio. 12mo, Paris.

Hiſtoire des maladies internes. Par M. Raymond de Vieuſſens, &c. ouvrage poſthume auquel on ajoute la Neurographie, et la traité des vaiſſeaux du meme auteur. Quatre volumes, 4to, Toulouſe.

Abrégé elementaire de botanique à l' uſage de l'ecole de botanique de Lille. 8vo, Lille.

Diſſertatio medico de uſu et abuſu inſtrumentorum in arte obſtetricia, auctore Claudio Hilario Laurent. 4to, Straſburg.

Memoires de l' académie royale de chirurgie. Tome V. 4to, Paris.

Memoires ſur le danger des cauſtiques pour la cure radicale des hernies. Par M. Bordenave. 12mo, Paris.

Davidis M'Bride, M. D. Introductio methodica in theoriam et praxin medicinae, ex Anglica lingua in Latinam convertit Joh. Fredericus Cloſſius, A. L. M. Phil. et Med. D. Societati Harlemenſi adſcriptus. 2 vols. 8vo, Utrecht.

Huiſlyke Geneeſkunde, &c. in het Engleſch beſchreeven door William Buchan, Led van het Koninglyk geneeſkundig Genootſchap te Edinburgh, i.e. Domeſtic medicine. By William Buchan, M. D. Tranſlated by J. Lyklama a Nyholt, J. U. and M. D. 8vo, Utrecht.

Diſſertationes medicae quas ex auctoritate reverendi admodum viri Gulielmi Robertſon, SS. T. P. Academiae Edinburgenae Praefecti; nec non ampliſſimi ſenatus academici conſenſu, et nobiliſſimae facultatis medicae decreto, pro gradu doctoratus, ſummiſque in medicina honoribus et privilegiis rite et legitime conſequendis, eruditorum examini ſubjecerunt, Prid. Id. Jun. 1775,

Joannes Hunter, Scoto-Britannus; de hominum varietatibus et harum cauſis.

Ricardus Denniſon, Anglo-Britannus; Arterias omnes et venarum partem irritabilitate praeditas eſſe.

Ri-

Ricardus Scot Byam, Anteguenſis, De Adminiſtratione Antiphlogiſtica.

Thomas Dale, Carolinenſis Meridionalis; De Eryſipelate.

Robertus Peronneau, Carolinenſis Meridionalis; De Menſtruorum profluvio immodico.

Johannes Ludovicus Manget, Civis Reipublicae Genevenſis; De Digeſtione.

Gulielmus Gottlob Lilie, Holſato-Germannus; De Plumbi Virtutibus Medicis.

Gulielmus Mackinen Frazer, Anteguenſis; De Sanguinis Detractione.

Andreas Wardrop, Scoto-Britannus; De Dyſenteria Contagioſa.

Robertus Maitland, Scoto-Britannus; De Gangraena.

Andreas Douglaſs, Scoto-Britannus; De Variolae Inſitione.

CON-

CONTENTS.

BOOKS.

Hunter, W. Anatomy of the gravid uterus. 227

Cullen, W. On the recovery of drowned perſons. 243

Portal, M. Obſervations ſur les effets des vapeurs mephitiques. 245

Ruſh, B. Inquiry into the natural hiſtory of medicine among the Indians in North America. 262

Moutin, L. Diſſertatio hiſtorico-medica de medicina Laponum Lulenſium. 272

Lettſom, J. C. Medical memoirs of the general diſpenſary in London. 280

MEDICAL OBSERVATIONS.

The Hiſtory of a caſe of the Rabies Canina, by the late Mr Archibald Bathie, Surgeon at Auchtermuchty, Fife-ſhire. 290

The Hiſtory of a caſe of Locked Jaw, with uncommon ſymptoms, which terminated favourably, by Dr James Moodie, Phyſician at Newry in Ireland. 304

The Hiſtory of an anomalous tumour on the eye-brow of a child of fifteen months old, extirpated by Mr James Hill, Surgeon at Dumfries. 313

The Hiſtory of a caſe in which violent convulſions were induced by ſurprize and grief. By Mr John Smith, Surgeon in Uppingham Rutland-ſhire. 316

MEDICAL NEWS. 322

LIST OF NEW BOOKS. 335

MEDICAL

AND

PHILOSOPHICAL

COMMENTARIES.

By a SOCIETY in EDINBURGH.

Sperat infeſtis metuit ſecundis,
Alteram ſortem bene praeparatum
Pectus. HOR.

VOLUME THIRD.

PART IV.

LONDON:
Printed for J. MURRAY, No. 32. Fleet-ſtreet;
W. CREECH, Succeſſor to Mr KINCAID, and
W. DRUMMOND, *Edinburgh*; and
T. EWING, Capel-ſtreet, *Dublin*.

M,DCC,LXXVI.

MEDICAL COMMENTARIES.

SECT. I.

An Account of Books.

I.

Chirurgical Obſervations relative to the Cataract, the Polypus of the Noſe, the Cancer of the Scrotum, the different kinds of Ruptures, and the Mortification of the Toes and Feet: By Percival Pott, *F. R. S. Surgeon to St Bartholomew's Hoſpital.* 8vo, London.

IN the treatiſe now before us, the author conſiders, in the order in which they are enumerated, the different ſubjects mentioned in the title page. In his obſervations on the firſt of theſe, the cataract, he combats the opinion that

every cataract has its ſeaſons, ſo as to be at one time immature or unripe, at another, mature or ripe. It has, in general, been ſuppoſed, that the term of *unripe* neceſſarily implies a ſoft ſtate of the chryſtalline lens, while that of *ripe* denotes a hard ſtate. In oppoſition to this, he contends, that, if we would think and ſpeak of this matter as it really is, inſtead of uſing the terms *ſoft* and *hard*, in oppoſition to each other, and as implying different effects, either from time or diſtemper, on the chryſtalline, we ſhould ſay, that diſſolution or ſoftening is by much the moſt common effect; and that, ſeven times out of nine, when the chryſtalline becomes opaque, and tends to form a cataract, it is more or leſs ſoftened. Sometimes this happens equally throughout its ſubſtance, ſometimes partially, having a greater or leſs proportion left undiſſolved. But even this undiſſolved part is, he thinks, rarely, if ever, ſo firm as the center of the ſound chryſtalline.

From the colour of the cataract, Mr Pott imagines, that no concluſion can be drawn with regard to its conſiſtence; but he thinks, that, when the opaque chryſtalline is quite diſſolved, ſo as to form what has been called a ſoft cataract, it is ſomewhat enlarged; and that, when ſuch diſſolution

diſſolution does not take place, and what is called a hard cataract is formed, the cryſtalline is in ſome degree leſſened. He concludes theſe reflections by propoſing it as a ſubject of inquiry, to thoſe who may have an opportunity of determining whether the cataracts, which have been found perfectly ſoft, have not, in general, become more and more opaque by ſlow degrees, and whether the firm ones do not, in general, become haſtily opaque, and are not preceeded or accompanied by ſevere and deep ſeated pain in the head, particularly in the back part of it.

With reſpect to the operation for this diſeaſe, the author prefers couching to extraction, as being attended with fewer inconveniencies and diſappointments. And he produces ſeveral experiments and obſervations, to ſhew that the cryſtalline lens, whether in a hard or ſoft ſtate, is readily diſſolved in the aqueous humour, upon being diſcharged from its capſule.

Our author's next remarks are with reſpect to polypi of the noſe. It has been the common opinion, that, except in ſome few particular inſtances, where the diſtemper is palpably cancerous, all others are equally the objects of chirur-

gical treatment. Surgeons, therefore, believe, that if, in the firſt inſtance, they can lay hold of the polypus with the forceps; and, in the ſecond, can provide againſt the hæmorrhage which may enſue, nothing is to be dreaded from extracting it. But to Mr Pott the matter appears very differently. He thinks that there are many polypi, which, although they be neither ſchirrous nor cancerous, are very unfit for any chirurgical treatment whatever. Some circumſtances may forbid the attempt, merely from the impoſſibility of its being ſucceſsful; others from its being more likely to increaſe and exaſperate the diſeaſe than to cure it. He reckons it of conſequence, therefore, that thoſe polypi, which may be operated upon with advantage, ſhould be accurately diſtinguiſhed from thoſe with which the operation would have a bad effect.

He diſſuades from operation in all thoſe caſes where the polypi begin with conſiderable pain in the forehead and upper part of the noſe, or are preceded by theſe ſymptoms, and which, as ſoon as they can be ſeen, are either highly red or of a dark purple colour. To the ſame claſs alſo he refers thoſe which, from the time of their being firſt noticed, have never been obſerved to be ſometimes

ſometimes bigger, ſometimes leſs, but have conſtantly rather increaſed; thoſe in which the common actions of coughing, ſneezing, or blowing the noſe give pain, or produce a very diſagreeable ſenſation in the noſtril and forehead; thoſe which, when within reach, are painful to the touch, or which, upon being ſlightly touched, are apt to bleed; thoſe which do not ſeem to be moveable by the action of blowing the noſe, or of deriving the air through the affected noſtril only, when they are confined to one ſide; thoſe which are incompreſſibly hard, and which, when preſſed, occaſion pain in the corner of the eye, or in the forehead, and which, if they diſcharge any thing, ſhed blood; thoſe which by adheſion occupy a very conſiderable ſpace, and ſeem to conſiſt of a thickening, or an enlargement of the membrane covering the ſeptum narium; thoſe from which there is a diſcharge of an ulcerous, offenſive, diſcoloured matter; and thoſe, round the lower part of which, within the noſe, a probe cannot eaſily and freely be paſſed to ſome height. In all thoſe caſes, he is not only of opinion that trials ſhould not be made by the forceps, but farther obſerves, that he does not think it adviſable to attempt them by any other means with

which he has had the good fortune to be acquainted.

On the contrary, Mr Pott adviſes the operation with polypi which are of a pale light-brown colour, or look like a membrane juſt going to be ſloughy; with thoſe which are ſeldom or never painful, and do not become ſo when preſſed; with thoſe which have appeared to be at one time larger or another leſs, as the air has happened to be moiſt or dry; with thoſe which aſcend and deſcend freely by the action of reſpiration through the noſe; with thoſe which the patient can force downward by ſtopping the noſtril which is free, and then deriving the air through that which the polypus poſſeſſes; and with thoſe, round the lower part of which a probe can be eaſily paſſed to ſome height. In all theſe circumſtances, he recommends extraction by the forceps, which he thinks is always preferable to eſcharotics, ligatures, or any other operation. He farther affirms, that, in theſe circumſtances, polypi are removeable without pain or hazard of any kind; and he particularly remarks, that he has never met with haemorrhage when the diſeaſe was at all fit for operation.

The

The cancer of the ſcrotum our author deſcribes as a particular affection of chimney-ſweepers after they have arrived at puberty. It makes its firſt attack on the inferior part of the ſcrotum, whence it produces a ſuperficial, painful, ill-looking ſore, with hard and riſing edges. In no great length of time, our author repreſents it as ſeizing the teſticles, and making its way up the ſpermatic proceſs into the abdomen, affecting the viſcera, and becoming very ſoon painfully deſtructive, unleſs the diſeaſed part of the ſcrotum be extirpated upon the firſt attack, and before the habit is tainted.

The obſervations and caſes relative to the different kinds of ruptures with which we are preſented in the volume before us, are intended as an appendix to the author's general treatiſe on that ſubject. About twenty caſes of inteſtinal, omental, and congenial herniae, are here related, together with two of the hernia veſicae urinariae, and one of the ovarian hernia. With reſpect to omental herniae, our author allows, that they are not attended with thoſe immediately hazardous circumſtances which neceſſarily accompany inteſtinal ones. But he contends, that they will ſometimes prove fatal, and that from two cauſes, either

either by an affection of the omentum itſelf, in the way of inflammation, ſuppuration, mortification, or ſchirrus, or by keeping open an hernial ſac, and thereby giving occaſion to a protruſion of the inteſtines. Concerning the means of relieving the ſymptoms of inteſtinal herniae, Mr Pott obſerves, that blood-letting, the warm bath, and glyſters of the ſmoke of tobacco, or of an infuſion of that plant, have been very ſucceſsful with him; and that embrocations, fomentations, and poultices, have been of little or no uſe at all.

On the congenial hernia, our author explains the difference between it and the more common caſes; and obſerves, that the ſac is not formed by an unnatural protruſion of part of the peritonaeum, but is made by the incloſed vaginal coat of the teſticle.

The laſt article of this work contains obſervations on the mortification of the toes and feet. Of this diſeaſe the author firſt gives a hiſtory; he then obſerves, that the bark, and warm applications of every kind, have been very unſucceſsful in the cure of it; and that, by the free uſe of opium, together with ſedatives and relaxants, externally applied, he has frequently ſeen the tumefaction of the feet and ancles ſubſide, the

ſkin

ſkin recover its natural colour, and all the mortified parts ſeparate in a very ſhort time, leaving a clean ſore. As to ſcarifications, or any other attempt to ſeparate, artificially, the mortified from the ſound parts, he thinks them very prejudicial, by giving pain, which is generally of itſelf violent in this diſeaſe, and which ſeems to have a great ſhare in producing the other evils.

II.

Obſervations ſur la Structure des Parties de la Génération de la Femme; *par* Mr Portal. *Vide Hiſtoire de l'Academie Royale des Sciences, Année* 1770. 4to, Paris.

MR PORTAL, after mentioning a variety of different opinions that had prevailed among anatomiſts reſpecting the parts ſubſervient to generation in women, propoſes to give ſome obſervations of his own on this ſubject. In the memoir before us, he confines himſelf to the internal parts of generation in women. He remarks, in the firſt place, that the poſition of the uterus is different at different periods

riods of life. In the foetus of three or four months, the uterus is almoſt without, and under the pelvis; in ſo much, that a line drawn from the os pubis to the os ſacrum, falls very near the neck of the uterus. In a child newly born, the uterus falls without the level of the ſuperior ſurface of the os pubis. In a girl, from fifteen to thirty-five years of age, the uterus is placed above the os pubis, and, in an old woman, it is found very far within the pelvis. The axis of the uterus is almoſt perpendicular in the foetus; whereas, in old women, it appears almoſt horizontal.

Theſe differences in the poſition, our author attributes to the developement of the pelvis.

He obſerves, in the *ſecond* place, that the figure of the uterus is different at different periods of life. It reſembles, in ſome meaſure, a priſm in the foetus, and in infants. In the adult, it is almoſt triangular; and it is irregularly rounded in old women, even in ſuch as have never had children. The cavity of the uterus varies alſo in proportion to the different periods of life; but, in order to obſerve this, it is neceſſary to clear it from the peritonaeum and ligaments; on its con-

connection with each of which, he offers a few remarks.

The uterus is covered, through its whole length, by a duplicature of the peritonaeum, except the exterior face of the neck; and even this part is covered by a reduplication of the vagina, more prolonged behind and below, than it is before and above.

The lamina of the peritonaeum, which covers the anterior part of the uterus, is folded back near to the vagina, in ſuch a manner, as to form two kinds of ligaments placed beſide the neck of the bladder. Above, and upon the ſides, it includes two bundles of veſſels, and forms the round ligaments. This anterior lamina ſtretches upon the ſides of the uterus, forms the anterior lamina of the ligamenta lata, and adheres to the iliac muſcles; from whence it is reflected forwards, covers the anterior portion of the iliac muſcle, and joins with the anterior lamina of the peritonaeum. The poſterior lamina of the uterus forms, by two reduplications, two kinds of circular ligaments, in which Mr Sue thought he found two muſcles. Theſe two ligaments embrace the rectum. The broad ligaments ſtretch much leſs in height when the uterus is developed

in

in women with child; the anterior and poſterior reduplications of the peritonaeum are almoſt effaced: So that, amongſt other uſes, theſe ligaments ſeem to aſſiſt the developements of the uterus. The broad ligaments divide the pelvis into two anterior apartments; of which, in the adult, the one is ſmaller than the other; whereas, in infants, the two are nearly equal. This is owing to the different inclination of the os ſacrum, which takes place at different periods of life.

The two membranous laminae of the ligaments are eaſily ſeparated. Between them we find a vaſcular net-work. The uterus alſo may be ſlipped out of the invelopement of the peritonaeum, and removed out of the belly, without opening the true lamina of the peritonaeum. It is neceſſary, however, to tear certain cellular productions which run into the fibres, and ſeem to give them common ſheaths. Two of theſe ſheaths are evidently ſeen in the lateral and inferior parts of the uterus, accompanying and incloſing the uterine veſſels, in the ſame manner as the capſule of the liver ſurrounds the vena portarum, as *Walaeus* has remarked before *Gliſſon;* to whom, however, learned anatomiſts have given the honour of the diſcovery. It is this capſule that ſupports the veſſels in their convolutions, and

which

which fixes them, by means of muſcular attachments, to the proper ſubſtance of the uterus. Mr Portal remarks, that the cellular ſheaths of thoſe veſſels are ſometimes loaded with fat; and, in certain dropſies of the uterus, they are filled with water.

In regard to the diſcovery of the ligaments of the uterus, Mr Portal is of opinion, that the ancients were only acquainted with four, and that Hermondaville, who profeſſed anatomy in France about the middle of the thirteenth century, and whoſe ſurgery is preſerved in manuſcript in the King's library, and in the library of the Sorbonne, was the firſt who advanced that the uterus was attached by eight ligaments.

Our author returns now to ſpeak of the cavity, which he had already obſerved to vary at different periods of life. In the infant, it is formed of four *planes*; one anterior, which has the figure of a parallelogram; two lateral and poſterior, which join one another; and a bottom, the figure of which approaches to a triangle. The poſterior part, although formed of two planes inclined to one another, and which form on the back of the uterus a projecting angle, is raiſed within towards the middle. The anterior part, viewed from the

ſide

ſide of the uterus, preſents a ſimilar elevation. Betwixt the anterior and two poſterior planes are two kinds of furrows, in which ſeveral projecting circular lines are obſerved. At this age, the uterus is thicker towards the neck than the bottom; the reverſe of this happens in the adult. This obſervation was made by Mr Sué. Different projecting lines are obſerved in the internal ſurface. There is a longitudinal one in the middle of the poſterior part, which riſes from the poſterior ligament of the os uteri, where it is more elevated than at the other extremity, which is ſometimes forked. Sometimes, in place of one, there are found two or three projecting and parallel lines, about the middle of the poſterior part, where they ſeparate, inclining towards the ſides. From the lateral parts of theſe, ſeveral other projecting lines riſe, which make the tour of the uterus, or which join to a longitudinal ſtalk, placed ſometimes in the middle of the anterior face of the uterus. Theſe appear as ſo many branches united to one trunk, forming a kind of tree, which Mr Portal thinks may be called *arbor vivificans*, to diſtinguiſh it from *arbor vitae* vitae of the *cerebellum*. Theſe lines, in a young perſon, have a reſemblance to a branch of the palm-tree. Betwixt

tween the branches, and chiefly towards the trunk, and the os uteri, ſeveral holes are obſerved. Theſe are the openings of the excretory ducts of certain gangliforme bodies; from which a viſcous matter runs out, upon ſqueezing the ſides of the uterus. There is not a better way of making theſe holes appear, than by broiling a piece of the ſubſtance of the uterus before a good fire.

The *cavity* of the uterus is much more contracted in the adult than in the foetus or infant. The trunk of the tree, with its branches, are either effaced, or the intermediate ſubſtance is raiſed. Thro' length of time, the ſides of the uterus approach one another, which diminiſhes its cavity. Mr Portal has always found in the uterus, at all ages, the ſides thicker than the anterior or poſterior part.

There are certain excreſcences that riſe on the internal part of the uterus of old women, even in thoſe who had had no children. Theſe have been deſcribed by authors, but not as happening ſo frequently as they really do. Mr Portal found them in thirteen of twenty women, whoſe bodies he had opened on purpoſe.

Our author concludes his obſervations upon the uterus, by remarking its extreme irritability, which he finds to be infinitely greater in the internal than the external ſurface, in the ſame manner as Senac and Haller had found with regard to the heart.

III.

Reflexions ſur les Areometres, particulierement ſur les Principes d'apres leſquels on peut en faire de comparables ; avec la deſcription d'Areomètres d'argent, deſtinés à determiner les peſanteurs ſpecifiques des Eſprits-de-vin et des Eaux-de-vie, et des moyens d'en faire de pareils, ou de comparables. Par M. Le Roy. *Vid. Hiſtoire de L'Académie Royale des Sciences, année* 1770. 4to, Paris.

THE Farmers-general, having expreſſed a wiſh to have a certain rule for determining the ſtrength of ſpirituous liquors, which might be uſed both by their clerks and by merchants, M. Le Roy was induced to turn his thoughts to this ſubject. In order to anſwer the end in view, he imagines

imagines that the following requiſites are neceſſary. 1*ſt*, That the inſtrument employed for the above purpoſe ſhould be ſimple, convenient, and portable. 2*d*, That it ſhould have as great a degree of mobility as is conſiſtent with its object, ſo that, when plunged into different liquors in the ſame degree of heat, it may always ſhow nearly their reſpective degrees of *ſpecific gravity*. 3*d*, That it may be poſſeſſed of this mobility, it is neceſſary to confine its range within ſpirit of wine and weak brandy; becauſe the difference of ſpecific gravity of pure water and ſpirit of wine is ſo great, that an areometer could not mark theſe degrees, without either too long or too thick a ſcale. In the firſt inſtance, it would not be portable, and, in the ſecond, it would not be ſufficiently ſenſible. And, 4*th*, that this inſtrument ſhould admit of compariſon, that is to ſay, that any number may be made, according to certain principles, all marking invariably the ſame degrees.

M. Le Roy proceeds to explain the principles upon which theſe properties are attainable. In areometers, he obſerves, two things are to be conſidered, bulk and weight; they can only be comparable when the bulk, as marked by the de-

grees of their ſcales, is amongſt themſelves reſpectively as the weight of the areometers. This is evident; becauſe fluids being conſidered as homogeneous, the weight of any quantity is always as its bulk, and *vice verſa*. Thus, whenever areometers ſhall mark, by their correſpondent diviſions, bulks which ſhall be to one another as the reſpective weights of the areometers, theſe inſtruments will be comparable, in all the rigour of the word, ſince theſe correſponding diviſions will always ſhow, in the ſame manner, the relation between the weights of the volume of the fluid into which they are actually plunged. But this principle once eſtabliſhed, it is eaſy from thence to deduce the whole theory of the comparability of areometers; for it is plain, that, in order to make them comparable, it is only neceſſary to graduate them in ſuch a manner, that the ſpace they occupy in fluids, marked by their correſponding degrees, ſhould be always as their reſpective weights. From hence any method, by which we can determine upon their ſcales two points, at which the volumes marked have the ſame relation as the reſpective weights of different areometers, will furniſh means of dividing theſe ſcales into ſimilar parts in ſuch a manner,

that

that the degrees which they ſhall mark will perfectly correſpond in the ſame fluids. Thus, for example, if we take two areometers, and plunge them into two different fluids, in ſuch a manner, that in one they ſink almoſt to the top of their ſtalks, and in the other only to the beginning of it; and if we then mark upon each of the ſtalks theſe points of immerſion, we ſhall have, by dividing into ſimilar parts the interval betwixt theſe points, two areometers that can be compared; for, when we have marked the reſpective points of immerſion in different fluids, it is certain, that the bulks of theſe fluids diſplaced, was reſpectively as the weight of the areometers, ſince they remained at reſt. Farther, in adding to or taking away from the bulks occupied at theſe different points, by ſimilar parts of the ſcale, the proportion between the weight and theſe bulks marked will be always the ſame. Theſe inſtruments are therefore comparable in all the degrees of their ſcale. M. Le Roy farther obſerves, that we may obtain the ſame end, and determine the ſecond point in the ſcale at which the bulk will be in proportion to the weight of the areometers, by ſubſtituting ſmall weights in the room of the lighteſt fluid.

Thus we have two methods of conſtructing areometers that can be compared with one another: 1ſt, By employing two fluids, to mark the two points neceſſary for the diviſion of the ſcale, which are of ſuch a nature, as that they may always be had identically the ſame: Or, 2*d*, by uſing one fluid only for the firſt term of diviſion, as diſtilled water, for example, and to obtain the ſecond by charging the areometer with a known weight, to make it ſink to the requiſite depth. The difficulty of finding two fluids of a determined ſpecific gravity, is a ſufficient objection to the firſt method. The moſt certain means of ſucceeding is, by employing the ſecond, to make uſe of diſtilled water, the weight of which is ſuppoſed conſtant, for the firſt term of graduation, and then to determine the ſecond by means of ſmall weights, equal, if the areometers are of the ſame weight, or proportioned to their weight, if they be different.

M. Le Roy proceeds then to explain the method he uſed in conſtructing ſome areometers which he laid before the ſociety for their inſpection. This conſiſts in precautions to have the ball and the ſtalk as nearly as poſſible of the ſame ſize and uniform thickneſs throughout. For theſe purpoſes, the ball is turned upon a loom; the

the interior ſurface is made to fit a block of a determined ſize, and the exterior to correſpond with a mould. The two halves of the ball, thus formed, are ſoldered together; the ſtalk is made of a ſolid plate of metal of equal thickneſs throughout; and, that its bore may be uniformly cylindrical, it is drawn as wire through a hole of a wire-drawing plate. When thus prepared and fitted to the ball, the areometer is compleated, by graduating it in the manner already mentioned.

The experiments made with theſe areometers fully anſwered the expectations of thoſe who propoſed the inquiry: And M. Le Roy obſerves, that an artiſt, accuſtomed to conſtruct them, cannot fail to make them ſufficiently exact for every purpoſe.

IV.

Remarques ſur la Structure du Canal Thoracique, et ſur celle du Reſervoir du Chyle. Par Mr Portal. *Vide Hiſtoire de l'Academie Royale des Sciences, annèe* 1770. *4to, Paris.*

MR PORTAL begins with a brief hiſtorical account of the progreſs of diſcoveries, with regard to the thoracic, duct. He obſerves,

that the antient anatomiſts were intirely ignorant of it. Euſtachius perceived it firſt in the horſe; but the diſcovery of it in man is intirely due to Pecquet. Vanhorne, his fellow ſtudent and friend, gives a more minute deſcription of it; and Du Verney improves upon their labours.

Pecquet, who at firſt only obſerved this organ in the dog, had perceived that the inſertion of the lacteal veins into the thoracic duct was made into a kind of bladder, or that the lower part of the duct was ſwelled, and formed a reſervoir, to which anatomiſts have even given his name. He thought he could infer from this, that ſome reſervoir was alſo to be found in man. This concluſion was too haſty; but Pecquet was the more excuſable on this account, that, though the reſervoir is not actually found, yet the inferior extremity of the duct, at which the lacteal veſſels are inſerted, is covered with a cellular expanſion, which gives it ſuch an appearance. It is this point of anatomy which Mr Portal wants to aſcertain; and the following is the reſult of his obſervations. He maintains, that this ſuppoſed reſervoir of the chyle does not exiſt in man; that, in more than thirty ſubjects which he diſſected, he found the lacteal veſſels communicating

municating immediately with the inferior extremity of the duct, which forms, at this place, a kind of ſac or vaſcular ring, covered with a cellular web; that the lacteal veſſels may, by addreſs, be diſengaged from this cellular ſubſtance; and that it is probable anatomiſts have been deceived by an appearance of a membrane, which the cellular ſubſtance acquires by age.

This reſervoir of the chyle, which does not exiſt in man, is found in ſeveral animals. It is found in the dog, where Pecquet ſaw it. The ſquirrel and the ape have ſeveral reſervoirs, and as many ducts. In ſome fiſhes they are ſtill more numerous; Mr Ferrein ſaw them to the number of ſeven in the dolphin.

Mr Portal obſerves, that there are ſometimes ramifications of arteries, void of blood, as alſo lymphatic veſſels, which ſpread on the inferior part of the thoracic duct, without entering it, and which might be taken for lacteal veſſels, if we were not aſſured of the contrary before hand.

Above the inſertion of the lacteal veſſels, the thoracic duct riſes almoſt perpendicular, and follows the courſe of the ſpine; but, at its ſuperior extremity, it makes a ſmall flexure to gain the left

left ſubclavian vein; ſometimes, but rarely, this extremity divides into two branches, of which one enters the left ſubclavian, the other the jugular of the ſame ſide.

The thoracic duct becomes larger at its upper extremity. This increaſe of bulk made Mr Portal imagine that there were communicating veſſels at this place. In order to diſcover them he inflated the lymphatic veſſels of Willis, which ſpread on the exterior parts of the lungs, and the air made its way into the duct by two lymphatic tubes, which enter it at that place. He has ſince found two others of the ſame kind. Some anatomiſts, Bartholin particularly, and Albinus, ſeem to have been acquainted with ſome of theſe; but thoſe on the anterior part of the duct ſeem not to have been known before. Mr Portal has demonſtrated ſix ducts, which ſeem to ariſe from the oeſophagus and fat of the mediaſtinum. The uſe of theſe veſſels is yet unknown; but it is a good deal to know their exiſtence. The openings of theſe ducts into the thoracic are furniſhed with valves.

The reſemblance betwixt the chyle and milk has made ſome imagine, that there was an immediate

diate communication between the thoracic duct and the mammae; but Mr Portal has not been able to find any veſtige of ſuch communication, whatever reſearches he made for that purpoſe; a ſtriking proof that the moſt plauſible conjectures ought never to be taken as facts, or received without a ſtrict examination.

V.

Diſputatio Inauguralis, Quaedam de Hominum varietatibus et harum cauſis exponens. Auctore Joanne Hunter. 8*vo*, Edinburgi.

FEW queſtions in philoſophy have of late more engaged the attention of naturaliſts, than thoſe which reſpect the diverſities among the human ſpecies. But all that has hitherto been ſaid upon this ſubject by no means ſerves to exhauſt it. And it is even ſtill a matter of diſpute, whether mankind can be conſidered as ariſing from the ſame origin or different ones. We apprehend, therefore, that a ſhort view of the obſervations which the author of the preſent diſſertation has here given, both with reſpect to the diverſities among the human ſpecies, and the cauſes on which he ſuppoſes theſe diverſities to depend, will not be unacceptable to our readers.

Dr

Dr Hunter introduces his ſubject by obſerving, that, when the queſtion has been agitated, whether all the human race conſtitute only one ſpecies or not, much confuſion has ariſen from the ſenſe in which the term *ſpecies* has been adopted. He therefore reckons it neceſſary to ſet out with a definition of the term. He includes under the ſame ſpecies all thoſe animals which produce iſſue capable of propagating others, reſembling the original ſtock from whence they ſprung. This definition he illuſtrates, by having recourſe to the human ſpecies as an example. And, in this ſenſe of the term, he concludes, that all of them are to be conſidered as belonging to the ſame ſpecies. And as, in the caſe of plants, one ſpecies comprehends ſeveral varieties depending upon climate, ſoil, culture, and ſimilar accidents, ſo he conſiders the diverſities of the human race to be merely varieties of the ſame ſpecies, produced by natural cauſes.

In treating of theſe varieties, our author divides his ſubject into four parts. In the firſt, he conſiders the differences in colour; in the ſecond thoſe with reſpect to ſtature and ſhape; in the third, he treats of the exceſs or defect of certain parts; and, in the fourth, of the differences which occur with reſpect to the powers of mind.

Of

Of all the differences among the human ſpecies, the moſt ſtriking varieties are what occur with reſpect to colour. Of theſe our author gives the following view.

BLACK. Africans under the line.
Inhabitants of New Guinea.
Inhabitants of New Holland.

SWARTHY. The Moors in the northern parts of Africa.
The Hottentots in the ſouthern parts of it.

COPPER-COLOURED. The Eaſt-Indians.

RED-COLOURED. The Americans.

BROWN-COLOURED. Tartars.
Perſians.
Arabs.
Africans on the coaſt of the Mediterranean.
Chineſe.

BROWNISH. The inhabitants of the ſouthern parts of Europe, as
Sicilians,
Abyſſinians,
Spaniards,
Turks,
Samoides and Laplanders.

WHITE.

WHITE. Moſt of the European nations, as
Swedes,
Danes,
Engliſh,
Germans,
Poles, &c.
Kabardinſki,
Georgians,
Inhabitants of iſlands in the Pacific Ocean.

In attempting to inveſtigate the cauſes of theſe differences, our author obſerves, that there can be no diſpute of the ſeat of colour being placed in the ſkin; that it is not even extended over the whole of this, but confined to that part termed the cuticle, conſiſting of the epidermis and reticulum; and that it chiefly occupies the latter of theſe. The cuticle is much thicker and harder in black people than in white ones; the reticulum in the latter being a thin mucus, in the former a thick membrane. He concludes, that this ſeat of colour in whites is tranſparent, and either totally deprived of veſſels, or furniſhed with very few only; as the yellow colour appearing in jaundice vaniſhes on the cauſe of the diſeaſe being removed, which is not the caſe with ſtains in the cuticle from gun-powder, or ſimilar cauſes. He next

next points out three cauſes deſtroying the pellucidity of the cuticle, giving it a brown colour, and rendering it thicker. Theſe are the acceſs of air, naſtineſs, and the heat of the ſun. The influence of each of theſe he proves by many examples, and from theſe he is inclined to conſider the laſt as by much the moſt powerful. If, however, it be admitted that theſe cauſes have this effect, he thinks that all the diverſity of colour which is to be obſerved among mankind, may be thus accounted for. He remarks, that all the inhabitants of the torrid zone incline, more or leſs, to a black colour. When we obſerve the differences which occur amongſt them, we muſt at the ſame time remember, that a black colour is not referred to heat alone, but to the other cauſes alſo; and when we attend to the diverſity of temperature which occurs even in the torrid zone, the exiſtence of a white nation there would by no means deſtroy the argument. He is farther of opinion, that the exiſtence of a brown colour, and of conſiderable varieties from white, in the northern and coldeſt parts of Europe, may very eaſily be explained. This he accounts for from the manner of life of the inhabitants, by which they are either expoſed to the inclemency of the air, or to conſtant naſtineſs from ſmoaky houſes.

The

The next ſubject of which Dr Hunter treats is, ſtature and figure. With reſpect to ſtature, he obſerves, that, among mankind, there are no inconſiderable differences. The inhabitants of ſome parts of America grow to the extent of ſeven feet, while, in ſome parts of the Frigid Zone, they hardly reach four. For explaining theſe diverſities, he endeavours to ſhow, that the action of the heart, and the motion of the body, are the immediate cauſes of growth; and that the effects of theſe are limited by the rigidity of the fibres.

Theſe being admitted to be the immediate cauſes, he next inquires by what external circumſtances they will be affected, in ſuch a manner as to vary the ſtature. The chief circumſtances which will influence them are, he thinks, temperature, diet, exerciſe, and labour. The temperature of the atmoſphere may act either by heat or cold. From the influence of heat, as increaſing mobility, our author accounts for the inhabitants of warm climates arriving ſo ſoon at their full ſtature; he thinks, however, that it can have little influence either as increaſing or diminiſhing ſize. And, in fact, it is obſerved, that both large and ſmall men are to be met with in very warm, as well as in temperate climates. If

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it have any influence upon ſtature, he thinks that it muſt tend rather to diminiſh than increaſe it; becauſe the ſame cauſes giving quick growth, induce alſo ſpeedy rigidity of the fibres. Cold, on the other hand, which may be conſidered merely as the abſence of heat, from its ſedative influence, tends to retard the growth, and, at the ſame time, very conſiderably diminiſh the ſtature. Between exerciſe and labour, the only remarkable difference is, that the one is voluntary, the other from neceſſity. Our author imagines, therefore, that both may be conſidered under the head of motion; and this he views as of three kinds, either violent, moderate, or ſlight. Violent action, by increaſing the rigidity of parts, and exhauſting the vital power, retards and prevents growth; while, on the other hand, very inconſiderable motion or reſt prevents the different parts of the body from acquiring that vigour, by which alone they are capable of exerting their functions. He conſiders moderate exerciſe, therefore, as, of all others, the moſt favourable to growth.

But, of all the cauſes affecting ſtature, he maintains, that the influence of the food is the moſt powerful; and this he proceeds, in the laſt

place, to conſider. He thinks it equally unneceſſary to explain why ſcarcity ſhould occaſion a ſmall ſtature, as why frequent and full diet ſhould have a contrary effect. Theſe circumſtances operate ſo manifeſtly on the brute creation, that no room can be left to doubt their influence; but, as the diet has influence from quantity, ſo it has alſo by its qualities. It may be ill ſuited for growth either from defect or exceſs of ſtimulant powers. Upon the whole, our author conſiders a diet as plentiful as can eaſily be digeſted, conſiſting partly of farinaceous vegetables, partly of fleſh, as, of all others, moſt favourable to growth.

In ſhape, our author obſerves, that there are infinite varieties, each individual being characterized by a ſet of features in ſome meaſure peculiar to himſelf. But, farther, there are ſigns or marks peculiar to nations; as, for example, depreſſion of the noſe, thickneſs of the lips, ſmallneſs of the eyes, or the like. Whatever may be the original cauſe of theſe, our author is of opinion, that they can by no means be conſidered as marks of a diſtinct ſpecies, as inſtances of them are to be met with in every nation. Without pretending to explain from whence they are originally derived, for illuſtrating the principles upon which they

they are continued, after being once produced, he refers to what is afterwards ſaid on the ſubject of generation.

In the third chapter, the author offers ſome remarks on the defect or exceſs of different parts. Here Dr Hunter obſerves, that, if we are to credit every thing that has been advanced, we ſhould have a very extenſive and intricate field of inquiry; but, rejecting the extravagant opinions of thoſe who have either had ſufficient knavery to aſſert, or ſufficient credulity to believe, that there are ſome nations with but one eye, others furniſhed with tails, or the like, he propoſes to ſpeak only of thoſe particulars which are not ſo abſurd as to require no refutation. And here, he thinks, there are three particulars which merit attention: Theſe are, the want of a beard, pendulous breaſts, and a prominence over the pudenda. The want of a beard he aſcribes ſolely to its being plucked out; and, where the breaſts of females are obſerved to be remarkably pendulous, he imagines that it is to be accounted for from the method which they have of ſuckling their infants; the peculiarity in the pudenda of the Hottentot women has, he obſerves, been much the ſubject of diſpute, ſome affirming, o-

thers denying its exiſtence. Admitting its exiſtence, however, he remarks, that the moſt accurate obſervers conſider it to be nothing elſe but turgid or prominent nymphae, a peculiarity which, he thinks, leſs aſtoniſhing, as we are by no means ſure that it does not ſometimes exiſt in every country.

His next remarks are with reſpect to the differences of hair. The chief varieties in hair are in point of colour. This ſeems, however, to be in ſome connected with the complexion; black hair is very univerſally connected with a ſwarthy complexion; while, on the contrary, thoſe who are fair have red or white hair. The black colour of the hair is, he thinks, to be accounted for from the ſame cauſes giving a dark complexion. Differences alſo occur with reſpect to the texture of the hair; with ſome it is hard and ſtrong, with others ſoft and downy. The hair being placed upon the ſurface of the body, he concludes that its growth will neceſſarily be affected by all cauſes altering the flow of humours there; and accordingly he remarks, that the beard particularly is obſerved to grow moſt rapidly in the ſummer. Hence he concludes, that the hair will naturally be more luxuriant and thick in warm than in cold climates.

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Of this the inhabitants of the Eaſt and Weſt Indies afford ſtriking examples. He admits, however, that a remarkable exception occurs in the caſe of the African blacks; but this, he thinks, may be accounted for from the diſcharge which takes place by the ſurface; the quantity of fluids entering the hair being thus diminiſhed, and their growth prevented. And this opinion is, he imagines, confirmed by examining the bulbs of the hair in thoſe blacks with whom it is ſo remarkably ſoft, which appear ſmall and ſlender, as if they were deprived of nouriſhment.

Having thus attempted to account, from natural cauſes, for the varieties which occur with reſpect to the colour, ſtature, and other differences among mankind, our author obſerves, that, to all this reaſoning, an objection will naturally be made, from conſidering that infants bring theſe marks into the world along with them, before they can be expoſed to any ſuch cauſes. Dr Hunter imagines, however, that this may readily be explained, upon the ſuppoſition that many peculiarities acquired by parents are tranſmitted to their poſterity; and of this, he thinks, that no one can have any doubt who attends to hereditary diſeaſes. Thus, gout, ſcrophula, mania, and ma-

ny other affections, although at firſt induced by particular accidents, will continue to affect families for many generations. In the ſame manner, a parent expoſed to cauſes deſtroying the natural whiteneſs of his complexion, will beget ſwarthy children; and the ſame cauſes continuing to operate upon the ſon, the blackneſs will be increaſed. Thus all the different ſhades may have been at firſt induced, and afterwards continued.

The laſt ſubject of which our author treats, is the diverſity occurring with reſpect to mental powers. Here, he thinks, that two particulars chiefly claim attention, the underſtanding and the manners. To the firſt, he refers acuteneſs of genius and quick comprehenſion, on the one hand, and a dull and untractable diſpoſition on the other; to the ſecond, alartneſs and courage, put in oppoſition to ſadneſs and timidity. Theſe varieties, of which there are numerous examples, are by no means, our author maintains, to be referred to any diverſity in mind, but merely to the manner in which its powers are exerciſed; and, among the various circumſtances which diverſify the exertions of the mental powers, he thinks that ſituation, education, and the principle of imitation, which is ſo powerful with the human

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race, have the chief influence. Thus he thinks that diverſities, in this reſpect, as well as in other particulars, may be explained without having recourſe to the ſuppoſition of a different origin.

VI.

Medical Tranſactions, publiſhed by the College of Phyſicians in London. Vol. III. 8*vo.* London.

WE are informed, in an advertiſement prefixed to the work before us, that it is uncertain when the college will go on with their deſign of publiſhing medical papers. They have therefore publiſhed, as a part only of the third volume, thoſe papers which had been read before the college with a view to that work. Although we cannot help regretting that an undertaking which could not fail to be attended with public utility, ſhould have met even with a temporary interruption; yet we can have no doubt that thoſe eminent men, by whom this work has hitherto been principally ſupported, will take ſome method of communicating to others the fruits of their daily obſervation and experience; and it is much to be

wiſhed that the college as a body may ſoon again reſume this work.

In the firſt article of the volume before us, we are preſented with an anonymous letter written to Dr Heberden, ſoon after the publication of the ſecond volume of the Medical Tranſactions. In this letter the author gives a particular account of his own caſe, which he pronounces to be an angina pectoris, a diſeaſe firſt accurately deſcribed by Dr Heberden. The author of this letter had laboured under the diſorder for five or ſix years. He was principally attacked by it when walking, and always after dinner, or in the evening; never in the morning. His firſt ſymptom was a pain in the left arm, which in about half a minute extended acroſs the left-ſide of his breaſt, producing faintneſs and quickneſs of breathing, and in a ſhort time it went off as ſuddenly as it had come on. It returned at irregular intervals of a week, a fortnight, or a month; but in general more frequently in the winter than in the ſummer. As Dr Heberden had formerly mentioned that ſeveral of thoſe affected with the angina pectoris, who had fallen within his own knowledge, died ſuddenly, ſo the writer of this letter took it for granted that he was to ſhare a ſimilar fate. And

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he concludes the letter by informing the Doctor, that, in caſe of this event, he had left directions for ſuch an examination of his body as Dr Heberden might imagine could ſerve to point out the origin of the diſtemper. A rare inſtance of good ſenſe and true benevolence. He obſerves, that he was particularly inclined to ſuſpect a ſudden death from peculiar ſenſations with which he was at times affected. This ſeemed to him to proceed from an univerſal pauſe of the operations of nature within him, continuing for three or four ſeconds; and when the vital functions were again reſumed, a remarkable ſhock was felt at the heart.

Not three weeks after receiving this letter, intimation was ſent to Dr Heberden of the death of the writer, which happened ſo ſuddenly that the Doctor had no reaſon to doubt its having been the effect of the angina pectoris. He was taken ill in the midſt of a walk after dinner, and died within the ſpace of half an hour. At the ſolicitation of Dr Heberden, the body was opened by that eminent anatomiſt Mr John Hunter; but an accurate examination ſerved only to ſhew what was not the cauſe of the diſeaſe. No malconformation or morbid deſtruction of any part could

could be diſcovered. It was, however, remarkable that the blood was no where coagulated; nor did it coagulate even after expoſure for two hours to the air; it was of the conſiſtence of thin cream, without any ſeparation of its component parts. The left ventricle of the heart was very ſtrong and thick, and as perfectly empty of blood as if it had been waſhed.

As this examination ſerved to ſhow that the diſeaſe did not ariſe from inflammation, ſchirrus, or abſceſs, Dr Heberden thinks that we need not deſpair of finding a cure for it. And he concludes, that this cure is not to be ſought for in bleeding, purging, and lowering the ſtrength, but rather among thoſe medicines which are uſually called nervous and cordial, ſuch as relieve and quiet motions, and invigorate the languiſhing principle of life.

In the ſucceeding article we are preſented with an account of the diſſection of another patient who died of the ſame affection. This account is written by Dr Wall of Worceſter, who has had occaſion to ſee many patients labouring under this diſorder. The preſent, however, is the only opportunity which he ever had of inquiring into the

the cauſe of the complaint after death. On this diſſection, ſeveral appearances were diſcovered which might be eſteemed morbid. But the moſt remarkable was a very perfect oſſification of the ſemilunar valves. To this cauſe Dr Wall imagines that the diſeaſe was here to be referred. But he allows that ſuch indurations may not always be the cauſe of this affection; and he thinks it difficult to give a ſatisfactory account of ſome of the chief ſymptoms which characteriſe this diſeaſe, without ſuppoſing that there occurs a ſpaſmodical affection.

In the third article, we are preſented with ſome caſes and remarks relative to the diſeaſes of the bones, by Mr Walker ſurgeon in Virginia. In a boy who had received a fall on his ſhoulder ſome months before, Mr Walker found, that the whole os humeri was a mere ſhell or tube filled with matter. As the only means of cure was by an aperture for the diſcharge of the matter, Mr Walker laid open the part from the humerus almoſt to the elbow, and then applied the trephine to different points ſucceſſively through the whole length of the wound, taking off the angles between the perforations, ſo that the bone reſembled an os humeri ſawed through longitudinally. From this time

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every thing went on ſucceſsfully; the os humeri filled up with granulations, and the muſcles recovered their former uſe. Mr Walker farther obſerves, that he has treated ſeveral caſes in which a diſeaſed part of the tibia has been intirely ſeparated, and covered over with a bony callous encompaſſing it, in the form of a tube. In all theſe, his treatment has been to lay open the tubular part, till he had room enough to extract the old bone; and he affirms, that he never in one inſtance failed of ſaving the limb.

In the fourth article, Dr Coyte of Yarmouth relates the conſequences of a crown-piece being ſwallowed by an epileptic man. It was put into his mouth to prevent his tongue from being bit during a violent epileptic fit; the perſon who held it, by accident, let it ſlip down his throat. Before a ſurgeon came, it was ſo low down in the oeſophagus, that it was impoſſible to get it back again; it remained only, therefore, to puſh it into the ſtomach, which was accordingly done. This accident happened on the 11th March 1771. Towards the end of September 1772, he was ſeized with feveriſh complaints, which ſeemed to be chiefly owing to foulneſs of the ſtomach and primae viae. For theſe Dr Coyte ordered him

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to be vomited by repeated ſmall doſes of ipecacuan. He was thus recovering his health; but, on the 26th of November 1772, he found himſelf very ſick, and vomited ſeveral times. During this vomiting, he brought up the crown-piece without any pain, after it had lain near twenty months in his ſtomach. Since that time he has enjoyed a ſtate of perfect health, and never had any return of the epileptic fits.

In the fifth article, Dr Heberden gives an account of the method of preparing the ginſeng root in China, as communicated to Mr Burrow by a Mandarin who had reſided in that part of Tartary where the ginſeng is gathered and cured.

The ſixth article is, the hiſtory of a caſe of angina pectoris, with an attempt to inveſtigate the cauſe of the diſeaſe by diſſection, by Dr Haygarth of Cheſter. As we were favoured with the peruſal of this ingenious paper in manuſcript, our readers may remember that ſome account was given of it in a former number of our commentaries, which renders any farther obſervations unneceſſary.

The ſeventh and laſt article, written by Mr Power ſurgeon in Poleſworth, treats of the uſe

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of fermenting cataplaſms in mortifications. In a caſe of mortification of the toes, Mr Power tried, in vain, all the remedies commonly employed. At length the diſeaſe, ſpreading as high as the ancle, and the patient growing tired of all medicines, Mr Power deſpaired of a cure; but, according to the diſcoveries of Dr M'Bride, having ſucceſsfully preſerved dead fleſh for many months, by keeping it in fixable air, he determined to try what effect it would have by external application in this caſe. He therefore directed a cataplaſm of ſuch ingredients as he thought beſt adapted to ferment, by the addition of ſome yeaſt. For this purpoſe, flower, honey, and water were mixed into a paſte, and ſet by the fire, till they began to ferment; they were then applied to the parts affected once every day for ten days ſucceſſively. At the end of that time, Mr Power, to his great ſurpriſe, found that the mortification was ſtopped, and the putrid ſtench abated. Other dreſſings were then ſubſtituted in their place, and appearances were favourable. But, ſome time after, the dreſſings being accidentally rubbed off, and the ſtump expoſed during the night, a freſh mortification was the conſequence. This alſo, after other means had been

firſt

firſt tried, was ſtopped by the fermenting cataplaſm, and the patient had afterwards a gradual, although ſlow recovery.

Since the treatment of the above caſe, Mr Power has employed, with ſucceſs, fermenting cataplaſms in another inſtance of mortification; and he has uſed this remedy with advantage in ſeveral inſtances of foul ulcers, where he ſuſpected the abſorption of fetid matter to be prejudicial to health.

Our author concludes his obſervations by propoſing it as a query, Whether fixed air be not a weak acid? If this be true, he thinks it cannot appear ſtrange that this, as well as other acids, ſhould reſiſt putrefaction; while, at the ſame time, as having greater fluidity, it will penetrate farther into ſoft bodies, and, as having little cauſticity, it can be more conveniently applied. That it is a weak acid, he thinks probable from its uniting with cauſtic calcareous earth, and producing thoſe chryſtals called dogtooth-ſpar; from its chryſtallizing with cauſtic, fixed alkalies, and producing mild fixed alkalies; from its chryſtallizing with cauſtic volatile alkalies, and producing mild volatile alkalies; and from its being diſpoſſeſſed from all theſe bodies by ſtronger acids. And he concludes with obſerving, that,

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if it be an acid, it is certainly the moſt univerſal acid in nature, as ſuch an infinite variety of ſubſtances are replete with it.

VII.

Diſſertatio Academica de Cancro, quam duplici premio donavit Illuſtris Academia Scientiarum, Humaniorum Litterarum, et Artium Lugdunenſis, in conventu publice habito, die octavo Decembris, anno 1773. *Auctore* Ber. Peyrilhe, *Doctore Medico* Toloſano, *&c. &c.* 8vo, Antwerpiae.

THE eſſay before us, in the year 1773, gained the prize given by the academy of ſciences at Lyons for the beſt diſſertation on cancerous diſorders. The author introduces his ſubject by giving a general view of the plan he intends to purſue. 1ſt, He propoſes to inveſtigate the cauſes of the cancerous virus. 2d, To determine its real nature. 3d, To explain its effects. 4th, To conſider and point out thoſe ſtates of cancerous diſorders in which cures may be obtained; and, 5th, To ſet forth the beſt method of effecting a cure.

Schirrus

Schirrus and cancer are, by our author, looked upon as one and the ſame diſeaſe, differing only in degree; and, in conſidering them, he points out four ſeveral ſtages, which, he ſays, are always very obvious, and may generally be evidently obſerved. 1ſt, What he terms *ſchirrus non exquiſitus*, in which the tumour is hard and of a clear ſhining appearance, ſometimes attended with a good deal of pain, but, on other occaſions, with little or none, and the colour of its ſurface differing in no reſpect from that of the ſound ſkin. 2d, *Schirrus exquiſitus*, which conſiſts entirely of a continuation and augmentation of the fore-mentioned ſymptoms. 3d, *Schirrus malignus*, in which, to the appearances obſerved in the firſt and ſecond ſtages of the diſorder, are conjoined pungent, ſhooting, *burning* pains, which are not conſtant, but return as it were at ſtated intervals, and more eſpecially in the evening. And, 4th, *cancer apertus*, in which occur all the moſt inveterate and troubleſome ſymptoms ever obſerved in the open or ulcerated ſtates of cancer.

With reſpect to the proximate cauſe of cancers, our author endeavours to prove that it conſiſts in an inſpiſſation, or ſome other diſorder of the lymph, which occaſioning obſtructions in the

ſmall veſſels of glands and other parts, at laſt produces a certain kind or degree of putreſcency, and which he conſiders as the ultimate cauſe of the cancerous virus. Obſtruction of the ſeveral ſmall veſſels, he obſerves, muſt be a certain conſequence of many of the exciting and more remote cauſes of ſuch diſorders, as of bruiſes, &c. and obſtruction being once produced, putreſcency will in general naturally ſucceed, from the well known property of all animal fluids to run into the putrid fermentation, when allowed to remain at reſt, and in a moderate degree of heat. Many ingenious arguments are made uſe of in ſupport of the opinion; and, amongſt others, it is aſſerted, that the virus or matter of cancerous tumours, when expoſed to the fire, emits a vapour of a real alkaline nature; and, in the farther progreſs of cancerous diſeaſes, it is even ſaid, that extrication of air, that conſtant attendant on the putrefactive proceſs, very frequently, if not always, takes place. One caſe in particular is mentioned, where, ſoon after the death of the patient, the cancerous tumour was, together with the ſurrounding cellular ſubſtance, laid open, and when it evidently appeared, that conſiderable quantities of air had been ſeparated. About two drachms

of

of cancerous matter being taken from a diſeaſed mamma, were injected, by means of a ſyringe, into a ſmall wound made on the back of a dog, and, in a few days, a blackiſh ichor was diſcharged from the opening, and the whole body, from the head to the tail, became emphyſematous; from all which Mr Peyrilhe concludes it to be at leaſt very probable that the cancerous virus is of a putrid nature.

In the treatment of cancerous diſorders, cures, we are told, may ſometimes be effected in the firſt and ſecond ſtages of the complaint, by a proper uſe of diluents, emollients, attenuants, &c. But nothing can ever be certainly depended on, except the extirpation of ſuch parts as are diſeaſed. The author has no favourable opinion of cicuta, nor indeed of any other medicine with a view to a cure; but many caſes, he obſerves, occur, in which exciſion cannot with propriety take place, and wherein conſiderable relief may be obtained by a due attention to different circumſtances, but particularly from the exhibition of antiſeptics inwardly, and the application of them externally to the ulcerated parts. This, he obſerves, is a farther confirmation of his opinion with reſpect to putreſcency acting as the cauſe of ſuch diſorders; and he propoſes, as the moſt

effectual reſiſter and corrector of ſuch a ſtate, the application of fixed air, or Gas ſylveſtre. After ſome general remarks with reſpect to the known antiſeptic properties of that fluid, he relates two caſes of very bad ulcerated cancers, which were greatly relieved by its being had recourſe to. One of them extended over the whole noſe, upper lip, and a great part of the cheek; and the other was on a woman's breaſt. In both, the pains were greatly diminiſhed, and the diſcharge, from being of the worſt kind, was converted into good pus, and all the appearances were ſo much changed for the better, that expectations were given of even complete cures being obtained. Unluckily, however, both patients were carried off by other diſeaſes, before that could be effected. The air, in both theſe inſtances, was obtained from potaſhes, ſometimes with ſpirit of nitre, and at other times with vinegar. In the cancerous noſe it was found neceſſary to direct the air immediately to the part, and likewiſe to prevent its entering the lungs, to cover the veſſel in which the mixture was contained with a paper funnel, which confined it effectually, and prevented the occurrence of vertigo, which the patient at firſt was liable to from the want of that precaution.

From

From the evident effects of fixed air in these inſtances, our author thinks it probable that poultices of carrots, Peruvian bark, and other antiſeptics, prove uſeful in a ſimilar manner, in conſequence of conſiderable quantities of ſuch air being afforded by them. And, on that account, he adviſes them to be applied, when entering into a ſtate of fermentation. At the ſame time that theſe applications are uſed externally, ſuch a diet ſhould be recommended as eaſily ferments, and yields the greateſt proportion of fixed air; and, with this view, our author recommends, as proper drink, cyder, wort, decoctions of ripe fruits, &c. and, in general, a milk and vegetable diet. As a medicine, bark in large doſes is mentioned as the moſt effectual, together with bitters and elixir of vitriol; and, when laxatives are wanted, tamarinds, with large quantities of honey, are ſaid to be the beſt.

SECT II.

Medical Obſervations.

I.

An Account of the Effects of Electricity in different Diſeaſes, by *Dr* James Saunders, *Phyſician in Banff.*

Introduction to Caſes in Electri city:

THE following caſes, the laſt only excepted, were ſelected from a journal of electrical caſes which occurred to me from the 1752 to 1761. About that time, they were read by Dr Cullen in the philoſophical ſociety at Edinburgh, and a report of them ſoon thereafter ſent me by Profeſſor Ruſſel. They, no doubt, would have been more acceptable to the public at the early period in which they occurred; but, if the publication of them juſt now ſhall tend to confirm experiments

experiments already made, or ſtir up a farther ſpirit of inquiry in others, they cannot be entirely uſeleſs. I was engaged in theſe inquiries by a correſpondence with Dr St Clair, then profeſſor of the inſtitutes of medicine, on the ſucceſs of electricity in the caſe of one Moubray from Stirling, an infirmary-patient. The reports about it were then ſo vague as could not be depended on; Dr Muſhenbroeck reported its effects to be very dangerous, while ſome Italian and French phyſicians gave incredible accounts of its ſafety and ſucceſs. At that time the Abbe Nollet's account of it ſeemed to me to deſerve moſt credit, as it was founded on very accurate experiments. Some time thereafter, Dr de Haen recommended it with all the fondneſs he had ſhown for new medicines, and publiſhed, I believe, very juſt hiſtories of its ſucceſs; but he poſitively aſſerted, that it could in no caſe do any harm, when, at the ſame time, he mentions a patient who died ſoon after the operation. To this I ſhould very readily have attributed the death, at leaſt in part.

The following are the principal obſervations I have made as to the manner of applying it, and its effects.

Its identity with thunder and lightning is fully proved. I have often experienced myſelf, and I have been told by others, of their having the ſame ſenſations, in ſome particular weather, as from electricity.

There are three different ways of applying electricity, different perhaps in kind, but certainly in degree, by inſolation, by ſparks, or by ſhocks.

When one ſtands on the floor in contact with the machine, a conſtant ſtream of electric matter is paſſing through his body; if ſtanding, in like manner, on wax or glaſs, the natural quantity is accumulated in his body, paſſing off ſlowly with the perſpirable matter; in this laſt ſtate, if he be touched by any non-electric body, the ſtream is directed rapidly to the part touched. When the electric vial is diſcharged, the ſtream is then moſt rapid; and this is certainly the moſt dangerous manner in which it can be applied; but it can be moderated by the ſize of the vial, and may be determined to any particular part of the body, as it moves in a direct line between the two wires.

As to its effects, I think they are very general on the ſyſtem; it increaſes the pulſe, Sauvage ſays,

ſays, to one-ſixth above the natural ſtandard. Abbé Nollet, by very correct ſtatical experiments, found that it greatly increaſed perſpiration, and that in a ratio rather to the ſurface of the animal than its weight. It brings on temporary fevers and ſweating. This alarmed Muſhenbroeck; but ſome of its medical powers are probably owing to theſe effects. Slight ſparks drawn from the ſkin mark it with theſe ſpots called ſugillationes. It occaſions ecchymoſis and extravaſation in the brain, which was the caſe with de Haen's patient; and Van Swieten, in his Commentary de Paralyſi, ſays, that he obſerved *ſugillationem manifeſtam* in the dura and pia matter of birds killed by it. Hence, I apprehend, the danger of it in palſies depending on the ſenſorium commune, joined with a venous plethora, or where the viſcera are not ſound; and hence its ſo immediate effects in menſtrual obſtructions. By drawing ſparks, and ſo exciting local inflammation, ſuppuration is promoted; this I have experienced in thoſe tumors called barley-corns on the eye-lids. It is of great ſervice in caſes of obſtinate ophthalmia; it reſtores bulk and fullneſs to waſted limbs.

Its effects are alſo remarkable on the moving fibres. It excites the nervous power in the organs

gans of motion and ſenſe; it produces convulſive motion in torpid parts; it relaxes contracted joints, and looſes ſpaſms. I have ſeen it of great ſervice in the chronic rheumatiſm.

In ſome caſes, its ſucceſs is very immediate; in others, it requires much time and perſeverance; and, to the want of theſe in the patient and operator, I am apt to think, the failure of ſucceſs is often to be imputed.

CASE I.

March 1752. A ſoldier had, in the preceding winter, contracted a weakneſs in both legs; he complained of the ſenſatio formicationis, and of weight in them; they were much waſted, and felt cold, and the benders of the knees were rigid, and greatly contracted. His complaints were imputed to bad quarters, and to the removing an itch by mercurial ointment. He was carried by two men to be electrified, for he could not walk. After the firſt operation, he ſweated profuſely for two hours: It was repeated every day for four weeks, in which time the ſtrength, heat, and fullneſs of his legs were perfectly reſtored.

CASE II.

CASE II.

A LADY, aged about thirty, had been afflicted for ſix months with an involuntary motion of her eye-lids, which became ſo frequent, as to render her eyes of no uſe. She had been bliſtered, and uſed many things with no ſucceſs. March 1752, ſhe came to be an electrical patient. During the operation, and for two hours after, the tremulous motion was much leſs; but, in twenty-four hours, it became as bad as ever; its effects became daily of longer duration; and, by continuing the operation every day for ſix weeks, ſhe had a perfect cure. After being electrified ſix days, ſhe told me, ſhe was ſurpriſed to find that the joint of her elbow, which ſhe could not ſtretch out for ſix months before, was become pliable; and, upon inquiry, I found ſhe had then got a fall from her horſe, by which her arm and head had been much hurt, and that the involuntary motion of her eye-lids had come on immediately thereafter. After this, many trials with electricity were made upon ſtiff joints, after old ſprains, and with great ſucceſs.

CASE III.

CASE III.

A woman, aged about forty, of a tender delicate frame, had a great pain and weakneſs in one of her arms, which began after a fall ſhe had got from a horſe three months before. Upon being four times electrified, ſhe became able to follow her buſineſs of mantua-making, without any returns of her complaints, except an aching in it in cold weather, with eaſterly winds.

CASE IV.

A young Lady, March 1752, aged fourteen; when fifteen months old, had a tedious fever, in the end of which her right leg was perceived to be incapable of any voluntary motion. Various medicines had been uſed, by the beſt advice in the kingdom, with no ſucceſs. At this period it was not half the length of the other; but ſhe continued to have the full uſe of her left leg, till about the twelfth year of her age, and could walk about nimbly with crutches. The left leg then began to fail her; it became weak, the joint of the knee ſhrunk up, it felt cold to herſelf,

ſelf, and others, and the whole leg was much waſted. She behoved to be carried in a ſervant's arms from one place to another, as often as it was neceſſary ſhe ſhould be moved. After being in this ſtate for eighteen months, the leg daily becoming more waſted, ſhe came, in March 1752, to be an electrical patient. After being electrified five or ſix times, there was a very ſenſible increaſe of its heat, and the joint of the knee yielded a little to extention; in ten days ſhe could point her toes to the ground, and, by the help of one ſtaff, and the hold of a ſervant's arm, ſhe could walk from one room to another; in three weeks thereafter, with the ſame aſſiſtance, ſhe could walk into the garden, or any houſe in the neighbourhood. She continued the electricity daily for four months, in which time there was a very remarkable increaſe of the ſize and fullneſs of her whole body; the left leg came to its natural heat and juſt proportion; and now, ten years after the electricity has been laid aſide, ſhe continues to be able to walk a little in the above manner from one room to another, though the leg is more ſhrunk than when the electricity was given up. No change was produced on the right leg.

CASE V.

CASE V.

AT the ſame time a ſoldier's child of eighteen months old, was brought to be electrified, with a leg cold, waſted, and feeble, and incapable of the leaſt voluntary motion. Theſe complaints had come on after a fever three months before, in the end of which there was a large abſceſs formed upon the thigh; this had been opened by a lancet, and a conſiderable haemorrhage followed; but it was then healed up. After being electrified every day for four weeks, it became as full and ſtrong as the other.

CASE VI.

A young lady, aged between twenty and thirty, of a family ſubject to hyſterical complaints, was herſelf likewiſe affected with the ſame diſorder, and with uncommon haemorrhages from the ſtomach, uterus, and noſe, brought on by whatever affected the body or mind in any great degree. In November 1751, when her menſes flowed, they were ſuddenly ſtopped by an alarm from a houſe being ſet on fire. She was immediately ſeized with fainting fits, a clavis hyſterica in the left brow,

brow, vomiting of blood, an haemeplegy in that ſide, and a total loſs of ſight in that eye. The uſe of her leg and arm were reſtored in ſix weeks, after frequent bleedings, bliſtering, &c. but her eye remained blind, and the menſes had not flowed through the winter. In May 1752, ſhe was brought to be electrified. During the firſt operation ſhe menſtruated; ſhe could that night ſee objects imperfectly with her left eye; the menſes flowed in a due quantity, and left her with the ſight of that eye as perfect as the other.

CASE VII.

A young girl, aged nine years, had been for ſome months afflicted with ſpaſmodic contractions in different parts of her body; ſometimes one hand, and ſometimes another would be ſo clenched that no force could open a finger. Upon being electrified, a ſhock or two looſed the ſpaſms, which returned again in a few hours; ſhe could not be prevailed upon to make many trials, and no cure was effected.

CASE

CASE VIII.

A gentleman who had been fifteen years afflicted with a gutta ſerena, upon hearing of Caſe VI. was deſirous to be electrified. It was repeated three or four times, but with no ſucceſs.

CASE IX.

A young lady, aged ſeventeen, of a very delicate tender frame, in November 1760, loſt her appetite, and complained of an univerſal debility over her whole body, but more eſpecially in her right-leg, which in a ſhort time became ſo weak that ſhe could not walk through the room upon it. The joint of the ancle ſeemed to be moſt affected; ſhe complained of its being ſometimes pained, but always of the ſenſatio formicationis; it felt cold, and was much waſted. Bark and the cold bath were of great uſe throughout the winter for recovering her ſtrength; but the right-leg did not recover its proportion with the reſt of her body. March 1761, it was propoſed to try electricity. After continuing the operation daily for two weeks, the ſenſatio formicationis was greatly removed, the leg became warmer and fuller,

fuller, and ſhe could walk better for two hours after being electrified. Theſe effects became daily of longer duration, and, in ten weeks time, ſhe recovered the full uſe of her leg. The electrical ſhocks diſordered her whole frame ſo much, by bringing wearineſs and palpitation at her breaſt, that all caution was uſed to confine them to the leg affected; at the end of ten weeks, the leg which had been weak became fuller and firmer than the other, without any thing like fluxion upon it; but, upon diſcontinuing the electricity, they became of one ſize in ſome weeks thereafter. Remarkable attention was paid to the above caſe, and the leg meaſured every day. The young lady now enjoys perfect health.

CASE X.

A young lady, aged nineteen, had an obſtructio menſium for above eighteen months, in which time ſhe had loſt her appetite and ſtrength, and was much waſted. Her friends were deſirous to have electricity tried, although I had no expectations from it, becauſe of her body being ſo remarkable low. The ſhocks at firſt occaſioned a ſmall degree of fluor albus; the operation was

continued ten weeks, during the trials in the former caſe, in which time ſhe recovered her appetite and ſpirits, and her body became remarkably full; theſe advantages continued to improve after the electricity was laid aſide; but ſhe did not menſtruate until ſome months thereafter.

CASE XI.

A ſervant maid, aged between twenty and thirty years, after a tedious fever, from which ſhe was ſo much recovered as to ſpin, and do any eaſy ſervile work, complained ſuddenly of a ſenſation like cold water pouring down her arm, and immediately loſt all voluntary motion in it. She continued in this ſtate three months, without having any relief from bliſtering, and many other medicines which were preſcribed for her. When I firſt ſaw her, March 1761, her thumb and fingers were ſo clenched, that no force could open them; the arm was much waſted, and felt cold. A few electrical ſhocks made her fingers capable of being opened one by one. Theſe effects continued at firſt a few hours only; but, after being repeated daily for two weeks, ſhe had the full uſe of her fingers, and could raiſe her arm

arm to her head. She would attend no longer, as it gave her pain. At the end of two weeks, ſhe returned again, with her arm much worſe than when ſhe went away; but, after uſing the electricity again for ten days, it was reſtored once more to its former ſtate, and has continued ſo ever ſince (that is, perfectly recovered), though ſhe is reputed to live in a very diſorderly manner.

CASE XII.

A young lady, aged ſeventeen, during the ſummer 1762, became affected with obſtructio menſium. Loſs of appetite, and ſtrength ſoon followed, and a moſt violent ophthalmia in the left eye. Being at a boarding-ſchool, ſhe continued in this ſtate for ſeveral months much neglected. December laſt, the ſound eye came to be affected, when my advice was aſked. She complained of anxietas praecordiorum, oppreſſion in her breathing, and acute ſhooting pains in both eyes; her ſtrength was much waſted, and a ſwelled finger, and ſome ſtuffed glands, gave ſuſpicion of ſome latent cacochymy. Bleeding and bliſtering ſoon removed the inflammation in the eye laſt affected; but the other could not be opened, nor bear the

leaſt degree of light. Through the winter, ſhe uſed the bark, drunk aſs-milk, and had a pea-iſſue in her arm; beſides topical applications, its connection with the menſes ſeemed to be pointed out by its periodical increaſe, which was only prevented by timely bleeding. By the above courſe, her body became fuller, and ſhe recovered her ſtrength; and I was deſirous to try the effects of electricity for the obſtructio menſium, judging it ſafer to make cautious trials, than to puſh the cure by ſteel and ſtimulating medicines, in a habit which during the winter and ſpring had ſhown ſuch a diſpoſition to be hectic, and the blood ſo highly phlogiſtic, that I had forbid all animal food or fermented liquors. All medicines had been laid aſide for a week before, and ſhe came to be electrified in March 1762. In three days, during which time ſhe was electrified every day, the inflammation of the eye was evidently better; in four days thereafter, ſhe menſtruated, when under the operation; as there was no reaſon to dread that the menſes would be too copious, the operation was continued daily. The menſes flowed duly; the inflammation in that time was quite removed, and the eye appeared altogether ſound, and could

bear

bear the light, only the cornea was opaque, but it became every day better. She continued the electricity a week longer.

CASE XIII.

A woman, aged forty, was electrified for an obſtructio menſium of ſome years ſtanding, and, though the ſhocks were directed through the abdomen and lower extremities, it did not ſucceed, but brought on haemorrhages from the noſe. Three patients who had laboured under hemeplegies, and partial loſs of ſpeech for ſome years, which had come on after ſlight apoplectic fits, were three or four times electrified with great caution, but with no ſucceſs.

CASE XIV.

A young gentleman broke his thigh-bone by a fall in November 1772. After the accident he got the beſt aſſiſtance, and as ſoon as poſſible. In the month of May thereafter he could only walk on ſtilts; the whole limb was weak, flaccid, and waſted, and the joint of the knee ſomewhat

ſtiff. His own account was, that his caſe had been quite ſtationary for three months paſt, in which time he was ſcarce ſenſible of any progreſs in acquiring ſtrength. I then adviſed his making a trial of electricity. After a few ſhocks, he was immediately ſenſible of ſome advantages; but theſe were gone before next morning; however, by perſiſting in it every day twice, and increaſing the number of ſhocks to about one hundred and fifty, which were confined to the leg and thigh, he became ſenſible of a daily increaſe of ſtrength and fulneſs in the leg; ſo that, at the end of the firſt week he laid aſide one of the ſtilts, and, in a week, thereafter, the other ſtilt, at which time he was able to walk with a little aſſiſtance from a cane in his hand; the increaſe of fullneſs in the leg was aſcertained by a very exact meaſure; it is now long ſince the electricity was laid aſide, and he has loſt none of theſe advantages.

A Caſe

II.

A Caſe of a very obſtinate Ophthalmia, *ſucceſsfully treated by an* Emetic, *and the conſequent uſe of the Peruvian bark; by Dr* Robert Dobſon, *Phyſician at* Kirkham.

A YOUNG woman, aged 22 years, of a delicate habit, and rather ſedentary life, was, towards the cloſe of the year 1773, ſeized with a total blindneſs of her right eye. The attack was ſudden. The tunica albuginea, and the whole globe of her eye, were preternaturally enlarged in ſize, and the former in a great meaſure covered with deeply inflamed red veſſels; the cornea was diſtended with a thick viſcid matter, in appearance of the conſiſtence of gelly, and the chryſtalline lens was protruded by its increaſed magnitude through the pupil, even ſo far, as to ſeem to be in contact with the inner ſurface of the cornea; and its form was very irregular and unequal. The palpebrae alſo were enlarged, and, at times, were firmly attached to each other, by means of a thick white glutinous matter; nor could theſe be ſeparated without the moſt violent tortures, ariſing from the admiſſion of air and light,

at which time a very copious diſcharge of acrid tears would enſue. Her other eye was ſimilarly affected, though in a leſs violent manner. This diſorder was accompanied with the moſt excruciating and inceſſant pains, entirely preventing ſleep, and, at times, ſo inſupportably ſevere, as to induce a deliquium animi. Her pulſe was very quick and ſmall, but, even in health, more ſo than uſual. Her belly was bound; her urine free and natural, though ſometimes high coloured, and depoſiting a white viſcid ſediment, eſpecially when ſhe had lain whole days in bed, and when, thro' exceſs of pain, ſhe had ſweated profuſely. Her menſes were regular, but commonly more copious and frequent than in moſt women. In general, ſhe had no great thirſt nor ſweat, which, however, ſometimes iſſued forth cold and clammy; and this ſhe attributed to the violence of her pain. Her appetite loathed all kinds of food, and her ſtrength was remarkably reduced.

In this ſituation I found her on January 3. 1774. Upon inquiring whether any obvious cauſe, or external injury could be aſſigned for this dreadful concourſe of ſymptoms, I was told, that, ſeveral months ago, ſhe had ſomething of the ſame complaint, in a milder degree; and ſhe ſaid, that

that ſhe had at that time received a ſtroke upon her eye from the edge of a door, on ſuddenly attempting to ruſh through it; that ſhe grew better of this in ſome weeks, by the application of the common means employed for that purpoſe; that ſhe had, at times, periodic returns of hemicrania in the left ſide of her head when in moderate health; that ſhe had accuſtomed herſelf to reading whole nights together by candle-light; that ſhe had a conſtant pain in her left ſide, attended with a dry cough, and occaſional throwing up of her victuals, eſpecially breakfaſt; ſhe could not, however, at preſent aſcribe any apparent reaſon for her complaints, except catching cold.

She had been in the ſtate above deſcribed for ſeveral days, under the directions of an apothecary, by whom ſhe had been very properly bliſtered behind the ears, and had taken ſome laxatives previous to my viſit. As ſhe peremptorily refuſed to ſubmit to the uſe of the lancet, I contented myſelf with having recourſe to copious and repeated abſtractions of blood from the temples, by means of leeches. After this, we employed, at proper intervals, cooling purgatives, continued bliſters, clyſters, antiphlogiſtic repellent collyria, ſhaving the head, and waſhing it with cold water, diſcutient applications

cations to her temples, pediluvia, occaſional opiates, appropriate diet; and alterant nitrated drinks; but all to no purpoſe; her diſeaſe continuing unaltered, nay, even more violent than before. I always perceived the laxatives particularly noxious, as they ſcarcely ever failed to produce greater pain, more reſtleſs nights, and frequently ſyncope. In the beginning of February, to the original complaints related in the caſe, were added an intenſe thirſt, cough, total loſs of appetite, bad taſte in the mouth, an acceſſion of a regularly formed febrile paroxyſm every afternoon, and an univerſal proſtration of ſtrength. At this period, I was abſent from town about a week, during which time ſhe had taken no medicines whatever; and indeed, from the inefficacy of what ſhe had before tried, ſhe grew weary and doubtful of any medical aſſiſtance.

Upon my return, I again, with ſome reluctance and concern, called upon my fair ſufferer, whom I found in no better a condition than I have juſt mentioned, but amazingly penſive and dejected. To confeſs the truth, I was now at a loſs how to proceed with proper judgment; the fears of ſuppuration of the effuſed matters, and of conſequent total blindneſs, affected me ſo much, that,

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at times, I was almoſt determined to lay aſide all further attempts, and to abandon the miſerable creature to the conſequences of a natural termination. An obſervation of Dr Hoffman by no means tended to alleviate this piercing anxiety of mind: 'Comitatur hanc ophthalmiam,' ſays he, 'dolor acerbiſſimus cum febre, quandoque etiam 'cum delirio; ſequitur ſuppuratio et humorum 'effluxus, remanente caecitate perfecta;' Vid. Hoff. med. rat. p. 4. ophth. Humanity, however, prevailed over theſe painful, and even barbarous reſolves. I then was fully perſuaded to overlook the venerable authority of antiquity *, and to venture to upon a practice, however precarious, that now alone ſuggeſted itſelf to be purſued in this deſperate dilemma.

Having formerly heard of the utility of emetics in ſome inveterate caſes of ophthalmia, notwithſtanding

'* Poſt venae ſectionem liberaliter inſtitutam, ne-'ceſſe eſt purgantia injicere; at ſemper eſt a vomitoriis 'abſtinendum, in omnibus oculorum affectibus; ſi qua 'fides antiquitati. Quare nec ea purgantia in hoc af-'fectu eſſe uſurpanda, quae vomitionem ſolent inter 'purgandum excitare tradiderunt.'

Pitcairn, Elem. med. lib. ii. cap. 9.

withſtanding the general prejudice entertained againſt them in congeſtions of the head, I reſolved to make trial of theſe.

The following practice was, therefore, literally adopted:

℞ Tartari emet. *gr.* iij. ſolve in julepi ſalini ʒiij. Capiat cochleare unum hora ſexta veſpertina, et repetatur omni hora poſtea, dum moveatur vomitus aut catharſis. Poſt doſin ſecundam, ſi effectus modo dictus non prius eveniat, capiat cochl. ij. et eodem modo pergat, dum efficitur, quod quaeritur. Vomitione finita, devoret pilul. ſequentem.

℞ Extracti thebaici *gr.* jſs. Ipecacuanhae pulv. *gr.* ij. ſyr. ſim. q. v. ut fiat pilula una.

℞ Cort. peruv. opt. pulv. tenuiſs. ʒj. Gentian. inciſ. rad. ʒſs. Glycyrrh. ʒij. Coque ex aq. font. ℔ iij. ad ℔ ij. Colaturae adde Tinct. cort. peruvian. Huxh. ʒij. vini chalyb. ʒjſs. Elix. vitr. acid. ʒiij. M. ſumat. coch. iij. ter de die, abſente pyrexia.

The doſe of the opiate may probably appear very large for a delicate conſtitution; but it muſt

be conſidered, that ſhe had, while her exquiſite pains and watching continued, repeatedly taken opiates; whence the laws of habit had rendered them leſs active, and eſpecially ſo, when corrected with the ipecacuan. In the morning, I was aſtoniſhed to find my patient happily and unexpectedly relieved of all her complaints. The emetic had ſufficiently operated, and diſcharged upwards a quantity of viſcid bilious matter, and promoted the alvine excretion. She paſſed a very quiet and compoſed night, and enjoyed more ſleep, and that infinitely more comfortably, than ſhe had done during all her illneſs. Her pains were now greatly alleviated, the tumour of the eye diminiſhed, the gelatinous ſtate of its humours attenuated, and viſion began to be reſtored. As the ſecond doſe of the emetic had excited vomiting, I now ordered a ſmaller quantity of the remaining ſolution to be taken every hour that day, excepting the time of the fit, as an alterant and febrifuge; but ſhe had none, or, at leaſt, an almoſt imperceptible return only of her febrile paroxyſm. The day following, ſhe continued and finiſhed her ſolution; and by this time ſhe could perceive objects pretty diſtinctly, when brought near the eye, whoſe

whoſe viſcid humours gradually ſubſided. She now took her decoction according to the directions; and, in a few days, without any ſenſibly increaſed evacuation, recovered her former health and ſtrength, which have continued ever ſince, in a great meaſure undiſturbed by any relapſe, excepting on any deviation in the non-naturals, a ſlight return of the hemicrania. To conclude: As a ſmall degree of opacity ſtill remained on the cornea, I directed her to ſwallow the following pills:

℞. Calomelanos *gr.* xij. ſulphur. aurat. antimonii ʒ ſs. Terantur ſimul probe in mortario marmorio, dum perfecte laevigentur. Adde opii puri *gr.* iij. conſerv. roſar. q. ſ. ut fiant pilulae xij. quarum deglutiat unam mane et veſperi, pro ij. diebus, et tunc temporis mane primo ſumat inf. ſenae comm. q. ſ. ad alvi ſolutionem, cum regimine ſolito. In hac methodo perſiſtat, donec omnes aſſumſerit pilulas.

During the time ſhe employed theſe, we had the pleaſure to obſerve her ſight ſtill farther reſtored.

III.

III.

The Hiſtory of an Obſtruction of the Rectum at Birth, ſucceſsfully cured by Operation. By Mr William Wright *Surgeon in* Jamaica. *Communicated to Dr* Hope.

ON the 18th of Auguſt 1773, I was ſent for to ſee a new-born child at Bounty-hall eſtate, belonging to John Simpſon, Eſq; The child was a negro boy, born the preceding day. The midwife had given it repeated doſes of caſtor oil, and, finding that no meconium, or any other feculent matter was diſcharged, ſhe tried to give it a glyſter; but, upon finding that the ivory pipe could only be introduced about a quarter of an inch, ſhe deſiſted from the attempt. When I came to examine it, I found a firm reſiſtance to a probe, and could plainly diſcover, with my finger and thumb, a hard tumour, of a round form, nearly as large as a walnut. I concluded this to be a calloſity of the rectum; and, although I had never heard of the ſucceſs of an operation in a ſimilar caſe, I told the negro parents and the proprietor, that the child had no other chance for life but by an opening being made through this obſtruction.

This

This was readily agreed to, and I called to my aſſiſtance Mr Thomas Steel, an eminent ſurgeon. He being fully ſatisfied of the propriety of this hazardous attempt, we accordingly proceeded to the operation.

The child was held in a horizontal poſture, with his knees drawn up towards his belly. I firſt enlarged the external orifice, by cutting through the conſtrictor ani. My aſſiſtant then held the tumour faſt, and in the poſition in which it naturally was. I introduced a directory to the middle and moſt prominent part of the tumour, and, with a common lancet, I made an inciſion quite through the reſiſtance, in the direction of the rectum. We had the pleaſure of immediately ſeeing a large quantity of meconium come away, and there was, at the ſame time, a conſiderable diſcharge of wind. The child's belly, which before was very hard and much ſwelled, ſoon ſubſided; the ſymptomatic fever abated, and a ſubſubſultus tendinum, which had accompanied it, intirely diſappeared. A glyſter of milk and ſugar was then thrown up, which brought away a conſiderable quantity of meconium and excrement.

From

From this operation the child's moſt urgent complaints ſeemed to be removed. But we were farther informed, that, from the time of its birth, it had diſcharged no urine. Upon examination, we diſcovered that the prepuce was imperforate. The child was directly circumciſed, and the urine then flowed in abundance. We contented ourſelves, by dreſſing, at that time, with a ſoft roll or doſſil of lint, and a poultice externally. And we directed that theſe, with fomentation to the part, ſhould be uſed twice a-day.

By the 25th of the month, the tumour in the rectum had intirely collapſed; but the train of threatning ſymptoms with which the child had before been affected, again made their appearance; and, upon examination, we found, that the parts before divided were again united. In this ſituation we had recourſe to the lancet a ſecond time, and not only made a thorough perforation, but extended the inciſion quite through the ſides of the calloſity. In other reſpects, we proceeded as at firſt. After this, nothing remarkable occurred in the cure, which was compleated in five weeks, and my patient is now a healthy ſtout boy.

IV.

An Account of the happy Effects of a Seton in the Side. *By Mr* Alexander Brymner, *Surgeon at* Stirling.

A WOMAN, twenty-two years of age, had been affected, from her eighth year, with a cough and difficulty of breathing, which began from a bruiſe. She had uſed a variety of medicines, recommended by different perſons, during that courſe of years. But the only one from which ſhe found benefit was ſquill pills, preſcribed by a gentleman in Glaſgow, who ſuppoſed her caſe to be dropſical, as her whole body was ſwelled.

When ſhe applied to me, beſides the above ſymptoms, ſhe was at times afflicted with ſickneſs, and vomiting of blood mixed with pus; and, at other times, ſhe ſpat up large quantities of groſs matter along with the cough. After preſcribing ſome medicines, I adviſed a ſeton in her ſide, which drew off a large quantity of matter. After it had run for ſome time, the patient was greatly relieved. I then ordered her to drink ſalt-water; for which purpoſe ſhe was conveyed to Airth in

a cart. After ſtaying there ten days, ſhe went on foot from thence to Leith in one day, although formerly ſhe had not been able to travel two miles in a day. For ſome years before the iſſue was put into her ſide, ſhe had ſuch a difficult breathing, that the doors and windows were obliged to be kept open for her night and day.

After ſtaying ſome time at Leith, where ſhe alſo uſed the ſalt-water, ſhe returned home in ſuch a hopeful condition, that ſhe wrought the ordinary work of the houſe, which ſhe had never done before, and the ſeton was dried up.

I then adviſed a ſeton to be put into her other ſide; but ſhe would not agree to it, though preſſed by her friends. Some time after this, ſhe was ſeized with a pleuritic fever, which was then epidemic in the country. Of this ſhe died after one day's illneſs; but her deſire before her death was that I might be ſent for to open her body; intimation of which was accordingly ſent me. In laying open the abdomen, I was ſurpriſed to find the teguments four inches in thickneſs before I got at the muſcles. There was nothing remarkable in the abdomen, except that the omentum was as thin as in a dropſy. On raiſing the ſternum,

num, I was fully convinced of the good effects of the ſeton. It had been applied to the right-ſide, and accordingly the right lobe of the lungs was in a pretty ſound ſtate, quite free from all purulency; whereas the left lobe was full of purulent matter, which iſſued from it (on preſſure) as from a ſpunge when ſqueezed.

On the pleura of the left-ſide there were ſymptoms of inflammation, which had probably been the cauſe of her death, as ſhe complained of a pain in her left-ſide when firſt ſeized.

V.

Two Caſes of Diſlocation of the Femur, with an Account of the Method of Reduction. By Mr Thomas Anderſon *Surgeon in* Leith.

1.

IN September 1772, Mr Bruce ſurgeon at Muſſelburgh ſent to me, deſiring I would meet him at Lord Abercorn's coal-work, one of the colliers having diſlocated his left thigh-bone. I there found Meſſrs Bruce and Stewart ſurgeons in Muſſelburgh, and Meſſrs Simpſon and Clarkſon ſurgeons in Dalkeith, who were juſt begun to attempt

tempt the reduction by pullies. With theſe ſeveral trials were made; but the lacque round the knee ſlipping, it was taken off. By this means I had an opportunity of examining it. I found the left-knee protruding three or four inches further than the right, and the one could not be brought within eight or ten inches of the other, the foot being turned out. When it was moved upwards and downwards, if done gently, he found little pain; but I obſerved, when it was nearly, or altogether extended, the head of the bone became fixed. And he complained more when it was in that ſituation, if any rotatory motion was attempted with the femur, which gave him no uneaſineſs when the thigh was brought up towards the abdomen. From the above appearance, it was certain the head of the bone was diſplaced from the acetabulum, and lodged downwards and inwards, in the large foramen of the iſchium and pubis. I was convinced that attempting the reduction, in the common method, with the thigh extended, was improper, as the muſcles were all put upon the ſtretch, the action of which is perhaps ſufficient to overbalance any extenſion we can apply. But, by bringing the thigh to near a right angle with the

trunk, by which the muſcles would be greatly relaxed, I imagined that the reduction might more readily take place, and with much leſs extenſion.

When I made this examination, he was lying on a table on his back. I raiſed the thigh to about a right angle with the trunk, and, with my right-hand at the ham, laid hold of the thigh, and made what extenſion I could. From this trial I found I could diſlodge the head of the bone. At the ſame time that I did this, with my left-hand at the head and inſide of the thigh, I preſſed it towards the acetabulum, while my right gave the femur a little circular turn, ſo as to bring the rotula inwards to its natural ſituation; and, upon the ſecond attempt, it went in with a ſnap obſervable to the gentlemen ſtanding round, but more ſo to the poor man, who inſtantly cried out he was well and free from pain. His knees could then be brought together; the legs were of the ſame length, and the foot in its natural ſituation. The knees were kept together for ſome time, with a roller, to confine the motion of the thigh; and, in three weeks, he was at his work, without the leaſt ſtiffneſs in the joint.

2.

A boy, eight years old, of a ſtrong healthy conſtitution, while he happened to be carried on his ſiſter's back, loſt the hold he had of her neck, and fell to the left-ſide. She, however, held him by the legs, which were round her waiſt, ſo as to occaſion conſiderable ſtreſs to the parts. He was carried home, and complained of the left thigh and haunch, which he ſaid was from a fall from his ſiſter's back. The parents being poor, and imagining it to be only bruiſed, were eighteen days before they called any aſſiſtance. At this time I found him lying in bed on his back, the fore part of the femur turned quite in, the knee lying on the right thigh, was fully four inches ſhorter, the leg turned out, and conſiderable tenſion and ſwelling on the hip. From the appearance, I ſuſpected a fracture at the neck of the bone; but, on examining it, was ſoon convinced of the diſlocation, and that the head of the bone was lodged upwards and backwards from the acetabulum, in the concave part of the ilium where it joins the iſchium. The ſmalleſt attempt to carry the thigh outwards from the poſition in

which it lay, gave him the moſt exquiſite pain, and he could only allow it to be gently moved upwards, if, at the ſame time, the knee was kept over to the right-ſide. From the motion made to diſcover its ſituation, he complained ſo much, that the reduction was not attempted at that time. The hip was fomented, rubbed with camphorated oil, and a poultice applied for that night. Next forenoon I called on him with two young gentlemen; he was placed acroſs the bed, the thigh raiſed ſo as to form an acute angle with the trunk. In this ſituation the knee lay conſiderably over to the right-ſide, and the leg was turned much outwards. He was kept down by an aſſiſtant, while I laid hold, with both my hands, above the knee, at the ſame time ſtanding upon the ſide of the bed, and pulling upwards, I found I could move the head of the bone from the place where it was lodged; and, upon making conſiderable extenſion, with my left-hand I laid hold of the middle of the leg, which I brought inwards. By this the femur made a circular turn, which directed its head towards the acetabulum, into which it went with a ſenſible noiſe. The boy immediately cried out, that he was well, and could allow

low the thigh to be moved gently in any direction. The thighs were kept together for two weeks with a bandage, and, in three weeks, he could walk; but he complained of ſtiffneſs in the joint for a week or two afterwards.

SECT.

SECT III.

Medical News.

WE formerly preſented our readers with ſome ingenious obſervations by Mr John Hunter of London, concerning the puerperal fever, and the inflammation of cavities in general; we have now the pleaſure of being able to communicate to them his remarks on the inflammation of veins, which are, in many reſpects, connected with the obſervations before delivered.

From the cauſes producing the inflammation of other cavities, from the diſpoſition in inflammation, when it has once laid hold of a cavity, to ſpread over the whole of it, and from the uſual terminations of ſuch inflammation, mentioned in the account of the inflammation of the peritoneum, Mr Hunter alſo explains the many bad

bad conſequences which ſometimes ariſe from bleeding in veins.

By ſome, the miſchief has been ſuppoſed to ariſe from pricking a nerve; but nerves, Mr Hunter maintains, muſt be pricked in many of the common operations of ſurgery, yet ſuch ſerious conſequences do not follow. Beſides this, he farther obſerves, that the nerves, which are liable to be wounded in bleeding, are ſmall and unimportant.

Others have ſuppoſed, that thoſe troubleſome ſymptoms, which are ſometimes the conſequences of blood-letting, have ariſen from pricking a tendon, or its aponeuroſis; but Mr Hunter obſerves, that, unluckily for ſuch phyſiologiſts, tendons, in other places, are often pricked and torn with very little inconvenience; even the tendo achilles, the largeſt tendon in the body, is frequently broken, without any ſuch ſymptoms as ſometimes ariſe from blood-letting. Beſides this, the accidents from bleeding happen as frequently when a perſon has been bled in a vein which has no tendon near it, as when there was reaſon to ſuſpect that a tendon might be wounded. It as often happens that a ſwelled arm is the conſequence of bleeding in the cephalic, or cephalic

median

median vein, as of bleeding in the baſilic, or baſilic median.

By a third ſet of phyſiologiſts, the conſtitution has been blamed; and the ſymptoms have been ſaid to ariſe only in bad habits. But here alſo experience is on the oppoſite ſide; and a perſon who has before enjoyed the moſt perfect health, is juſt as liable to the accidents from bleeding, as one of a weakened or crazy conſtitution. And it may even be obſerved, that, where ſuch accidents have happened, the patient has been bled in the oppoſite arm, without any inconvenience.

From theſe conſiderations, then, Mr Hunter was led to reject the opinions formerly entertained reſpecting the cauſe of ſuch complaints. He was firſt led to propoſe another conjecture, chiefly from obſerving what happens to horſes. It is no uncommon thing for hoſtlers, from an unneceſſary or ill-judged care, to bleed them in the neck, even when in perfect health. In ſeveral caſes of this nature, Mr Hunter had obſerved, that the neck ſwelled, and the animal died; he was led, therefore, to inveſtigate the cauſe of the complaint by diſſection. On accurate examination, he found, that the cavity of the vein was inflamed,

flamed, and that the inflammation had ſpread along its internal ſurface to the cheſt, ſometimes even to the heart itſelf. Beſides theſe appearances in horſes, he had alſo, in the human ſubject, opened abſceſſes after blood-letting, which ran in the courſe of the large veins, and which ſeemed, at leaſt, to be formed in their cavities. Theſe obſervations led him to ſuſpect, that the internal ſurfaces of veins, like thoſe of other cavities in the body, might, in certain circumſtances, be inflamed.

From attentive examination of abſceſſes of the lungs, he found many appearances which ſerved to confirm this ſuppoſition. There he often obſerved the internal ſurfaces of the veins, leading from ſuch abſceſſes, not only in an inflamed ſtate, but in many places ſuppurated; and he could even diſtinctly trace the progreſs and termination both of the inflammation and ſuppuration. He always found them extending along the coats of the veins to ſome diſtance from the abſceſs all around. He had obſerved the ſame appearances alſo on examining the ſtate of the veins in limbs, where a high degree of inflammation had taken place after amputation; and he was farther perſuaded, that the inflammation, in many caſes, extended

tended ſo rapidly, and to ſo great a diſtance from the ſtump, only in conſequence of its having ſeized on the cavities of the veins.

After theſe obſervations, Mr Hunter had no longer any heſitation in giving it as his opinion, that the miſchief which often ariſes from bleeding is owing to an inflammation of the cavity of the vein. But, beſides theſe proofs, a caſe occurred to him at St George's hoſpital during the courſe of laſt winter, which, he thinks, puts this matter beyond all doubt. A man was brought into the hoſpital with an inflammation of his right arm, in conſequence of his having been bled in the baſilic vein; after he had continued in the houſe about eight days, he died ſuddenly. He was not Mr Hunter's patient; nor was the ſurgeon whoſe patient he was permitted to take off the arm; but Mr Hunter begged to have the parts principally diſeaſed. Accordingly the vein, with its neighbouring artery and nerve, and a conſiderable portion of the ſurrounding parts, were taken out, from the middle of the fore-arm to the axilla; theſe parts were immediately ſent him; and, upon examination, he found, as he had ſuſpected, the cavity of the vein inflamed; and this inflammation extended from the puncture

which

which had been made by the lancet in blood-letting, as high as the axilla; it went alſo ſome way downwards below the puncture. About the middle of the arm, the vein had ſuppurated; and, from the ulceration or abſorption of parts which attends abſceſſes, the vein was divided into two, and each extremity, like the internal ſurface of the abſceſs, was irregular and jagged.

The orifice where the lancet had been introduced was yet open, and a probe could eaſily be made to paſs through it; but the coats of the vein were very much thickened, and its internal ſurface, for ſome ſpace, both above and below the orifice, was ſo covered with coagulable lymph, that the cavity there was impervious to the circulating blood; and in ſome places there was a perfect adheſion. Some of the branches of the vein were alſo plugged up by the lymph being coagulated; even the coats of the artery were affected, in conſequence of its vicinity to the diſeaſed part.

There was a free paſſage from the cavity of the abſceſs into the axillary vein; and Mr Hunter ſuſpected that the cauſe of the patient's ſudden death might be owing to ſome accidental change in the poſition of the arm, by which the purulent

lent matter would be mixed with the refluent blood, and immediately carried to the heart. This conjecture, Mr Hunter thinks, is confirmed by ſome experiments which he formerly made on dogs. He found, that they were killed even by a few drops of milk being injected into their veins; and a ſmall quantity of pus, when injected into the veins of a pregnant bitch, although it did not kill the animal, made her miſcarry.

In the diſſections of the horſes, which were formerly mentioned, Mr Hunter had traced the inflammation to the heart itſelf; and to this he had aſcribed the death. But, in the caſe related above, the inflammation had ſtopt before reaching the axillary vein, ſo that the death muſt have been owing to ſome other cauſe.

In ſome caſes, it happens that, after an inflammation has run along the cavity of a vein for its whole length, the coats of the vein unite at different places. This adheſion prevents the farther progreſs of the inflammation in theſe caſes; but the intermediate ſpaces go into ſuppuration, and form diſtinct abſceſſes. In this manner, Mr Hunter obſerves, that he has had occaſion to open a chain of abſceſſes, in the courſe of the vena ſaphena, from the top of the foot all the way to the groin;

groin; and there the inflammation aroſe from a wound on the top of the foot, by which he thinks it probable, that the cavity of the vein had been expoſed.

Mr Hunter is diſpoſed to think, that the principal cauſe producing the inflammation of a vein after bleeding, is the want of diſpoſition to heal. This may at firſt ariſe either from its being expoſed, or in conſequence of the lips of the orifice in the ſkin not being properly brought together. If an injury be done to one part of a cavity, the ſtimulus, which ariſes from its being an imperfect cavity, goes through the whole. Hence it inflames and ſuppurates. In order to prevent miſchief, Mr Hunter adviſes, that the orifice ſhould be cloſed as accurately as poſſible; and he recommends that the orifice in the ſkin ſhould be drawn to one ſide of that in the vein, ſo as to make the ſkin do the office of a valve to the venal orifice.

He finds, that, where inflammation has attacked the cavity of a vein in conſequence of bloodletting, the ſides of the vein ſometimes adhere, and thus the inflammation is prevented from ſpreading farther. But the cavity of the vein at that place is for ever obliterated; and from this

circumſtance he accounts for ſurgeons being ſo often diſappointed in attempting to fetch blood from a vein that has often been ſtruck before.

* * * *

A pamphlet has lately been publiſhed at Paris, entitled, Prècis du Traitment contre les Tènia ou Vers Solitaires, pratique à Morat en Suiſſe, examinè et eprouvé à Paris. Publié par ordre du Roi. This account of the cure of the tenia is compoſed and ſigned by M. Laſſone, Macquer, de la Motte, de Juſſieu, et Carburi. They introduce the ſubject by obſerving, that his majeſty was very deſirous of acquiring a remedy, much celebrated for the cure of the tenia, which Madame Nouffer, after the death of her husband, had uſed during the ſpace of twenty years, with a great number of patients, and, in every caſe, with the moſt happy and expeditious effects. The gentlemen mentioned above, therefore, were ordered, by the king's miniſters, to make a trial of this medicine; and, having from that trial found it entitled to the character which it had acquired, they were directed to publiſh an account of it.

In this account they begin by mentioning the neceſſary preparation. With this view, they order

der that the patient ſhould take for ſupper panada, prepared in the following manner. Take a pound and a half of water, three ounces of butter, two ounces of bread, with a ſufficient quantity of ſalt for ſeaſoning, and dreſs it over a good fire till it forms a proper panada. About a quarter of an hour after this, the patient may take two biſcuits, and a glaſs of wine or water. If his belly be bound, he muſt have, half an hour after ſupper, an injection, prepared, by boiling in a quart of water, a ſmall quantity of mallows, or of marſhmallows; adding, to the ſtrained liquor, a little ſalt, and about two ounces of olive oil.

After this account of the preparation, they next proceed to relate the treatment. Next morning, at the diſtance of eight or nine hours after ſupper the preceding evening, the patient muſt get, in bed, the following ſpecific. Take two or three drams of the root of the male fern, the filix non ramoſa dentata of C. Bauhin, the polypodium filix mas of Linnæus. Let this root be reduced to a fine powder, and mixed with ſix or four ounces of diſtilled water of fern, or of common water; let the patient ſwallow the whole of it, and let him take afterwards, from the ſame veſ-

ſel, two or three draughts of water, ſo that none of the powder may remain, either in the glaſs or in his mouth. For infants, the doſe of the powder muſt be reduced to one dram. If the patient, after taking this powder, has any nauſea, he may either chew, or waſh his mouth with any thing that is agreeable to him; but he muſt take care to ſwallow nothing. And, if any tendency to vomiting ſhould occur, he muſt uſe his utmoſt endeavours to retain the powder. If he ſhould vomit the whole, or any part of it, he muſt take a ſecond doſe, as ſoon as the nauſea has ceaſed.

Two hours after the patient has taken the powder, he muſt riſe out of bed, and the following bolus muſt be given him. Take of the panpacea mercurii, and dry reſin of ſcammony or of jalla, each twelve grains; of gamboge five grains; reduce the three articles to a very fine powder, and form the whole into a bolus with any conſerve. With patients accuſtomed to very ſtrong purgatives, and with thoſe eaſily operated upon, the doſe muſt be regulated according to the prudence of the phyſician. Even the doſe mentioned above may be divided, and the one half given three hours after the other, if the firſt do not operate.

operate. Immediately after the bolus, the patient muſt get a drink or two of weak green tea; and, when its operation begins, this muſt be repeated, from time to time, till the worm be evacuated. After this, the patient may take boiled meat or ſoup; he muſt dine ſoberly, and conduct himſelf for the reſt of the day as is common when under a courſe of medicine. If the bolus ſhall not operate, he muſt take ſix or eight drams of purging ſalt, diſſolved in a ſufficient quantity of boiling water.

If the worm ſhould not come away in a bundle, but in the form of a thread, the patient muſt not attempt to draw it away, but ſit above the cloſe-ſtool, and drink weak tea a little warm. If it ſhould hang long without falling, and the purgative not operate ſufficiently, the patient muſt take ſome purging ſalt, in the manner above directed, and ſit patiently upon the cloſe-ſtool till it does fall. When the worm does not appear before dinner, the patient may dine as uſual; it rarely happens that it comes away in the afternoon. When it does not appear through the whole day, which almoſt never happens, unleſs when the medicines are not properly retained, the patient muſt

ſup in the ſame manner as the preceding evening. And, if it does not appear in the night, he muſt take, next morning, the ſame doſe of the powder as before, and, two or three hours afterwards, ſix or eight drams of purging ſalt.

It often happens that the patient, immediately before diſcharging the worm, becomes very faint, which ſhould give him no concern, as it ſoon ceaſes; he muſt only be kept quiet, and breathe in the ſteams of good vinegar.

If the patient diſcharge the worm before taking the purgative, he muſt take but the half, or two-thirds of the bolus, or a doſe of purging ſalts only. And if, after having diſcharged one tenia in this manner, it appears that a ſecond ſtill remains, the ſame treatment muſt again be repeated a few days after.

This treatment, the gentlemen who drew up the memoir obſerve, has conſtantly had a happy effect in a few hours; and they have tried it with five different patients. The worm againſt which it is recommended is the tenia prima of Platerus, the tenia vulgaris of Linnaeus. It has not been equally ſucceſsful againſt the vermis cucurbitinus, the tenia ſecunda of Platerus, the tenia oſculis marginalibus

marginalibus ſolitariis of Linnaeus. The ſame gentlemen to whom we are indebted for this publication, promiſe, in a ſhort time, to communicate ſome farther obſervations to the public, on this ſubject.

Since this number of the Commentaries was put to the preſs, we have had the pleaſure of receiving the publication above alluded to. In this publication, the five caſes in which the remedy was tried, under the direction of the gentlemen mentioned above, are related at full length. We propoſe to preſent our readers with an analyſis of it in our next number.

* * * *

Dr Rainey of Dublin, in a letter to Dr Duncan, gives the following obſervations reſpecting the influence of the meaſles and ſmall-pox on each other.

"In the third number of the Medical Commentaries of Edinburgh, mention is made of meaſles and ſmall-pox being conjoined in the ſame patient. And it is there obſerved, that the progreſs of the latter was retarded by the appearance of the former. A very different event took

place here, as you will ſee by the following extracts from ſome papers inſerted in the memoirs of our medical ſociety in this city.

"In the year 1769, Mr Samuel Croker King, then ſurgeon to the Foundling Hoſpital at Dublin, innoculated, in that hoſpital, forty-three children. On the fourth or fifth day after innoculation, ſixteen of the boys fell ill of the meaſles, from which they recovered eaſily in the uſual time. This accident, although alarming, did not retard nor alter the progreſs of the ſmall-pox; for the eruptive fever came on regularly; and, at the time expected, he had the pleaſure of ſeeing the puſtules make their appearance as mildly in thoſe who were but juſt recovered from the meaſles, as in thoſe who were not affected with them. Two of the girls had, at one and the ſame time, both meaſles and ſmall-pox, and the eruptions could very eaſily be diſtinguiſhed from each other. One of theſe girls, when the meaſles went off, was ſo much diſtreſſed in her breathing, that he was obliged to have recourſe to bleeding, bliſtering, and other means of relieving it. Theſe remedies had ſoon the deſired effect; but they ſeemed to have no influence upon the ſmall-pox, which turned out of a very mild kind.

In

In the year following, of eighty-eight children who were innoculated by the ſame gentleman, one boy, on the third day from the innoculation, was ſeized with the meaſles, from which he recovered in the uſual time; and, on the 11th day, a mild ſmall-pox made its appearance. On the 15th day from the operation, he was perfectly well. On another boy, the chicken-pox came out on the ſeventh day, dried off in two or three days, and, after that, he went through the ſeveral ſtages of the ſmall-pox in a very mild way.

* * * *

On Monday the 14th of January, died at his ſeat of Hawk-hill, near Edinburgh, Andrew Pringle, Eſq; of Alemore, one of the ſenators of the college of juſtice in Scotland. While he was eminent for commanding eloquence, diſcerning penetration, and unimpeached integrity as a judge, he deſerves to be commemorated as one of the moſt diſtinguiſhed philoſophers his country has of late produced. He erected an obſervatory for his own private uſe near his country-ſeat, and he found ſingular pleaſure in dedicating, to the improvement of uſeful knowledge, his hours of leiſure from the duties of office. And, while he himſelf

himſelf cultivated philoſophy with no leſs induſtry than ſucceſs, he took every opportunity of ſupporting and encouraging others in the ſame purſuits. From the patronage which he afforded to learning, and learned men, he will long be remembered with gratitude, and live in the eſteem of all who knew him.

* * * *

On Monday the 27th of November 1775, the foundation ſtone of a building for the Royal College of Phyſicians in Edinburgh, was laid in an area in the New-town, by Dr Cullen, then preſident of the college, attended by the other members of that ſociety reſiding in Edinburgh. It is the opinion of the beſt judges in architecture, who have examined the plan of this building, that it will be an elegant and magnificent fabric.

Beſides the money which will be allowed for this work from the funds of the college, voluntary contributions have been received from many of its members, and from ſeveral other gentlemen. The magiſtrates and town-council of Edinburgh have granted the area upon which it is to ſtand, without demanding any premium for it; his Grace the Duke of Buccleugh has given one hundred pounds towards defraying the expence of it;

it; the ſame ſum has been received from Dr Fothergill of London; and the members of the college, reſiding in Edinburgh, have each ſubſcribed from five to fifty guineas, according to their abilities or inclination. Contributions have alſo been received from moſt of the members reſiding in other parts of Britain.

* * * *

On Monday the 2d of October, Dr John Stedman reſigned the office of phyſician to the Royal Infirmary at Edinburgh, as he found that the ſtate of his health put it out of his power to attend to the duties of it with that punctuality which he reckoned neceſſary. But the managers of the hoſpital, as a teſtimony of their regard and eſteem, re-elected him to that office, in conjunction with Dr James Hamilton, who now acts in the capacity of phyſician to the hoſpital.

* * * *

The inaugural diſſertation, printed about two years ago, by Dr James Gregory, when he obtained the degree of doctor of medicine from the univerſity of Edinburgh, is again in the preſs at that place, and will be publiſhed in a few days.

This

This ſecond edition is, we are told, to be improved by many corrections and additions by the author himſelf. It treats de morbis coeli mutatione medendis, a practice at preſent ſo frequently recommended by the phyſicians of this country, that we are inclined to think, a tranſlation of this eſſay into our native language might be of conſiderable utility.

* * * * *

The inaugural diſſertation, printed at Edinburgh in the year 1768, by Dr James Lind, which treats de febre remittente putrida paludum, quae graſſabatur in Bengalia, A. D. 1762, contains ſo many curious and important obſervations, that it was, ſome years ago, tranſlated into Engliſh, and publiſhed by a bookſeller in London. But, as the tranſlator ſeems to have been unacquainted with the ſubject, the meaning of the author is in many places miſtaken, and the tranſlation, upon the whole, is by no means ſuch as could be wiſhed. It is with pleaſure we can inform our readers, that the author himſelf has been prevailed upon to undertake the correction of it. This correct edition of it, which is now in the preſs at Edinburgh, and which will ſoon be publiſhed, contains alſo ſeveral important obſervations by way

of

of notes, which were neither in the original diſſertation, nor in the former tranſlation.

* * * *

On Tueſday the 6th of February, Dr Daniel Rutherfoord, and Dr James Gregory, were admitted Licentiates of the Royal College of Phyſicians in Edinburgh.

* * * *

On Monday the 6th of May, the following ſummer-courſes of medical lectures will be begun at Edinburgh.

At eight o'clock in the morning, Dr Hope will begin a courſe of lectures on botany, at the Royal botanic garden.

At ten o'clock in the forenoon, Dr Young will begin a courſe of lectures on midwifery, at his teaching-room in the college.

And at four o'clock in the afternoon, Dr Duncan will begin a courſe of clinical lectures at the Royal Infirmary.

SECT.

SECT. IV.

List of New Books.

OBſervations hiſtorical, critical, and medical, on the wines of the antients, and on the analogy between them and modern wines; with general obſervations on the principles and qualities of water, and, in particular, on thoſe of Bath; by Sir Edward Barry, Bart. Fellow of the Royal College of Phyſicians, and of the Royal Society. 4to, London.

Of the improvement of medicine in London, on the baſis of public good. 8vo, London.

Obſervations on the art of brewing malt-liquors; by a practical brewer. 8vo, London.

A treatiſe on the nervous ſciatica, or nervous hip-gout, illuſtrated with copperplates; tranſlated from the original of Cotunnius. 8vo, London.

Praelectiones

Praelectiones medicae ex Cronii inſtituto annis 1774 et 1765. et oratio anniverſaria ex Harveii inſtituto die Octobris 18va anni 1775, habitae in theatro collegii regii medicorum Londinenſium. A. Donaldo Monro, M. D. medico ad exercitum, et ad noſocomium Sancti Georgii, ac collegii regii medicorum, et regiae ſocietatis ſocio. 8vo, Londini.

Elements of the practice of midwifery; by Alexander Hamilton, ſurgeon and teacher of midwifery in Edinburgh. 8vo, London.

A ſhort deſcription of the human muſcles, chiefly as they appear on diſſection; together with their ſeveral uſes, and the ſynonyma of the beſt authors; by John Innes. 12mo, Edinburgh.

Nymphomania, or a diſſertation concerning the furor uterinus, clearly and methodically explaining the beginning, progreſs, and different cauſes of that horrible diſtemper. To which are added, the methods of treating the ſeveral ſtages of it, and the moſt approved remedies. Written originally in French, by M. D. T. de Bienville, M. D. and tranſlated by Edward Sloane Wilmot, M. D. 8vo, London.

A diſcourſe on the attraction of mountains, delivered at the anniverſary of the Royal Society, November 30th 1775; by Sir John Pringle preſident, publiſhed by their order. 4to, London.

Infancy, a poem, book the third; by Hugh Downman, M. D. 4to, London.

An account of puerperal fevers, as they appear in Derby-ſhire, and ſome of the counties adjacent; by William Butter, M. D. Fellow of the Royal College of Phyſicians in Edinburgh.

Elements of Botany, illuſtrated with fourteen copper-plates. By Hugh Roſe. 8vo, London.

Strictures on the Gout, with a practical advice to gouty people. By Samuel Wood, a recovered arthritic. 8vo, London.

An Eſſay on the Uterine Haemorrhage, which precedes the delivery of the full grown foetus. Illuſtrated with caſes. By Edward Rigby. 8vo, London.

A Treatiſe on the medical qualities of mercury in three parts. I. On the natural properties of mercury, and its operations on the animal oeconomy. II. On the principal preparations of mercury. III. On the medical qualities of mercury

in

in various diſeaſes. By N. D. Falk, M. D. 12mo. London.

Hiſtoire de la Chirurgie depuis ſon origine juſqu'à nos jours. Par M. Dujardin, du College et de la l'Academie Royale de Chirurgie. 4to. Paris.

Avis aux Femmes ancientes et encouché, traduit de l'Anglois de Charles White, membre du College de Chirurgie de Londres, &c. 12mo. Paris.

Connoiſſance pratique des Medicamens les plus ſalutaires, ſimples et compoſés, officinaux et extemporanes, &c. Par M. Lewis; ouvrage traduit de l'Anglois. 8vo. 3 vol. Paris.

Diſſertation ſur le nature, l'uſage, et l'abu des eaux thermales de Bagnols en Gevaudan, par M. Bonnel de la Bragereſſe le fils, M. D. 8vo. Paris.

Memoire ſur la maladie epizooſtique regnante, preſenté au College des Medecins agregés de Bordeaux. Par M. Doazan, M. D. 8vo. Bordeaux.

Diſcours prononcè aux ecoles de chirurgie, par M. Sue le jeune, prevot du College. 8vo. Paris.

Nouvelle table des articles contenus dans les volumes de l'Academie Royale des Sciences depuis 1665, juſqu'en 1770. Par M. l'Abbe Rozier, chevalier de l'egliſe de Lyon, &c. 4to. Paris.

Avis au peuple ſur les aſphyxies ou morts apparentes et ſubites, contenant les moyens de les prevenir et d'y remedier, avec la deſcription d'une nouvelle boite fumigatoire portative. Publié par ordre du government, par J. J. Gardane, Docteur regent de la Faculté de Medecine. 12mo. Paris.

Dietrich Weſſel Linden vier chemiſche, mediciniſche abhandlungen; *i. e.* Four chemico-medical diſſertations, by Dietrich Weſſel Linden. 8vo. Leipſick.

Jo. Gottfr. Fietſch wahre quelle und materielle uraſche vom podagra und allen gichtigen krankheiten uberhapt, nebſt vernumflig und erſahrungſmaſſig darauf gigrundeten cur.; *i. e.* The true ſource and material cauſe of the gout, and all arthritic complaints; together with the method of cure, founded on reaſoning and experience. 8vo. Halle.

Primae lineae pharmaciae in uſum praelectionum, Suecico idiomate editae ab Andrea Joanne Retzio, jam Latine converſae. 8vo. Gottingiae.

Jo.

Jo. Jac. Wells Rechtfertigung der Blackiſche lehre von der figirten luft, gegen die von Herrn Wiegleb, apotheker in Langenſalza; *i. e.* A defence of Dr Black's doctrine of fixed air, againſt the objections of Mr Wiegleb apothecary at Langenſalza. 8vo. Wien.

Diſſertationes medicae quas ex auctoritate reverendi admodum viri Gulielmi Robertſon, SS. T. P. academiae Edinburgenae praefecti; nec non ampliſſimi ſenatus academici conſenſu, et nobiliſſimae facultatis medicae decreto, pro gradu doctoratus, ſummiſque in medicina honoribus et privilegiis rite et legitime conſequendis, eruditorum examini ſubjecerunt, Prid. Id. Sept. 1775,

Patricius Dugud, Scoto-Britannus, De caloris animalium cauſa.

Thomas Blackburne, Anglus, De medici inſtitutis.

Bartholomeus Thomas, Hibernus, De peſte.

Joſephus Camplin, Anglo-Britannus, De arthritide.

Thomas Gibbons, Britannus, De mulierum mammis.

Gulielmus Woodville, Anglo-Britannus, De cauſis irritabilitatem fibrarum motricium augentibus.

Ricardus Cowling, Britannus, De rheumatiſmo.

Gulielmus Clapham, Anglo-Britannus, De haemorrhagiis.

Fotherley Pannell, Anglo-Britannus, De ſcrophula.

Sylas Neville, Britannus, De prognoſi in febribus.

Jacobus Theobaldus Payne, Nevienſis, De rheumatiſmo acuto.

CONTENTS.

BOOKS.

Pott, Percival, Chirurgical obſervations. 343
Portal, M. Obſervations ſur la ſtructure des parties de la generation de la femme. 351
Le Roy, M. Reflexions ſur les areometres 358
Portal, M. Remarques ſur la ſtructure du canal thoracique. 363
Hunter, J. De hominum varietatibus. 367
Medical tranſactions. 379
Peyrilhe, Ber. Diſſertatio de cancro. 388

MEDICAL OBSERVATIONS.

An account of the effects of electricity in different diſeaſes. By Dr James Saunders, Phyſician in Banff. 394
A caſe of a very obſtinate ophthalmia ſucceſsfully treated by an emetic, and the conſequent uſe of the Peruvian bark. By Dr Robert Dobſon, Phyſician at Thirkham. 411
The hiſtory of an obſtruction of the rectum at birth, ſucceſsfully cured by operation. By Mr William Wright, Surgeon in Jamaica. 419
An account of the happy effects of a ſeton in the ſide. By Mr Alexander Brymner, Surgeon at Stirling. 422
Two caſes of diſlocation of the femur, with an account of the method of reduction. By Mr Thomas Anderſon, Surgeon in Leith. 424
MEDICAL NEWS. 430
LIST NEW OF BOOKS. 450

INDEX.

A.

Pag.

Abſorbent power of veins, arguments for it diſproved 42

Actual cautery, its uſe in medicine, by the Chineſe 216

Air receptacles commuuicating with the lungs of birds, conjectures concerning uſe of 57

Air receptacles in bones of birds, account of 57

Alexander, Mr John, hiſtory of the diſcharge of water from the vagina 187

Anderſon, Mr Thomas, hiſtories of diſlocation of the femur 424

Angina pectoris, caſe of, by Dr Percival 181

Areometres, reflexions ſur 358

Atmoſphere, inquiries concerning 25

B.

Bathie, Mr Archibald, hiſtory of the rabies conina 290

Bell, Mr Benjamin, hiſtory of the vertebrae being diſſolved 82

Birds, account of air receptacles in their bones 53

Blood, red particles of, account of their ſtructure 90

Blood, an argument for its poſſeſſing the living principle 327

Blood, red particles of, where formed 67

Blood-letting, cauſe of the accidents from 430

Bordeu, M. traite de medecine 137

Bouvet, M. account of a ſtone in the uterus 58

Pag.

Brain and nerves, ſtructure not fibrous 125
Bruce, Mr, account of his drawings 329
Brymner, Alexander, account of the happy effects of a ſeton 422
Buccleugh, Duke of, his donation to the college of phyſicians at Edinburgh 446
Buffon, Mr, his account of the drawings of Mr Bruce 328

C.

Calces of metals, additional weight from air 171
Camper, M. advantages de l'inoculation 108
Camphor, its uſe in nervous oppreſſion 133
Cancer of the ſcrotum, deſcription of 349
Cancer, different kinds of 389
Cataract, method of cure by operation 345
Childbed fevers, eſſay on 124
Childbed fevers, means of preventing 135
Cochrane, Mr Thomas, obſervations on cold bathing in Tetanus 183
Cock, capable of breathing through a canula introduced into his belly 56
Cochrane, Mr Thomas, account of inſects diſcharged from the uterus 86
Cold bathing, uſe in Tetanus 183
Colour of human ſpecies, differences in 369
Contributions for erecting a building for the medical ſociety, committee for collecting 218
Convulſions, cauſes of 21
Convulſions induced by grief 316

Pag.

Coyte, Dr, account of conſequences from ſwallowing a crown-piece 284
Cullen, Dr William, obſervations on the recovery of drowned perſons 244
Cuprum ammoniacale, obſervations on 191

D.

Deafneſs cured by ſalivation 80
Decoction of Nightſhade, method of preparing 16
——————diſeaſes in which uſeful 17
Diſpenſary in London, memoirs of 280
Dobſon, Dr Robert, account of the effects of an emetic in ophthalmia 411
Doigts, confirmations monſtreuſe de 168
Dropſy, cauſe of 35
Drowned perſons, method of recovery 243
Duchadoz, F. de Proctoſtenia 111
Duncan, Dr Andrew, clinical lectures 449

E.

Eau, memoire ſur le nature de 158
Electricity, account of the effects of 394
Emetic, its effects in ophthalmia 415
Evacuations by the ſkin, their uſe in puerperal fevers 132
Exhalant veſſels, influence on contents 35
Exhalations, their properties 35
Eye-brow, anomalous tumour on, extirpated 313

F

Femur, diſlocation of, method of reduction 424

Pag.
Fermenting cataplaſms, efficacy in mortification 386
Fiſtula in ano, method of curing by means of a leaden wire 62
Fluid depoſited in cells, conjectures reſpecting formation 66
Fothergill, Dr John, donation to the College of Phyſicians at Edinburgh 447
Fougeroux, M. Petrole de Parme 153
Fynney, Mr. hiſtory of an imperforate hymen 194

G

Gahn, Dr Henry, account of making phoſphorus 94
Garden, Dr, account of the effects of the aſhes of tobacco 339
Gauthier, M. diſſertation ſur l'uſage des cauſtiques 111
Glandular ſecretion, diſſertation on 63
Gordon, Robert, account of deafneſs cured by ſalivation 81

H

Hallenberg, George, diſſertation on the dulcamara 15
Hamilton, Dr James, elected phyſician to the Royal Infirmary at Edinburgh 447
Harwood, Edward, of temperance 109
Haygath, Dr, obſervations on the flowers of zinc 212
Heberden, Dr William, account of the angina pectoris 380
Hendy, Dr James, diſſertation on glandular ſecretion 63
Hewſon, Mr William, experimental inquiries, part 2d 32
——— account of the red particles of the blood 87

Pag.

Hill, Mr James, account of an anomalous tumour 313
Hope, Dr John, botanical lectures 449
Hunter, Dr William, anatomy of the gravid uterus 107
——— anatomy of the uterus 227
Hunter, Mr John, account of air receptacles in birds 53
——————— his opinion reſpecting the cauſe of inflammation and ſwelling from blood-letting 430
——————— opinion of the puerperal fever 322
Hunter, Dr John, de hominum varietatibus 367
Hymen imperforate, hiſtory of 194

I

James, Dr, remarks on his powder 116
Indians, ſtate of their medicine 263
Infirmary at Edinburgh, account of patients admitted 98
Inflammable air, obſervations on 177
Inſects diſcharged from the uterus during menſtruation 86

K

Kirkland, Dr Thomas, on child-bed fevers 124

L

Laplanders, account of their diſeaſes 272
Lavoiſier, memoire ſur le nature de l'Eau 158
Lead, preparations of, their external uſe 199
Leaden wire, its uſe in the cure of the fiſtula in ano 62
Le Roy, M. reflexions ſur les areometres 358
Lettſome, Dr John Coakley, medical memoirs 280
Locked jaw, with uncommon ſymptoms 305

Lovett,

Pag.
Lovett, R. electrical philoſopher 109
De Luc. J. A. recherches ſur les modifications de l'atmoſphere, tom 2d 25
Lungs, means of inflating by blowing into the noſtril 251
Lungs of birds, their free communication with air receptacles in other parts 56
Lymph, experiments on 34
Lymphatic ſyſtem, deſcription of 32
Lymphatics, proof of their abſorbent power 42

M

Majault, M. diſſertation on the fiſtula in ano 61
Medical ſociety at Edinburgh, foundation of a building for their uſe 217
Minvielle, M. remarques critiques 187
Monro, Dr Alexander, obſervations on the means of inflating the lungs 250
Moodie, Dr James, hiſtory of a caſe of locked jaw 304
Montin, Lars, de medicina Laponum Lulenſium 272
Morand, M. recherches ſur conformation monſtreuſe de doigts 165
Motion, diviſion into tonic and muſcular 143
Mucus over muſcular fibres, its reſemblance to the ſubſtance of the nerves 126

N

Nerves, of motion inſenſible to ordinary actions of the human body 10
Nerves, how rendered ropy 125
Nervous palſy, cauſes of 11
——— method of cure 12

Pag.

Night-ſhade, diſſertation on 15
Nitrous air, obſervations on 171

O

Odier, Dr Louis, obſervations on the flowers of zinc 191
Ophthalmia ſucceſsfully treated by an emetic 411
Opium, good effects in mortification of the toes 350
——— ſpeculations on 283

P

Palſy, diviſion of 11
Parr, Dr, caſe of angina pectoris 213
Percival, Dr Thomas, obſervations on the external uſe of the preparations of lead 199
——————— caſe of angina pectoris 181
Perebom, Cor. diſſertatio de paralyſi nervea 9
Periods in diſeaſes, of irritation, maturation, and evacuation 147
Peyrilhe, Ber. diſſertatio de cancro 388
Petrole de Parme, memoire ſur 153
Philadelphia, ſociety for inoculation 104
Phips, Conſtantine, voyage towards the North Pole 108
Phoſphorus, method of preparing from animal bones 94
Poiſons, when to be cured by extirpation of the part 45
Police, board of in Scotland, extract from their journals concerning the recovery of drowned perſons 206
Polypi of the noſe, obſervations on 347
Portal, M. obſervations ſur la ſtructure des parties de la generation 351
——— remarque ſur la ſtructure du canal thoracique 363

Portal,

Pag.

Portal, M. obſervations ſur les effets des vapeurs mephitiques 245
——— raport ſur la mort du Sieur le Maire 111
Pott, Percival, chirurgical obſervations 343
Power, Mr, account of the effects of fermenting cataplaſms 385
Prieſtley, Dr Joſeph, obſervations on different kinds of air 168
Pringle, Andrew Eſq; anecdotes of 445
Pus, proof that it does not ariſe from a fermentative proceſs 69
—— ſecreted from exhalant arteries without ulceration 71
Putrid ſerum, in what reſpects different from pus 71

R

Rabies canina, hiſtory of 290
Rectum, a tumour obſtructing it perforated 419
Roux, M. letter a concernant la remede antivenerien de M. Lafont 110
Rowley, William, letter to Dr Hunter 109
Ruptures, obſervations on 349
Ruſh, Benjamin, oration on the natural hiſtory of medicine among the Indians 262
Ruſh, Dr, obſervations on the flowers of zinc 102

S.

Saturnine water, it effects in a ſcalded arm 73
Saunders, Dr James, remarks on the Ormſkirk medicine for canine madneſs 332

Pag.
Saunders, Dr James, account of the effects of electricity 394
Scalded arm, pain of, removed by ſaturnine water 73
Seton in the ſide, effects from 422
Simmons, S. F. account of ſtones diſcharged thro' a fiſtulous ſore in the loins 51
Smith, John, account of convulſions from grief 316
Soap lees, effect on the nerves 125
Solar ſpots, obſervations on 46
——————— below the ſun's ſpherical ſurface 49
Speilman, Jac. inſtituti ones materiae medicae 110
Spleen, uſe in forming the red particles of the blood 91
Stone in the uterus, account of 58
Stone, method of cure by injection 333
Stones voided through a ſore in the loins 51
Stramonium, diſſertation on its uſe in convulſive diſeaſes 18
Sue, M. elements de chirurgie 110
Surgeons, college of at Edinburgh, their grant to the medical ſociety 217
Sympathy of nerves, obſervations on 127

T.

Teeth, account of a new ſet after ſixty years of age 105
Thouvenel, memoire chymique 110
Thymus, uſe in forming the red particles of the blood 91
Tobacco-aſhes, efficacy in dropſy 331
Toes, remarks on mortification of 351
Tranſactions medical, obſervations from 379
Tranſudation, objections to 36

Pag.

U.

Uterine irritability, its influence in puerperal fevers 131
Uterus, anatomy of 223

V.

Vertebrae, found diſſolved upon diſſection 83
Veins, effects of inflammation on their internal ſurface 432
Veins, objections againſt the ſuppoſition of their being abſorbents 39
Vegetable air, experiments on 216
Vapour from charcoal, appearances on the diſſection of thoſe ſuffocated by it 256
Van Swieten, Gerard, commentaries on Boerhaave's aphoriſms 107

W.

Walſh, John, Eſq; obtains the prize medal of the royal ſociety 106
Water diſcharged from the vagina during pregnancy 187
Wedenberg, Adolph, diſſertation on the ſtramonium 18
White, Mr William, obſervations on Dr James's powder 108
——— obſervations on the medical virtues of lead 72
——— obſervations on antimony 116
Wilſon, Dr Alexander, obſervations on ſolar ſpots 46
Wilſon, Mr Benjamin, obſervations on lightning 108

Wright,

Pag.

Wright. Mr William, operation on a tumour in the rectum 419

Y.

Young, Dr Thomas, lectures on midwifery 449

Z.

Zinc, flowers of, teſts of their quality 213

Zinc, flowers of, obſervations on 191





