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To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

IN the "*Contributions*" lately publiſhed by Dr. BEDDOES, I obſerve that I have offended that gentleman to ſuch a degree as to make him throw off the politeneſs of the ſcholar, and forget the language which one well-educated man has a right to expect from another. I am the more concerned at this, becauſe I greatly ſuſpect that, in juſtifying myſelf, I ſhall produce ſtill more irritation than appears in the work alluded to; for I ſhall be under the neceſſity of proving by extracts from his former writings, either that he did not underſtand the language he employed at the time he wrote them—or that, with a deep, and wary penetration, he has given birth to different opinions on the ſame ſubject, to the end, that when one goes out of faſhion, he may bring the others forward as a proteſt againſt it, if neceſſary.

I will now enter on my defence, but before I do ſo, let me ſtate my arraignment.

The following note, bearing the genuine type of the meek ſpirit of Dr. Beddoes, is to be found at page 369 of his '*Contributions*:"

"Dr. CRICHTON ("*Mental Derangement*," 1—46,) ſays, 'There is ſcarce 'any treatment of conſumption but has ſhewn equal, if not ſuperior powers to a reduced atmoſphere.' "The repoſe alone, which I have often known "follow the uſe of gaſes, ſeems to ſhew that this is a miſtake. I have no-"where ſaid, that occaſional ſmall reſpiration of gaſes and vapours have "cured, or promiſe to cure conſumption. And where have they been "kept conſtantly applied to diſeaſed lungs? Can Dr. C.'s learning ſupply "a ſatisfactory reference to facts of this nature? Dr. C. aſſerts (p. 35) "that I have adopted Dr. GIRTANNER's opinion concerning irritability. "This is falſe. In my earlieſt conjectures ("*Obſerv. on Calculus, &c.*" "p. 264), I have proteſted againſt this interpretation of my words; and

"Dr. C. ſhould have attended to what I have ſince written, ſince he choſe "to notice my opinions."——

Here I ſtop, Gentlemen, for it is this laſt part of the note which has cauſed me to trouble you with this letter.

I am charged with having given a falſe repreſentation of the Doctor's opinion concerning Irritability. The following are the words I have made uſe of, and which have given Dr. Beddoes offence:—"It may appear, "nevertheleſs, to many, that oxygen is probably the principle on which "the irritability of bodies depends. This ſeems to be Dr. Beddoes's "opinion, as well as Dr. Girtanner's, and he (Dr. B.) makes it a ground "of argument in favour of his aerial method of treating phthiſis."

That it was natural to draw this concluſion, I will venture to aſſert, will be the opinion of every impartial man who has read the Doctor's "*Eſſays on Obeſity and Conſumption*," which are annexed to the "*Eſſay on Calculus*," to which he refers.

Dr. Girtanner thinks the ſolids obtain their oxygen from the blood during circulation. That Dr. B. thinks ſo alſo will appear *probable* from the following paſſages:—"Probably the ſolids, during circulation, more "than divide with the blood, its looſely attached oxygen; if they have a "ſuperior attraction, they will, as ſome of the conſtituent parts of the "blood itſelf do upon ſtanding, take the whole, and leave the blood dark-"coloured."—*Beddoes on Calculus, &c.*—p. 121.

Dr. Girtanner thinks that oxygen not only yields the ſtimulating quality to the blood, but that it is alſo the cauſe of irritability in the ſolids. That Dr. Beddoes appears to entertain, or rather appears to *have* entertained this notion, will probably be the opinion of many others beſides me, after they have read the following:—

At p. 137, "*Obſerv. on Calculus*," he makes an extract from a paper of LAVOISIER's, in which that ingenious chemiſt and philoſopher relates the effects which oxygen gas produced on Guinea-pigs, that were made to live in it for a certain time; they died with evident marks of inflammation. Dr. Beddoes accounts for this effect in the following words, p. 138.—"The unuſual animal heat which muſt have been generated in theſe "experiments—*the ſtimulant power of the blood*, which, independently of "heat, oxygen confers upon the blood—*that irritability which it commu-"nicates to the ſolids*—all theſe cauſes might eaſily produce the inflam-"mation obſerved by Lavoiſier."

From the above, I was led to conclude that Dr. Beddoes really meant what he wrote; and I was the more confirmed in this opinion as I did not

diſcover

diſcover in any of his remarks on Dr. Girtanner's Eſſay, that he had entered a formal proteſt againſt Dr. Girtanner's opinion, although in the note which relates to me, in his "*Contributions*," he poſitively has done ſo.—I ſhall now inſert the whole of the paſſage contained in the page to which he refers in the note, and in which he ſays he has proteſted againſt the opinion, that oxygen is the cauſe of irritability, which opinion, from the extracts above, I concluded him to poſſeſs.

"Attention," ſays Dr. Beddoes, p. 264, "is undoubtedly not leſs due "to the other elements of organized bodies; and if the importance of "oxygen ſeems to have been magnified in the foregoing obſervations, it "is only becauſe we have few or no facts which afford a foundation for "reaſoning concerning the connection of an exceſs or deficiency of hydro-"gen, or azote, with the functions of life: and yet much obſcurity and "many difficulties muſt be expected to remain till we acquire the know-"ledge of ſuch facts. This reflection ſhould render us the more attentive "to the phenomena of life; for if we can but perceive enough to ſuggeſt "a new hypotheſis, capable of being verified by experiments, phyſiology "will not fail to gain ſomething, and perhaps ſomething conſiderable, by "its falſehood."

Such, Gentlemen, is the proteſt upon the authority of which Dr. Beddoes ſays I have given a falſe repreſentation of his opinion. Let the reſt of the medical world be the jury to give a verdict on this conteſted point. If they can diſcover in this paſſage a formal proteſt againſt his entertaining ſimilar ſpeculations with Dr. Girtanner concerning oxygen, I ſhall then conclude that Dr. Beddoes has had the addreſs to ſtate two opinions which deſtroy each other, but where I could not ſee the oppoſition between them. To me this paragraph appears only to be a kind of apology for a moſt extravagant extenſion which he (Dr. Beddoes) has made of the hypotheſis, and which immediately precedes the proteſt.

"Was not Mayow," ſays Dr. Beddoes, p. 258, "infinitely nearer the "truth, than any author of a later hypotheſis, when he imputed muſcular "motion to the effervescence of his nitro-atmoſpherical particles? Does "not muſcular contraction or intumeſcence really depend upon the com-"bination of oxygen with hydrogen (ſeparately, and combined in various "proportions), in conſequence of a ſort of exploſion produced by the "nervous electricity? According to this hypotheſis, animal motion, at "leaſt that of animals analogous to man, would *be produced by a very "beautiful pneumatic machinery*; and our nervous and muſcular ſyſtems "may be conſidered as *a ſort of ſteam-engine*. This hypotheſis, though not

perhaps

" perhaps at this moment capable of ſtrict proof, *is extremely probable*, ſince " it is countenanced *by every obſervation and experiment yet made on the* " *ſubject.*"

I hope it will appear from theſe paſſages that I have not given a falſe repreſentation of Dr. Beddoes's opinions.

Your zeal in communicating whatever concerns the intereſts and honor of the profeſſion, your impartiality and love of juſtice, have induced me to preſent you with this letter, which you will oblige me by inſerting in your Journal.

I am, Gentlemen,

With much regard,

No. 15, CLIFFORD-STREET, Your obedient, humble ſervant,

15th September, 1799. ALEXANDER CRICHTON.

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

I SEND you the following extract of a letter from an ingenious phyſician, Dr. A. WIESENTHAL, Profeſſor of Anatomy, at Baltimore, in North America; if you think as I do, that the communication is curious and intereſting, you will allow it a place in your inſtructive monthly publication.

I am reſpectfully, Gentlemen,

BARTLET'S-BUILDINGS, Your moſt obedient and

Sept. 10, 1799. humble ſervant,

ANDREW MARSHAL.

" BALTIMORE, *in* MARYLAND, *May* 21, 1797.

" There is a diſeaſe prevalent among the gallinaceous poultry in this country, called the *gaps*, which deſtroys eight tenths of our fowls in many parts, and takes place in the greateſt degree among the young turkeys and chickens bred upon old eſtabliſhed farms. I know not whether the ſame kinds of fowls in England are liable to it, and therefore ſhall take the liberty to give you a brief account of it.

" Chicks and poults, in a few days after they are hatched, are found frequently to open their mouths wide, and gaſp for breath, at the ſame time frequently ſneezing, and attempting to ſwallow. At firſt the affection is

ſlight

ſlight, but gradually becomes more and more oppreſſive, until it ultimately deſtroys. Very few recover; they languiſh, grow diſpirited, droop, and die. It is generally known, that theſe ſymptoms are occaſioned by worms in the trachea. I have ſeen the whole of it completely filled with theſe worms, and have been aſtoniſhed at the animal's being capable of reſpiration under ſuch circumſtances. The annexed cut is a repreſentation of theſe animalculæ of the natural figure, and magnified.

"The ſmall figure repreſents the worms of their natural ſize, found in the trachea of chickens and young turkeys: the large figure, the ſame magnified. They are of a reddiſh colour, and at firſt view, reſemble the human *lumbricus*; but when examined, are materially different. When expoſed to the microſcope, they are found to have an orifice or mouth at one end, formed for ſuction; the other end, as far as I know, imperforated. Through the integuments is ſeen the inteſtinal tube, much convoluted, like that of the *lumbricus*.

"No effectual remedy is known againſt theſe moſt deſtructive animals. I have indeed ſeen them drawn out of the trachea, by means of a feather ſtripped from near its end, which is paſſed into the larynx, and twiſted round till it engages one or two of the worms, which are extracted with it.

"ANDREW WIESENTHAL."

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

PERHAPS nothing would go further in promoting a ſucceſsful medical practice, than that every practitioner ſhould lay before the public his own knowledge of remedies which he may have long employed, with unequivocal

ſucceſs,

ſucceſs, particularly of ſuch as may not be in general uſe. Thus the late Dr. MOSES GRIFFITHS, in giving to the world his favourite chalybeate mixture, did a more eſſential ſervice than if he had publiſhed an elaborate ſyſtem of phyſic; and DOVER's Legacy is ſtill remembered for his celebrated ſudorific powder, when many ingenious theories of more modern date are ſunk into ſilent oblivion.

It is with a view of throwing my mite into the medical treaſury, that I ſend you a preſcription which I have been in the habit of uſing for theſe fourteen years paſt, and (as is well known to many apothecaries in this town) with extraordinary ſucceſs, in all the complaints of pregnant women, ariſing from too prevailing an acidity, ſo general with them, ſuch as heart-burn, vomiting, cough upon taking food, and that feveriſh, reſtleſs ſtate ſo common in the latter period of pregnancy. For all theſe complaints, I direct two or three ſpoonsful of the following mixture to be taken either occaſionally, or when the ſymptoms are more continual, immediately after every meal:

℞ Magneſiæ uſtæ, drachm. j.
Aquæ puræ, unc. vſs
Spt. Cinnamomi, drachm. iij.
Aquæ Ammoniæ puræ, drachm. j.* M.

Magneſia has long been a celebrated remedy for theſe complaints, but the moſt efficacious ingredient in the preſcription is the pure ammonia, as the effect will be nearly the ſame without the magneſia, but this without the ammonia is far inferior indeed.

I was firſt led by accident to the diſcovery of the extraordinary power of the pure ammonia in correcting acidity in the ſtomach, over other alkaline ſubſtances. My wife being ſeized in the night with a ſevere heart-burn, I aroſe with a view of getting her ſome magneſia; but not being able to find any, and being deſirous of procuring her ſome immediate relief, I expected to obtain this by any alkaline ſubſtance, and not meeting with any but the water of pure ammonia, which I happened to have by me, I adminiſtered twenty drops in a glaſs of water; the relief was inſtant, and more complete than ſhe had ever experienced from taking magneſia. This induced me on another occaſion to give her a tea-ſpoonful of hartſhorn drops in water, expecting the ſame effect; but, to my ſurprize, no ſenſible relief was obtained, even when repeated: recourſe was had again to the pure ammonia, and with immediate ſucceſs, as was afterwards found invariably to follow its uſe. This induced me to try it in others. At firſt I was apprehenſive that the frequent

* This proportion ſuppoſes that the aq. ammon. pura as prepared at the Apothecaries' Hall is uſed; that made by ſome of the chemiſts is much ſtronger.

quent uſe of cauſtic volatile alkali might be attended with ſome inconvenience, and I was unwilling to believe that it could poſſeſs any power beyond any other alkaline ſubſtances, which might neutralize the acid in the ſtomach; but experience convinced me both of its ſuperior efficacy and its innocence, never having known any diſagreeable conſequences follow its uſe.

It ſhould ſeem probable from the effect of this remedy, that the cardialgia, and the other ſymptoms enumerated, may ariſe from an acid gas in the ſtomach, more than from its liquid contents. This gas is probably neutralized by the alkaline gas into which the water of pure ammonia will be converted by the heat of the body. That the carbonates of ammonia will not ſucceed, may ariſe from the ſuperior attraction of the carbonic acid for the alkali, to that of the morbid gas. But whether the theory be juſt or not, the effect is certain.

Before I conclude, it will be proper to remark, for the ſake of the younger practitioners, that the vomiting which occurs in early pregnancy, very rarely ariſes from, or is connected with acidity, and that this remedy of courſe is not appropriate. When vomiting in early pregnancy is moderate, and confined to the fore-part of the day, it appears to be uſeful, and nothing ſhould be done to prevent it; but it ſometimes happens that the vomiting is inceſſant for many days together, accompanied with great proſtration of ſtrength, and conſtant thirſt, and at the ſame time an utter inability of retaining any thing on the ſtomach. In this ſtate the moſt effectual remedy I know of is, the application of leeches to the pit of the ſtomach, and a conſtant attention to ſuffer nothing to be ſwallowed that can irritate. I have found it of the greateſt ſervice to allow the patient nothing but aſſes' milk, and that by ſingle ſpoonsful only. The uſe of leeches applied to the pit of the ſtomach in relieving vomiting is by no means confined to the ſtate of pregnancy, but when this ſymptom occurs in fevers, or follows the ingeſtion of any acrid ſtance, they are equally uſeful, as I have repeatedly experienced.

NEW BRIDGE STREET,
Sept. 21*ſt*, 1799. JOHN SIMS.

P. S.—I have received a letter from Mr. COOK, ſurgeon, at Barking, informing me that MARTHA ANGEL, who now lives in the capacity of cook to Mr. DOWNING, Hatton-Garden, had the cow-pox very ſeverely, being very full, and exceedingly ill, at Highworth, in Wiltſhire, in the year 1760. Thirty years after, in the year 1790, ſhe was inoculated, and had the ſmall-pox in the uſual manner. It may be expected that I ſhould not withhold this caſe from the public; at the ſame time it muſt be acknowledged, that the experiments already inſtituted ſeem fully ſufficient to decide that the cow-pox matter which has been uſed for inoculation is effectual in preſerving the patient from any future attack of the ſmall-pox, unleſs it ſhould be true, as

has

has been ſuggeſted, which I deem very improbable, that the cow-pox enables the conſtitution to reſiſt the contagion of the ſmall-pox for a certain length of time only. It appears more probable that there may be different diſeaſes among the cows, which are not very accurately diſtinguiſhed; and in this point of view, the publication of this and ſimilar caſes may have its uſe, in exciting a due care, that the genuine diſeaſe only be taken for the purpoſe of inoculation.

STATE OF DISEASES IN LONDON.

Account of Diſeaſes in an Eaſtern Diſtrict of London, from the 20th of July, to the 20th of Auguſt.

	No. of Cases.
ACUTE DISEASES.	
Typhus Gravior	2
Typhus Mitior	4
Quotidian	1
Pneumonia	3
Catarrhus	1
Meaſles	2
Acute Rheumatiſm	2
CHRONIC DISEASES.	
Aſthma	4
Cough	12
Dyſpnœa	9
Phthiſis Pulmonalis	5
Pleurodyne	4
Cephalæa	4
Epilepſia	1
Vertigo	4
Syncope	3
Palpitatio	2
Dyſpepſia	6
Vomitus	3
Gaſtrodynia	4
Diarrhœa	12
Dyſenteria	4
Colica	3
Colica Pictonum	2
Hæmorrhois	3
Dolor Nephriticus	2
Menorrhagia	3
Prolapſus Vaginæ	1
Dyſmenorrhœa	2
Amenorrhœa	4
Cancer in Utero	1
Chlorоſis	5
Dyſuria	4
Enureſis	2
Hyſteria	3
Scrophula	4
Herpes	6
Lichen	1
Piſora	1
PUERPERAL DISEASES.	
Menorrhagia lochialis	3
Maſtodynia	6
Ephemera	3
INFANTILE DISEASES.	
Hooping Cough	4
Meaſles	5
Aphthæ	6
Ophthalmia purulenta	3

We may repeat the obſervation made in the laſt Report of the ſtate of diſeaſes, that notwithſtanding the weather has been unuſually cold and wet, the number of diſeaſes has not been increaſed. Colds and coughs, indeed, have been rather more general than they are at this ſeaſon of the year, owing probably to the ſudden ſhowers of rain which have fallen, and for which perſons going abroad have not been prepared. Slight diſorders of the bowels have ſtill prevailed. Diarrhœas have been frequent, but of a mild and favourable kind, rather producing a ſalutary evacuation, than any morbid effect upon the conſtitution. Dyſenteries have alſo occaſionally occurred, accompanied with very ſlight degree of fever, and yielding pretty ſoon to the uſual methods of cure. The meaſles have prevailed amongſt children; but this, like the other diſeaſes of the preſent ſeaſon, has proved mild: the fever and cough, which are the ſymptoms of principal conſequence in this diſeaſe, have been very ſlight.

☞ *For the other Liſts of Diſeaſes, ſee page* 292.

Case of Diabetes, with an Account of the Appearances after Death, stated in a Letter to Dr. Rollo; by ALEXANDER MARCET, M. D. *Member of the Royal College of Physicians, London; and Physician to the City Dispensary.*

DEAR SIR,

I WAS very much disappointed by not seeing you at the examination of the body of my diabetic patient, which took place on the 6th of the last month, according to the notice I had sent you. Dr. WILLAN and Dr. DELARIVE were present at the dissection; and Dr. MARSHALL was so obliging as to perform it. I am sensible how much more interesting it would have been to you if received from the hand of that experienced observer, and flatter myself he may yet be induced to give it to the public. In the mean time, I transmit, in compliance with your request, a short account of the case, and will afterwards relate, as well as I am able, the principal circumstances which presented themselves, or were pointed out to me, during and after the dissection.

The history of the case contains nothing, I believe, that has not been before observed in diabetes: but, as you will see from the account of the dissection, this patient also laboured under phthisis pulmonalis, a circumstance which I was not aware of, and which some other medical men who visited him with me at different periods, seemed to have likewise overlooked.

R. K. of Chancery-lane, a carpenter, aged 55, applied to the dispensary in Carey-street, in March, 1798. I then attended the dispensary as an assistant physician to Dr. Willan, and this man became one of my patients. He complained of great weakness and emaciation; of pains in his loins, and across his stomach; and of a slight cough, to which he had been at times subject, but which, he said, was but very trifling. He complained also of heat in his inside; but he never spit any blood; and his expectoration was never copious nor purulent. His tongue was dry, but clean and florid; his skin uncommonly dry, and had been so for a long time; his pulse was a little more frequent than natural. Those symptoms would have naturally led to the suspicion of consumption, and indeed it was the first idea that occurred to me; but having inquired more particularly into the circumstances of his illness, and having found he was labouring under diabetes, I thought I could explain the symptoms of pain, heat, and emaciation, without any other supposition, and I lost sight of the phthisical symptoms.

I learnt that his appetite was uſually very keen, though not ſo at that moment, owing, as he thought, to his having caught cold. His thirſt, however, was immoderate, and his urine, which was much more copious than natural, had the peculiar diabetic colour and properties. He did not paſs his water without being conſcious of it, but could not retain it a ſingle moment whenever he had a call to diſcharge it. His ancles frequently ſwelled towards evening, and his feet were in general cold; but he complained of occaſional heat in the palms of his hands. He had but a few teeth left, which were quite looſe in their ſockets. His ſpirits were extremely low, and had been ſo during the whole courſe of his illneſs; he was ſo deſpondent about nine months ago, as to make an attempt againſt his own life, which proved very nearly ſucceſsful. His memory ſeemed to be conſiderably impaired; and he could not diſtinctly remember in what manner he was firſt taken ill; but his wife told me his complaints had begun about eighteen months before; and that the firſt ſymptoms ſhe could trace, were an uncommon appetite and a proportionate thirſt. He had been a hard drinker all his life, and ſtill indulged the ſame habit. He had been, at different periods, ſubject to diarrhœa, but latterly complained of obſtinate coſtiveneſs. The quantity of his drink amounted to ſeven or eight pounds of beer, or ſpirits and water, in twenty-four hours; and he paſſed in a ſimilar ſpace of time, between four and ſix pounds of ſweet, pale urine, which yielded an uncommonly copious ſaccharine ſediment. According to the account of his wife, both his drink and urine were ſome time before much more conſiderable, and ſhe thought the quantity of his urine had been, at times, fully equal to that of his drink.

Theſe were the principal circumſtances of the caſe, of which I kept memorandums ever ſince I undertook the treatment of it; and though there have been within theſe fifteen months ſome fluctuations in the ſymptoms, I did not perceive any remarkable change in the general ſtate of the patient till a few weeks before his death. His legs and ancles then ſwelled very much; his pulſe became quicker, though not very weak nor irregular; his powers of digeſtion almoſt entirely ceaſed: frequent purging and vomiting ſupervened, which continued with little abatement to the moment of his death. He remained ſenſible till within a few hours before he expired, but he then loſt his power of ſpeech, and was ſoon after carried off in a fit of convulſion.

I ſaw him, for the laſt time, four days before his death. Till then, the diabetic ſymptoms had continued, and his urine had the qualities peculiar to the diſeaſe.

The method of treatment employed could ſcarcely afford any intereſting obſervation, ſince from the complicated and advanced ſtate of the diſeaſe, I could

I could only uſe palliative remedies. His ſtomach was totally unable to bear the animal regimen, and there were but very few articles of food that could at all agree with him. He was very whimſical in his diet, and refuſed, at times, to take any kind of animal food, whilſt, unfortunately, he was very fond of ſugar and ſweet things of any kind. Opium always relieved him, and was repeatedly adminiſtered in different forms. When he was coſtive, aloes agreed with him well, and were often preſcribed. At a later period of the diſorder, his bowels were in a very relaxed ſtate, which could only be corrected by reſtringents, either alone or combined with opiates. During the laſt ſummer he went to ſpend a few months in the country, when he diſcontinued the uſe of any medicines; he thought at firſt the country air was of ſome ſervice to him, but at his return, he ſeemed to be nearly in the ſame ſtate as before.

Diſſection about thirty-ſix Hours after Death.

Lungs.—Several adheſions were found between the pleura coſtalis and the pleura pulmonalis; and in each ſide of the lungs a large ulcer was diſcovered, containing a conſiderable quantity of pus. The whole texture of the lungs was very much diſeaſed. The purulent matter did not appear to have found its way through the trachea.

Heart.—There was very little fat about the heart; but it was ſurrounded with a remarkable quantity of a peculiar gelatinous matter. In other reſpects, it appeared quite natural.

Stomach.—The ſtomach was uncommonly ſmall. The muſcular coat appeared a good deal thicker than uſual; and alſo whiter. It contained only a ſmall quantity of a yellow-greeniſh, gelatinous matter, the chemical properties of which, unluckily, were not aſcertained.

Colon.—The colon was likewiſe very much contracted in its ſize, and fully as much ſo in proportion as the ſtomach. The inteſtines were empty, and in general of a ſmall ſize.

Meſentery.—The whole of the meſentery was very much diſeaſed. All the glands were remarkably enlarged; ſome of them very hard and of irregular texture; ſome others ſofter and of an uniform ſpherical ſhape. Many of the lacteals could be ſeen conſiderably *enlarged*.

Liver.—The liver appeared quite ſound, and natural in every reſpect.

Pancreas.—The pancreas was of a paler colour and of a harder conſiſtence than common.

The Spleen—was quite natural.

Ureters.

URETERS.—There was nothing unuſual in the ureters, except that they appeared ſomewhat whiter than common.

KIDNEYS.—The right kidney was of a natural ſize; the left was rather larger than uſual. Both of them had externally a natural appearance; but on being cut through, the cortical ſubſtance appeared uncommonly vaſcular; and the ſubſtance of the tubuli uriniferi & proceſſus mamillaris was whiter and more tender than uſual. The left kidney was taken away for the ſake of a more minute examination.

BLADDER.—The bladder was rather larger than common, and diſtended with a quantity of muddy urine.

PENIS.—A ſmall quantity of mucous or purulent matter was found oozing from the orifice of the urethra, which appeared ſlightly inflamed; and ſome contractions were perceived in it.

GLANDS.—All the glandular ſyſtem, and eſpecially the glands in the neck and groin, were very hard and conſiderably enlarged. Thoſe of the meſentery, as already obſerved, were remarkably diſeaſed.

LYMPHATICS.—The *lymphatic veſſels* alſo were generally enlarged; but this was more particularly obvious in the inteſtines. The ſtate of the lymphatics in the lungs could not be diſtinctly aſcertained.

URINE.—Some urine was taken out of the bladder after death, which being evaporated, yielded a reſiduum which had a very ſtrong urinous ſmell, and did not appear to contain any ſaccharine matter: at leaſt the preſence of ſugar was not diſcoverable by the ſenſes.

N. B. The left kidney having been diſſected and kept in ſpirits for a few days, exhibited the appearances above deſcribed, except that the proceſſus mamillaris had loſt that ſhining white colour which was remarked on the firſt inſpection.

I had collected ſome blood from one of the large veins, but finding no ſugar in the urine, I did not think it neceſſary to ſubmit the blood to any chemical examination.

This diſſection, I am afraid, will be found to throw but little additional light upon the theory of the diſeaſe; yet it may, I believe, by exhibiting a variety of morbid appearances, which had not been obſerved in former inſtances of the ſame diſeaſe, and a ſound ſtate of ſeveral organs which, in other caſes had been found altered, tend to corroborate the opinion that diabetes does not originaly depend upon any organic diſeaſe in the abdominal viſcera, but rather upon ſome change in the proceſs of digeſtion and aſſimi-

aſſimilation, in conſequence of which, after a length of time, ſome of the organs connected with thoſe functions, may become more or leſs diſeaſed. The ſtate of the meſentery, in this caſe, correſponded in a general point of view, with the theory which you and Dr. RUTHERFORD have ſo ingeniouſly developed; but at the ſame time it muſt be acknowledged, that the morbid appearances alluded to were by no means excluſively in the meſenteric ſyſtem.

I will not fatigue you with any farther ſpeculations upon this curious and ſtill problematical diſeaſe. Permit me only to recal to your attention the curious combination of diabetic and phthiſical ſymptoms, which occured in the preſent caſe. The ſkin continued always dry, and not only the colliquative ſweats, but all perſpiration whatever was totally prevented. On the other hand, the colliquative diarrhœa took place in a very high degree and the obſtinate coſtiveneſs which is peculiar to diabetes, entirely diſappeared at the latter end of the diſorder.

I have the honor to be,

Dear Sir,

CAMOMILE-STREET, Your humble, obedient ſervant,

London, July 1ſt, 1799. A. MARCET.

P. S. I have read the above account to Dr. MARSHALL, Dr. WILLAN, and Dr. DELARIVE, all of whom, I am happy to find, agree with me in their recollection of the circumſtances therein mentioned.

To Dr. Rollo, Surgeon-General,
Royal Artillery, Woolwich.

FOR THE MEDICAL AND PHYSICAL JOURNAL.

A Statement of the Progreſs in the Vaccine Inoculation, and Experiments to obtain Determinations concerning ſome important Facts belonging to the Vaccine Diſeaſe. By GEORGE PEARSON, M. D. F. R. S. Phyſician to St. George's Hoſpital.

THE collection of teſtimonies which I publiſhed in November laſt in my "*Inquiry concerning the Hiſtory of the Cow-pox;*" and the circular letter which I iſſued in March laſt, ſtating the progreſs of the *Vaccine Inoculation*, and

and containing thread impregnated with *matter*, have procured me much information. In particular, through the recommendation of the *Surgeon-General*, THOMAS KEATE, Eſq. the new practice has been introduced into the army, of which, a valuable report has been already communicated. I have been alſo ſo fortunate as to obtain permiſſion to practiſe the *new inoculation* in certain ſituations where great numbers would have been inoculated for the ſmall-pox. The caſes from theſe ſources, and a pretty large ſtock from private practice, form a valuable body of evidence, by means of which, the profeſſional public would be enabled to eſtimate (I do not ſay preciſely) the value of the *new practice*, and alſo anſwer many of the queries, and ſupply ſome of the deficient parts of the hiſtory of the vaccine diſeaſe, which are ſtated in the *Inquiry* above mentioned. But ſuch are my occupations at preſent, and in all likelihood, ſuch they will be for a conſiderable time, that I ſhall be unable to arrange for the uſe of the public, the valuable materials tranſmitted to me. It will however, perhaps, be not without utility at this time, firſt, to ſtate a few general reſults from the vaccine inoculation; and ſecondly, to relate ſome *trials*, from which I apprehend concluſions can warrantably be drawn, which may promote the inveſtigation now going forward.

Not much more than ſix months have elapſed ſince the opportunity was afforded, by the breaking out of the *vaccine diſeaſe* in two principal milch-farms near London, of obtaining matter for propagating the ſame diſeaſe among human creatures. The *new inoculation* was immediately introduced in London, and ſoon afterwards in the neighbourhood, as well as in many provincial ſituations. It is with ſincere ſatisfaction that we can now reckon, at the feweſt, 2000 perſons who have paſſed through the cow-pox by inoculation; but, in this number, I include the very large proportion furniſhed by him, who, ſo beneficially for the public, and honourably to himſelf, poſſeſſes the office of phyſician to the Small-pox Hoſpital. From the above experience we receive, as I expected, important information.

1. Of the above number, it appears that *one* patient died. (Woodville's Reports, p. 151.) And to avoid controverſy, let us allow that the death was occaſioned ſolely by the inoculation. Now, according to the juſteſt calculation I have been able to make; as in the inoculated ſmall-pox one in two hundred * dies from the diſeaſe, it is evident, in the preſent ſtate of the

* I am fully aware that ſo great a proportion as one in two hundred, will not be allowed by many practitioners; and to perſons who have been told, and believe, that inoculation for the ſmall-pox "ſcarcely ever does any harm;" that certain practitioners have inoculated many thouſands without loſing a patient! that others have

told

the practice, that the proportion of fatal caſes in the inoculated ſmall-pox to the inoculated cow-pox is as ten to one.

2. The conſtitutional affection, or fever, which occurs in the cow-pox about the ninth day after inoculation, is much more conſiderable in many caſes, than was apprehended from the firſt account by Dr. JENNER; although in a great proportion of caſes it is extremely ſlight, and in many, cannot be obſerved at all. But I muſt correct my ſtatement in March laſt, in which I ſaid, "although the extreme caſes of the ſevere kind which ordinarily occur in the ſame number of caſes in the inoculated ſmall-pox, did not occur in the new practice; and although many of the patients were even more ſlightly diſordered conſtitutionally, yet the whole amount of the conſtitutional illneſs ſeemed to be as great as in the ſame number of patients in the inoculated ſmall-pox." Since that report, or at leaſt, for the laſt four months, as far as I have obſerved, and been able to learn from others, the whole amount of the conſtitutional illneſs was not one half of the whole amount in an equal number of patients inoculated for the ſmall-pox. Now, whether the greater mildneſs of the diſeaſe depended on the different ſtate of the human conſtitution in the ſummer from that of winter, as ſeems to me moſt probable; or that it depended on the difference in the ſtate of the vaccine matter, muſt be determined by future experience in the ſame ſeaſons.

3. The moſt remarkable difference in the practice of the laſt winter and preſent ſummer, has been with regard to the eruptions which ſo often occurred, eſpecially in the Small-pox Hoſpital; which eruptions, in many inſtances, could not be diſtinguiſhed from thoſe of the ſmall-pox, and which were wholly unexpected from the original deſcription by Dr. Jenner. No explanation hitherto given, conſiſts with the obſervations relative to theſe eruptive caſes; but the facts are, as Dr. Woodville informs us they have occurred much leſs frequently this ſummer, than in the ſpring and winter preceding. In my private practice, not a ſingle caſe with

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told their friends "they never had a fatal inoculated case in their whole lives:" I say to such persons, no advantage on the score of saving life will be allowed from the cow-pox; but I have conversed with many candid and experienced practitioners, and they are well satisfied that I am warranted in the above statement of deaths in the inoculated variola. I beg leave to say further, that I believe more persons in proportion have died of the inoculated small-pox within a few years, than died in the same time twenty years ago; and this may be accounted for, from the unwarrantable assertions of many inoculators; from whence a great part of the public have imbibed the opinion, that the inoculated small-pox was not attended with any danger; and the practice is often trusted in the hands of persons not sufficiently acquainted with the treatment fit for different states of the human constitution.

with eruptions reſembling the ſmall-pox, has occurred theſe laſt four months, and but a ſmall proportion with any eruptions of other kinds. From my correſpondents I have not had a ſingle caſe of eruptions like the variolous, ſince that of Dr. REDFEARN'S, of Lynn; not one of this ſort in Mr. KELSON'S, of Seven Oaks, report of about one hundred patients; not one in Dr. MITCHILL'S, of Chatham, of about fifty patients; not one in the report of near one hundred patients from Dr. HARRISON, of Horncaſtle, communicated to the Right Honourable Sir JOSEPH BANKS; and, in ſhort, not one caſe with theſe eruptions appears in the accounts from my other correſpondents.

4. The arms have manifeſted in many inſtances a much more extenſively ſpreading red areola around the inoculated part, than is uſual in the ſmall-pox, which redneſs ſometimes extended over the greater part of the whole arm. This appearance is very alarming to both the patient and the inexperienced practitioner; but no danger ſeems to be attendant on ſuch a ſtate of the parts; for it diſappears in at moſt two or three days; by no means gives pain in proportion to its appearance, and, in the caſes I have ſeen, affects the conſtitution very little. I would rather call this ſpreading redneſs of the ſkin *erythema* than *eryſipelas*. As to phagedenic ulcers, as they have been called, enſuing from the inoculated part, many ſore arms have been produced; but nine out of ten were occaſioned, or, at leaſt, much aggravated, by the tightneſs of the clothes; by allowing the linen to ſtick to the ſore; by ſcratching the puſtule, and ſometimes by emollient poultices. The experience we have had ſince January laſt in London, and in the country, does not agree exactly with Dr. Jenner's account concerning the ſtate of the arms. He thinks ſome new applications of a cauſtic nature neceſſary in many caſes to prevent ſecondary ſymptoms from the ſores; but Dr. Woodville (Report, p. 155), my correſpondents, and myſelf, have not found any want of applications on this account.

5. Concerning the important point of the certainty of the action of the cow-pox on the human conſtitution to produce unſuſceptibility of taking ſubſequently the ſmall-pox, I can only ſay at preſent, that I have inoculated many ſcores with ſmall-pox matter after the vaccine diſeaſe, and never with the effect of exciting the ſmall-pox. But I have had accounts ſent to me, not of people taking the ſmall-pox after the inoculated cow-pox, but of theſe taking the ſmall-pox after the cow-pox in the caſual way. I have, indeed, been deſired to ſee even ſome of my own patients, who, I was acquainted, had taken the ſmall-pox after the cow-pox; but theſe caſes turned out to be either thoſe in which the cow-pox had not in reality preceded, or they were caſes of merely local affection from the inoculated ſmall-pox.

With

With reſpect to the facts of other practitioners, I ſhall, at a future time, make ſome remarks on them to render their accounts conſiſtent with thoſe of Dr. Jenner, Dr. Woodville, and myſelf. In the mean time, I will not allow that any perſon's evidence is on this point much to be depended upon, unleſs he really knows what are characters of the cow-pox puſtule, and what are thoſe of the variolous, and ſome other common eruptions.

By this remark, I do not mean to imply, that inferiority of natural judgment renders ſuch perſons' evidence of little weight, but I mean that any perſon whatever, who has not been accuſtomed to obſerve the appearances of certain eruptions, will ſcarcely be able to diſcriminate them. Therefore, as the vaccine poiſon by inoculation, eſpecially when the matter is dried, produces inflammation, a little tumour, and ſometimes puſtule, which are not the effects of the *ſpecific ſtimulation* of the matter, it is not ſurpriſing that reports ſhould be given of perſons taking the ſmall-pox after ſuch inoculation; and alſo of their taking the cow-pox more than once. Men of common accuracy in obſervation, by experience, will find out the miſtakes they have committed in this reſpect, but I am very much afraid that *all* have not the candour to acknowledge and rectify them, however honourable ſuch conduct is in the eſtimation of the beſt part of ſociety. It affords me great ſatisfaction to find my friend and correſpondent, Dr. Davis, of Bath, has diſplayed this honourable diſpoſition; I conjectured the caſe was as he has ſtated it, when he ſome months ago communicated it to me. (See *Medical and Phyſical Journal* for laſt month, p. 106). His conduct in this inſtance, although it is no more than I had a right to expect from my opportunities of knowing his ſtudious habits, I cannot help conſidering as a certain preſage of diſtinction in his profeſſion.

From the preceding general reſults, without entering into a more particular account, I think we may ſafely conclude, that the cow-pox inoculation is attended with advantages ſufficient to force its way ſpeedily into general practice; and that in courſe, it will ſuperſede, and ultimately extinguiſh, the ſmall-pox; but this concluſion is only made, provided no new facts ſhall ariſe, adverſe to the experience now poſſeſſed.

With regard to the ſecond object of this paper, Dr. Jenner, very uſefully to human ſociety, and very honourably to himſelf, firſt publiſhed ſome FACTS, which I thought it my duty, in common with other members of the profeſſion, to inveſtigate, and have laid before the public. Among theſe *facts*, the *fourth* and *fifth* were aſſerted in theſe terms:

IV. *A perſon having been affected with the ſpecific fever, and local diſeaſe, produced by the cow-pox poiſon, is liable to be again affected as before by the ſame poiſon; and yet ſuch perſon is not ſuſceptible of the ſmall-pox.*

V. *A perſon is ſuſceptible of the cow-pox, who has antecedently been affected with the ſmall-pox.*

Neither of theſe facts being ſupported by any analogy, a great part of the public ſeemed inclined to diſbelieve them; and not only inclined to diſbelieve theſe facts, but the credit of others was, for obvious reaſons, thereby weakened. It may be ſeen in my *Inquiry*, that I thought the aſſertion ſtood in need of confirmation, which I was not only unable to procure, but contrary evidence was obtained. Some of my correſpondents not only aſſerted that men were not affected more than once, but that the ſame cows had not been known to be affected more than once. It was alſo poſitively aſſerted by ſome, that a perſon is not liable to the infection of the cow-pox after going through the ſmall-pox (p. 49, *Inquiry*), "and I ſaw perſons pitted with the ſmall-pox, who had been much expoſed to the cow-pox without taking it." (*Ibid.* p. 50.)

Notwithſtanding my confidence in Dr. Jenner's evidence, I could not help pointing out, in the following words, what I apprehended was a ſource of error in both caſes: "The evidence for this fact (viz. IV.) to my apprehenſion only, proves ſatisfactorily, that the *local affection* of the cow-pox may occur in the ſame perſon more than once; but whether the *peculiar fever* alſo occurs more than once in the ſame perſon, from the cow-pox poiſon, does not appear certain, and muſt be determined by future obſervations, made with a peculiar view to this point." Farther; I was ſo diſſatisfied, that I wrote to Dr. Jenner to anſwer my query, Whether, in the inſtance of the cow-pox occurring more than once in the ſame perſon, it was certain that the ſpecific fever was preſent more than once? The Doctor very obligingly anſwered my letter, and ſays (ſee Dr. Jenner's letter, p. 99 of my *Inquiry*), "You may be aſſured, that a perſon may be repeatedly affected, *both locally and generally*, by the cow-pox; two inſtances of which I have adduced, and have many more in my recollection." But he very candidly adds, "Nevertheleſs, on this important point, I have ſome reaſon to ſuſpect that my diſcriminations have not been till lately ſufficiently nice."

With reſpect to fact V. I ſaid in my *Inquiry*, p. 49, "It ſeems ſufficiently authenticated, that people may have the cow-pox after they have had the ſmall pox; but it will require more nice attention to ſatisfy the query, Whether, in ſuch caſes, the cow-pox affects the whole conſtitution; or is only a local affection?" Subſequently to this obſervation, I find Dr. Jenner himſelf, from a theoretical conſideration, offers as a "conjecture, what experiment muſt finally determine, that they who have had the ſmall-pox,

are not afterwards ſuſceptible of the primary action of the cow-pox virus." (*Further Obſervations*, &c. by E. Jenner, M. D. &c. p. 32.)

I ſhall now relate the *trials* I have inſtituted, and the *obſervations* I have made, to obtain *determinations* with reſpect to theſe important queſtions of facts.

Trials to determine whether or not Perſons be ſuſceptible of the SPECIFIC COW-POX PUSTULE *and* FEVER, *who have undergone the Small-pox.*

The following four firſt-named gentlemen being engaged with me in phyſical inquiries, were deſirous to experience in their own perſons, the effects of the vaccine poiſon.

1. Mr. DANGERFIELD was inoculated in one arm by means of a puncture with a lancet ſtained with freſh, but dried matter, rendered fluid by ſteam, when inſerted. The other arm was inoculated by paſſing through the ſkin a bit of thread impregnated with matter.

On viewing the arms in three days time, that with the thread appeared inflamed, with a red, elevated, ſmall ſpot; the other arm which had been punctured, barely ſhewed a red ſpot. The punctures had ſmarted for about twenty-four hours, but no other effects were produced. Theſe red ſpots diſappeared in a few days.

In three weeks further the inoculation was again inſtituted, but with fluid lymph applied immediately from the puſtule of a patient preſent, to punctures in each arm. More ſmarting and more inflammation were produced by this inoculation than by the former. A ſmall quantity of pus was produced in the little red ſpots from the punctures in about ſix or ſeven days, but no diſorder aroſe in the whole conſtitution.

Mr. Dangerfield was next inoculated in one arm with *variolous* matter. In the evening of the day of inoculation, inflammation appeared, which increaſed to a greater degree and extent than from the vaccine inoculations. A ſmall phlegmonic tumour, in the part inoculated with variolous matter, continued for a fortnight, during which time it ſuppurated, and the ſore from it did not heal in leſs than three weeks further. There was no conſtitutional affection, but much pain was felt in the arm-pit in about five days from the inciſion.

2. Mr. POLLOCK was inoculated in each arm with a lancet armed with fluid lymph, immediately after taking it from a patient. A little ſmarting was felt for a day or two, and the parts inoculated were red for ſeveral days, but no puſtules aroſe, nor conſtitutional affection.

3. Mr.

3. Mr. PERKINS was inoculated by puncturing one arm with a lancet ſtained with recent *vaccine matter*, and the other arm was inoculated with variolous matter. A red ſpot was ſeen on each of the parts inoculated the day following, and an itching ſenſation, eſpecially from the vaccine matter, was experienced for a day or two. The parts remained elevated and inflamed a little for a few days further, and then got well without ſuppurating, or being attended by any general diſorder.

4. Mr. ARMITAGE, whoſe conſtitution was fat and muſcular, was inoculated in each arm with a lancet ſtained with limpid vaccine matter, immediately on taking it from a patient preſent.

A ſmall red ſpot was obſerved the day following, and a little burning ſenſation was complained of. The red ſpots grew larger and larger for four or five days, and at length produced a ſmall, unequal, hard tumour, in which a little pus was afterwards generated; but the parts ſoon got well, without any attending diſorder of the whole conſtitution.

In a fortnight after this, each arm was inoculated with variolous matter: more inflammation aroſe, in a few days, than from the vaccine inoculation, followed by ſmall tumours, which ſuppurated. The parts inoculated remained ſore for more than a fortnight, but no feveriſh ſymptoms ever appeared.

5. G. P. a boy twelve years of age, who had gone through the cow-pox ten years before, was inoculated in one arm with recent dried vaccine matter, but rendered fluid by ſteam juſt before it was inſerted. The day following not ſo much as a red ſpot appeared on the part inoculated, nor had there been any uneaſy ſenſation. He was therefore inoculated a ſecond time, but with fluid lymph immediately from a patient.

The day after the ſecond inoculation, an itching ſenſation of the punctured part was complained of, which continued for two or three days. The part punctured had a ſmall, red, elevated ſpot upon it the day after the inoculation, which grew gradually larger for four or five days, and became a trifling phlegmonic tumour, but without any red ſurrounding areola. In a few days the little ſwelling ſubſided, but a red, and rather ſore ſpot, remained for a week longer. No diſorder of the whole conſtitution was perceived.

6. I was inoculated by Dr. Woodville, in one arm, with fluid vaccine lymph from a ſubject preſent. The punctured part ſmarted a little all the remainder of the day of the inoculation, and alſo the day following.

In twenty-four hours a red ſpot on the inoculated part was ſeen, exactly like

like that which is ſeen in the ſame time when either the vaccine, or variolous infection has taken effect, and increaſed for yet another day; but after this the redneſs vaniſhed, and no ſore was left.

I once accidentally punctured the back of my hand with a lancet which had fluid vaccine matter upon it. The conſequence was, a circumſcribed, very ſmall, red, hard tumour. This remained for a fortnight, then ſuppurated, and afterwards burſt. The part ſoon healed, but left a very ſmall ſuperficial cicatrix.

As belonging to this head, I mention that I have ſeen ſeveral inſtances of nurſes having ſmall, red, conical tumours on their lips and cheeks, and ſometimes hands, evidently from the application of cow-pox matter from the children under their care during the vaccine inoculation. Theſe little tumours ſometimes remained for ſeveral weeks, and a particle of pus was formed in them. They never were attended by any fever ſymptoms, nor by any ſurrounding erythematous areola. I here ſpeak of nurſes who had long before paſſed through the ſmall-pox.

I have no heſitation to refer the following caſes to this head of unſuſceptibility of taking the cow-pox, to having previouſly gone through the ſmall-pox.

A male ſervant to THOMAS KING, Eſq. about eighteen years of age, was brought up under circumſtances in which he could get no teſtimony to his having had, or *not* having had the ſmall-pox. Not having undergone this diſeaſe to his own knowledge, it was thought adviſable to inoculate him for the cow-pox, in order to reſiſt the ſmall-pox, with which his fellow-ſervant was ſeized. This I did on Wedneſday, the 23d of March, in one arm, with matter on a bit of thread.

4th day, Tueſday 26th. The parts inoculated had ſmarted for the firſt two days, and they were now red and a little elevated, as if the infection had taken.

6th day, Thurſday 28th. Inflammation had almoſt entirely gone off. Inoculated a ſecond time in both arms with matter from a different patient.

3d day of *ſecond inoculation*, Saturday 30th. The parts appeared inflamed.

6th day of *ſecond inoculation*, Tueſday, April 2d. Inflammation had diſappeared. Inoculated a *third time* with limpid fluid from a patient preſent, and with which matter I had excited the vaccine diſeaſe in ſeveral perſons.

7th day

7th day of *third inoculation*. The parts inoculated had inflamed and felt painful for two or three days, but were now well. Inoculated the patient a fourth time with *ſmall-pox matter*, in both arms; from which a little inflamation aroſe in both arms, but nothing more. This young man frequently viſited his fellow-ſervant in the ſmall-pox; at the Small-pox Hoſpital, and often ſhook hands with him, while under my care for the cow-pox inoculation.

In this caſe either the ſmall-pox had already affected the conſtitution, or ſome other diſpoſition exiſted, rendering it equally unſuſceptible of the ſmall-pox and cow-pox.

From Dr. MITCHELL at Chatham, whoſe report is now before me, I learn that there were ſeveral inſtances of ſoldiers, to whom the cow-pox could not be communicated; and, although they had they had no recollection themſelves of having gone through the ſmall-pox, it was moſt likely they had really been affected by it.

If I had ſeen any inſtance of genuine cow-pox puſtule and ſpecific fever in a conſtitution which had previouſly ſuffered the ſmall-pox, I ſhould have related it; but I ought to mention that ſuch a caſe has fallen under the obſervation of Dr. Woodville (Reports, p. 52 and p. 143). I ſhall never object to the teſtimony of ſo experienced a phyſician without more than uſual conſideration; but I cannot avoid here obſerving, that the evidence in his caſe of the patient having had the ſmall-pox *when a child*, is merely that of the patient; and I ſubmit to Dr. Woodville, whether or not that evidence is admiſſible to build upon, now that we have the above unequivocal contravening caſes of the fact aſſerted. But I truſt the Doctor will be leſs tenacious of this inſtance, as he himſelf tells us that he failed to excite the vaccine diſeaſe, by inoculating ſeveral patients who were recovering from the natural ſmall-pox. (Reports, p. 144.)

Whatever impreſſion the above inſtances may have made on my own mind, I do not expect they will produce conviction in the mind of every practitioner, *that it is a law of the animal economy to be rendered unſuſceptible of the cow-pox fever and ſpecific puſtule, by undergoing the ſmall-pox.*

Hence I find that my expectation of the hands of phyſic being ſtrengthened by the poſſeſſion of a ſure means of exciting an innocent fever is not realized (*Inquiry*, p. 81); but I feel ſome conſolation from the proſpect of the new inoculation being more ſpeedily introduced, by the removal of one obſtacle, viz. the fears of many patients who have already paſſed through the ſmall-pox, that they would be liable to the cow-pox, if the diffuſion of the

the infection of it became extenſive by the vaccine inoculation. Another advantage ſuggeſted in my *Inquiry*, p. 92, is now, I think, greatly confirmed; namely, an advantage for thoſe who are not certain whether or not they have had the ſmall-pox, but poſſeſs ſo great a dread of this diſeaſe as not to be able to ſubmit to inoculation for it.

I congratulate ſuch perſons on the diſcovery of a teſt to which I apprehend the moſt timorous minds will ſubmit: for if the *ſpecific puſtule* and *fever* do not take place from the inoculation of the cow-pox poiſon, they may be aſſured, that *either they have already paſſed through the ſmall-pox*, or *their conſtitutions are not ſuſceptible of it*.

It now ſeems to me that the following facts are eſtabliſhed on the foundation of experience:

1. A conſtitution which has undergone the ſmall-pox is unſuſceptible of again undergoing the diſeaſe.

2. A conſtitution which has not undergone the ſmall-pox, but which has undergone the cow-pox, is unſuſceptible of undergoing the ſmall-pox.

3. A conſtitution which has not undergone the cow-pox, but which has undergone the ſmall-pox, is unſuſceptible of undergoing the cow-pox.

Now, if the variolous poiſon deſtroys the ſuſceptibility of the conſtitution to the future agency of this poiſon, in the reſpect of its producing the ſmall-pox—and if the cow-pox poiſon deſtroys the ſuſceptibility of the conſtitution to the future agency of the variolous poiſon, in the reſpect of its producing the ſmall-pox—and if the variolous poiſon deſtroys the ſuſceptibility of the conſtitution to the future agency of the vaccine poiſon, in the reſpect of its producing the cow-pox—it is demonſtrated, that the ſame ſtate of ſuſceptibility of the conſtitution with reſpect to the future agency of the variolous poiſon, is produced equally by the agency of the variolous poiſon, and by the vaccine poiſon; but, if the variolous poiſon produces unſuſceptibility of the conſtitution to the future agency of the vaccine poiſon, it is demonſtrable that the following fourth propoſition is true, viz.

4. A conſtitution which has undergone the vaccine diſeaſe is unſuſceptible of again undergoing that diſeaſe from the vaccine poiſon, becauſe a ſtate of unſuſceptibility with reſpect to the agency of the variolous poiſon is produced by the vaccine poiſon (2d *propoſition*), and a ſtate of unſuſceptibility with reſpect to the agency of the vaccine poiſon is produced by the variolous poiſon (3d *propoſition*);—but the ſtate of the conſtitution being the ſame in the two caſes, whether it be produced by the variolous, or vaccine poiſon, with reſpect to unſuſceptibility, it ſeems inevitably in courſe, that

unſu-

unſuſceptibility of the conſtitution to the future agency of the vaccine poiſon is produced by the vaccine diſeaſe; and the demonſtration, in courſe, could be given of the 1ſt *propoſition*, on the ground of the 2d and 3d *propoſition*, that unſuſceptibility of the conſtitution to the agency of the variolous poiſon is produced by the variolous diſeaſe, if this were not already proved by abundant experience. At a future time, however, I ſhall relate the obſervations and experiments to confirm this *à priori* concluſion; firſt, becauſe theſe proofs will increaſe the validity of the 3d *propoſition*; and ſecondly, becauſe I do not mean to offer this demonſtration as infallible, like mathematical.

From the preceding reaſoning it may be imagined, that I conſider the cow-pox and ſmall-pox as the only varieties of the ſame ſpecies of diſeaſe, and that therefore, the name *variola vaccina* is appropriate, although I endeavoured to ſhew that it was unjuſt, and tended to miſlead, by giving erroneous notions (*Inquiry*, p. 108). But it muſt here enter into our contemplation, that the ſame ſtate of an animal, or other ſubſtance, in a certain reſpect, may be produced by very different things, and the phenomena attending their agency, may be very different from one another. It is ſo in the inſtances under conſideration; and farther, in order to eſtabliſh reſembling things to be *varieties of the ſame ſpecies, we ought to be able to trace them to one common origin*, or to ſhew that they all agree in what ſhould be reckoned eſſential properties. Now, hitherto it has not appeared that the cow-pox has ariſen from the ſmall-pox, or the ſmall-pox from the cow-pox. If it be ſaid, that in ſome of the eruptive caſes of the cow-pox the puſtules could not be diſtinguiſhed from the ſmall-pox, it ſhould be conſidered, that it has not been yet ſhewn that in any caſe the ſmall-pox has changed into the cow-pox; that the cow is ſuſceptible by inoculation of the cow-pox, by inoculation of the matter of the cow-pox from the human ſubject; and that the puſtules reſembling the ſmall-pox, which occur in the cow-pox, afford matter which, I believe, produces in ſome caſes (although perhaps not in ſo great a proportion as originally) the cow-pox in its uſual mild way, viz. a puſtule in the inoculated part only, and a ſlight fever. Hence I humbly am of opinion (but ſubmit the queſtion to the deciſion of ſcholars), that the denomination *variola vaccina* is a tranſgreſſion of the law in philology, and repugnant to ſound logic.

Extended as this paper is, much beyond the limits propoſed, I cannot confine to myſelf the gratification from the Reports of the *New Inoculation*. I ſhall only mention, however, one or two of them.

The ſenſation excited on the continent by the vaccine inoculation, has been

been much more conſiderable than even in our own iſland, as I learned, firſt from Dr. MARCET, and ſince, by a letter from Dr. PESCHIER. At Vienna, Dr. FERRO inoculated two of his own children with vaccine matter, which I tranſmitted; and next, Dr. DE CARRO inoculated two of his own children. An accurate journal of theſe two laſt caſes was kept by Dr. de Carro, which he has had the complaiſance to communicate to me through the hands of Dr. Peſchier. The above patients had the vaccine diſeaſe in the uſual mild way that they have had it in England, and were inoculated ſubſequently for the ſmall-pox, but without taking that diſeaſe.

It is expected that Dr. FRANK will adopt the new inoculation, as it is likely to be generally done at Vienna.

I expect reports from Portugal, and other parts of the Continent.

When matter is to be kept for a long time, I preſerve it on thread, which I encloſe in a bottle filled with hydrogen gas, or nitrogen gas, quite free from moiſture.

In Scotland the new inoculation has not been leſs ſucceſsful. Dr. ANDERSON, of Leith, informs me he has inoculated above eighty perſons; that Dr. DUNCAN, and others, have begun the practice at Edinburgh; and that it has been introduced in Dundee, Paiſley, and Dalkeith.

If the vaccine inoculation proceeds with equal mildneſs as it has done the laſt four months, doubtleſs the variolous inciſion muſt in no remote period be ſuperſeded. And if ſuch an event ſhould take place, poſterity will behold with amazement, the prejudices and inattention of their predeceſſors to the application of a fact in practice, by which a formidable and loathſome diſeaſe was extinguiſhed—a fact well known, time immemorial, to almoſt every farmer in half a dozen counties of England, but neglected till Jenner had the courage to indicate the advantages of it to ſociety. If I were to name a parallel inſtance of inattention or prejudice, it ſhould be the neglect of inoculation for the ſmall-pox till it was introduced into England from Conſtantinople, although it had been practiſed time immemorial in the Barrozzo mountains, on the frontiers of Gallicia, in the ſame rude manner that it is at this day.*

To

* This intelligence was communicated to me by a Portuguese nobleman, whose opportunities of information and accuracy authorize me to mention the fact: but an attested account from some of the inhabitants of those mountains is intended for me.—See a book written by *Jacobus a Castro Sarmento*, in which, I am told, this fact is asserted.

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

LAST Saturday delivered a woman of this place, who had gone her full time, of a male child; both hands, one knee, one leg, and one foot of which were either ſingularly imperfect, or ſtrangely diſtorted, according to the following deſcription. It lived ſome hours, and was perfect in every other part. The parents would neither ſuffer a drawing of it to be taken while it was alive, nor the body to be diſſected after it was dead. Being a ſtranger to you, I have taken care to have the fact atteſted by two gentlemen, who likewiſe ſaw and examined the infant.

I embrace this opportunity of wiſhing ſucceſs to your very valuable Publication, and am, with great reſpect,

Gentlemen, your moſt obedient ſervant,

THOMAS FOSTER, *Surgeon.*

The Right Hand—Was furniſhed with a thumb and fore-finger, perfect in their nails and joints; the other three were wanting. The ſpace they ſhould have occupied had much the appearance of a ſtump that had been healed after amputation. From the inner part of the wriſt were ſuſpended, by a ſlender filament, about an inch in length, two round fleſhy ſubſtances, one of them as large as a marble, the other ſomewhat ſmaller.

The Left Hand—Was deſtitute of both wriſt and palm, and terminated in one large finger, which had its nail and joints perfect, and was ſupported by a ſingle metacarpal bone, that moved upon the ſmall extremity of the ulna.

The Left Knee—Was deſtitute of a patella. A preternatural elongation of the thigh-bone impeded the outward motion of the leg, which was bent conſiderably inwards, and could move only backwards, and a little towards either ſide.

The Left Leg—Terminated abruptly in the baſis of the tibia, as if the foot had been long amputated from it.

The Left Foot—Was joined to the lower part of the leg in a horizontal direction. It had the fourth and fifth toes only. The ſpace which the others ſhould have occupied reſembled the defective part of the right hand. A kind of corn, evidently the effect of preſſure, grew from the outward ancle.

"I examined the child that my friend has above deſcribed, an hour or two after its birth. It was then alive, but not likely to live, and the foregoing deſcription of it appears to me to be perfectly accurate.

"EDWARD FOSTER,"

HAMPTON-LUCY, *Aug.* 19, 1799. *Aſſiſt. Surg. 64th Reg. of Foot.*

"I baptized the child which my neighbour, Mr. FOSTER has here deſcribed, about a quarter of an hour after it was born. It died a few hours afterwards. The deſcription appears as correct as poſſible.

"JOHN MORLEY."

Vicar of Waſperton, and Curate of Hampton Lucy.

Experiments and Obſervations on certain Senſations of the Eye, connected with the Theory of Viſion: By C. R. AIKIN, *Surgeon.*

IT is a well-known fact, that, in certain circumſtances, impreſſions made on the retina of the eye, totally diſtinct from thoſe of light, will, nevertheleſs, excite the ſenſation of viſion. Thus a blow upon the eye will produce the ſenſation of a flaſh of light, which will be the moſt vivid even when the eye is ſhut, or in perfect darkneſs. So in many diſeaſes of the eye, as in inflammation, or in the incipient ſtate of amauroſis, a number of irregular ſenſations of light are perceived, ſometimes like momentary flaſhes, at other times like minute inſects paſſing over the field of viſion, which continue either till the eye is reſtored to a healthy ſtate, or till the diſeaſe has rendered the retina incapable of tranſmitting any impreſſion whatever.

This aptitude in the retina to tranſmit the idea of light from other impreſſions has been frequently noticed, but I have not ſeen it obſerved, that theſe ſenſations correſpond in other reſpects with ſome of the known laws of viſion, eſpecially with regard to the apparent place of the image and its intenſity.

This will be illuſtrated by the following experiments; but I muſt premiſe that in theſe, as in all experiments upon the minuter ſenſations of the eye, ſome practice, and much attention is neceſſary, in order to detect theſe tranſitory perceptions, which, nevertheleſs, are in themſelves perfectly real.

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EXPERIMENT FIRST.

Make a moderate preſſure upon the upper eye-lid at the external angle of the eye, ſo as to compreſs the globe of the eye as far back as the bones of the orbit will permit. The preſſure may be made with the little finger, but it is better done with the blunt head of a probe, or a ſimilar inſtrument, in order that the preſſure may be diſtinct, and occupy only a ſmall, well-defined ſpace. If then the attention be directed towards the noſe, a ſmall dark ſpot will be perceived, apparently upon the noſe, and exactly on the oppoſite ſide of the eye to that where the preſſure is made. If the preſſure be now carried to different parts of the globe of the eye, the ſame ſpot will accompany the preſſure, and always in the ſame direction; that is, it will appear above when the lower part is preſſed, and below when the upper.

The exact appearance of this image, when the eye is open, is, to my eyes, that of a dark ſpot, ſurrounded with a faint ring of light. This is more viſible when a piece of black or white paper is laid upon the noſe, over the apparent place of the ſpot, for a reaſon to be afterwards mentioned. The ſame image appears when the eye is ſhut, only then it is more illuminated and better defined. It is difficult to produce the image on the upper part of the eye without giving ſome pain, owing to the greater quantity of fat covering the under eye-lid (where the preſſure muſt be made), which in ſome degree defends the eye from any local preſſure.

EXPERIMENT SECOND.

Let the preſſure be made on the external angle of both eyes, at the ſame time, whilſt the ſight is directed ſtraight forwards, and downwards to any object, at the neareſt focus of diſtinct viſion. If attention be then paid to the noſe it will appear double, with the image of a black ſpot upon each; that belonging to the *right noſe* (if I may ſo ſpeak) being produced by the preſſure of the left eye, and *vice verſa*, which may be directly proved by diſcontinuing the preſſure on either ſide alternately.

EXPERIMENT THIRD.

Let the eye-lid of one eye be cloſed, and the preſſure be made upon that eye in the manner above-mentioned, and the image will appear in the ſame relative ſituation. Then carry the probe, with a gentle preſſure, to the anterior part of the eye (which could not be done when the eye was open), and the ſpot will be found to diſappear as ſoon as the preſſure is carried beyond the ciliary ligament, and no image will be formed as long as the probe remains over any part of the cornea; but, if exact attention be paid to the ſenſations, the image will return as the preſſure paſſes again over the tunica albuginea.

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Theſe experiments ſhew, in a curious manner, how an impreſſion on the retina, totally foreign to that of light, will however produce the ſame ſenſation; and this ſenſation will excite the idea of a viſible object in the ſame place in which it would be ſituated if it really were the cauſe of the ſenſation, that is, in any part of a right line projected from the ſentient point of the retina, and paſſing through the center of the eye to any part of external viſible ſpace. That in the above experiments, the ſenſation is produced immediately on the point expoſed to preſſure, is ſhewn from the diſappearance of the image as ſoon as the preſſure is removed to the cornea, a part ſituated beyond the inſertion of the retina. There exiſts this difference between the artificial ſenſation of viſion and real ſight, that in the latter the impreſſion on the retina, which is the immediate cauſe of ſenſation, is actually produced through the medium of an external object; whereas in the former, the impreſſion is independant of a viſible object, and excites the idea of one that does not exiſt. Hence, in the caſe of the above experiments, the more completely the effect of real external object is excluded, the more vividly will the idea of it be artifically excited; and this is brought about either by cloſing the eyelid, or by placing any uniform ſurface, ſuch as black or white paper, in the ſituation which an external object would occupy, in order to excite its image on that part of the retina on which the artificial impreſſion is made.

In an ingenious paper by Mr. Elliott, a very accurate deſcription is given of the effects of conſiderable preſſure made upon the whole globe of the eye, by applying the open hand over the whole of the anterior part of the eye. I have once or twice repeated the experiment, and with nearly the ſame ſenſations which he deſcribes, but it is a painful, and I think not a very ſafe experiment. One or two circumſtances in it deſerve notice.

The preſſure is made by laying the hand upon the eye, and keeping up a a firm long-continued force, which, after a while, produces a circular luminous ſpectrum within the eye, ſomewhat reſembling a full moon, with a double halo around it; and if the preſſure be longer continued, the ſpectrum grows fainter, and gradually diſappears, leaving the eye for a while inſenſible to external objects. Now, as the preſſure is only made upon the cornea in this painful experiment, and therefore at a diſtance from the retina, it follows that the ſenſation of light is produced from the communication of impreſſion from the anterior to the poſterior part of the globe, and this accounts for the ſpectrum not being *immediately* produced, and the great degree of force required to produce it at all; whereas in the experiments which I have given, the part of the eye immediately preſſed is that which excites the ſenſation, as is proved by the apparent place of the ſpectrum;

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its requiring but little force of preſſure, and not being produced upon any part of the cornea.

Another circumſtance in which this artificial ſenſation of light correſponds with real viſion is, in the increaſed intenſity and diſtinctneſs of the perception, in proportion as it is excited nearer to the center of the retina, which point is well known to be that of the moſt diſtinct viſion. To illuſtrate this, let the following experiment be made:

EXPERIMENT FOURTH.

Let preſſure be made, as in the foregoing experiments, upon the external angle of one eye, as far back as the bones of the orbit will allow, and with the eye-lid open, and the ſight directed ſtraight forwards; this, as before-mentioned, will throw the image of a dark ſpot upon the noſe. Then, without diſcontinuing the preſſure, let the eye, by rolling inwards, be directed towards the ſpot, and it will appear to diminiſh in ſize, become more diſtinct, and in ſome degree to retire from the eye, which will, however, get nearer to the ſpot, and almoſt touch it, as it were, but not quite: then if the eye be gradually rolled outwards, the ſpot will as gradually become leſs diſtinct, will enlarge, and by enlarging will appear to purſue the eye for a little way, as it appeared before to retire from the eye by diminiſhing.

This experiment is explained by reflecting that as the preſſure is all along continued, when the eye rolls inward, the parts of the retina ſucceſſively preſented to the outward preſſure, are conſtantly approaching to the central point of the retina, where viſion is the moſt diſtinct, and therefore the apparent object (the black ſpot) is continually getting ſmaller and more defined; but it can never exactly coincide with the axis of the eye, becauſe the eye, however prominent, can never be rolled ſo far inwards as to preſent the central point of the retina to any external preſſure.

Experiments of this kind may ſuggeſt ſeveral very curious queſtions, with regard to the quality of the nerves belonging to the organs of ſenſe, of tranſmitting only their peculiar ſenſations, and it would be an intereſting queſtion to ſolve—Whether the retina acquires by habit this quality of referring various impreſſions to the ſenſation of viſion; or whether this is an inherent quality of this organ?

In either caſe, the fact appears to me certain, that theſe artificial ſenſations follow the laws of real viſion, both with reſpect to the apparent ſituation of the object, and in being more eaſily excited on the parts of the retina the moſt ſuſceptible to light.

As the optic nerve, even where it penerates the coats of the eye, is not ſuſceptible of the external impreſſion of light, ſo we may probably conclude that no kind of impreſſion which was confined to the nerve alone, and not conveyed by the medium of the retina, would excite the idea of light; and perhaps this may be the reaſon why in ſome caſes of fever affecting the brain, in phrenitis, and in general, in all caſes where the brain, or its membranes, acquire an unuſual degree of irritability, the ſymptom of deep-ſeated pain of the forehead, ſhooting into the eye-ball, precedes that of increaſed ſuſceptibility to light, owing, as I conceive, to the morbid irritability being communicated gradually down the optic nerve to the retina, and that it is only when the latter is affected that light becomes painful.

The other organs of ſenſe are not ſo eaſily made the ſubject of experiment as the eye, but they appear in ſome degree to poſſeſs the ſame property of tranſmitting their peculiar ſenſations from very various kinds of impreſſions. Thus the ſenſation of ſinging in the ear, which often occurs during a ſevere cold, may be occaſioned by an increaſed irritability of the membrane of the tympanum, communicated along the Euſtachian tube. The ſame irregular ſenſations of ſound follow a violent blow on the external ear, and attend incipient deafneſs, in the ſame manner as thoſe of the light attend the eye in ſimilar circumſtances; and in many caſes of general affection of the head, where light is painful, noiſe is equally ſo. Perhaps the ſtrong ſenſation of taſte made on the tongue, by the metallic influence in the Galvanic experiments, may be owing to the ſame cauſe, and not to an actual ſolution of any part of the metal in the ſaliva, which muſt otherwiſe be imagined.

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

THE maxim inculcated by writers on ſurgery, that a wound of the uterus is mortal, is confirmed by the uniformly fatal event of the Cæſarean ſection.

The operation is, notwithſtanding, inſiſted on by ſome practitioners, in a *ſpeculative* caſe; this, however, they have failed to deſcribe, and the accoucheur is conſequently left to conjecture the right application of their doctrine.

It may be uſeful to enquire into the exiſtence of this ſuppoſed caſe; and alſo to fix a principle for the government of our conduct.

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To do this, it will not be neceſſary to enter into nice calculations of the dimenſions of the pelvis; for a general ſtatement of the queſtion will, I think, ſuffice, and lead to an obvious and appoſite concluſion.

I can conceive, that an inciſion might be made into the right ventricle of the heart, and that a polypus might be extracted from its cavity; that the lips of the wound being brought into contact, union by the firſt intention might take place, and the patient recover.

A wound of this organ has, however, proved invariably fatal; ſo that, ſhould ſuch a project be put in execution, the operator might be deemed guilty of murder. The cruelty of ſuch an experiment would not be leſſened by the *poſſibility* of a recovery, as all rational practice muſt reſt on *moral* evidence. To apply this argument to the Cæſarean ſection: Suppoſe the pelvis of a woman to be ſo diſtorted as to prevent the delivery of her child through its contracted aperture, and that it ſhall be certainly known that the child is alive, and ſtrong; as the mother would die undelivered, and the child might be ſaved, would not theſe circumſtances juſtify the performance of the operation?

This, I conceive, conſtitutes the only caſe in which a reaſoning mind would ever entertain a thought of performing it.

All the experience of this country informs us, that the Cæſarean ſection will prove fatal to the mother; and therefore the whole queſtion turns on this ſingle point, Whether the mother's life ſhall be ſacrificed to ſave her child?

I anticipate that the anſwer will, in general, be in the negative; for, beſides that the intention of employing profeſſional aſſiſtance is to ſave, and not to deſtroy; the legiſlature has not thought fit to enact a ſtatute of indemnity for this particular caſe; and the ſixth commandment ſays

"*Thou ſhalt do no* MURDER."

Both divine and human laws then prohibit the employment of means, which will be deſtructive to the parent, though certainly preſervative of the life of her child; and to perform the operation, even in the above-deſcribed caſe, would be to exerciſe a power in oppoſition to thoſe omnipotent authorities.

The queſtion then is ſtopped *in limine*, and our attention muſt be confined ſolely to the mother; as the conſideration of ſaving her child cannot be entertained, without previouſly determining to deſtroy her.

But this is putting the queſtion more favourably than experience warrants, for the ſigns by which we muſt judge of the ſtate of the child before birth,

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are inconclusive of its real condition; and, consequently, should the mother's life be yielded to its intended preservation, disappointment might even precede her melancholy catastrophe, in the extraction of a fœtus already dead.

This view of the subject leads to an obvious deduction, that the Cæsarean section is inadmissible during the parent's life; and hence is derived a rule, at once plain and precise, to direct our conduct on this trying occasion; for, when other means fail to accomplish the delivery, or are deemed inexpedient, we can only deplore the miserable sufferings of the patient, and the insufficiency of art to relieve them; and the disposal of life must be left to HIM who gave it.

MANCHESTER, *Aug.* 21, 1799. W. SIMMONS.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

HAVING, by accident, a few days ago, met with the last Number of your Journal, I shall venture, through so respectable a channel, to lay before the Public any observations on professional subjects which I may be enabled to make. Satisfied that a Regimental Hospital, if properly conducted, is one of the best schools in the world for acquiring practical knowledge, I have endeavoured to improve the advantages of my situation to the utmost. I have been upwards of six years surgeon of the western regiment of Kentish militia, during which time our number of sick has never been inconsiderable; whereby much opportunity of practice has been afforded me. I have been in the habit of keeping a Journal of the different cases as they occurred, wherein I carefully noted every symptom of which a patient complained, the various remedies exhibited, the time when, and with what view given. I also marked every change that took place in the course of a disease, and the effect of the medicines made use of; and lastly, my own opinion of the method of cure which I had adopted. In the course of my practice, I have endeavoured, on every occasion, to determine the justness of pre-conceived theories, by experience, and on every subject to think for myself, uninfluenced by the "tenets of the schools," or the opinions of others. I have had an opportunity of giving every new remedy a fair and candid trial, and in every instance wherein my present practice or opinions differ from what are generally adopted, I can solemnly assure you, that they are the result of actual experience only, for I have no theory to serve. The prevalence of any mode of practice is certainly not a clear proof of its being useful;

nor is it a sufficient recommendation, that it may be practised with safety; if it is not evidently beneficial, it ought to be laid aside.

In this light I consider the too general custom of bleeding, as a means of cure in febrile diseases, contusions, &c. which I have no hesitation in asserting, is not necessary in any complaint with which we are acquainted. If we grant, that every *deviation from the healthy state denotes debility, either general or partial*, surely whatever has a tendency to debilitate further, it is reasonable to suppose, ought to be carefully avoided. It certainly cannot be denied that, in every disease wherein bleeding has been used, complete recovery has been protracted, owing to the debility thereby occasioned. We are directed to use blood-letting to lessen irritability, to take off the phlogistic diathesis, to depleniish the blood vessels, and to prevent inflammation. I know from much experience, that these indications can be fulfilled as expeditiously, as effectually, and certainly with much more safety by opium, if given in a dose proportioned to the violence of the disease which we have to combat. The timidity of practitioners has brought opium into discredit, as a means of cure in the diseases alluded to. Though the ill effects of the loss of blood, unless excessive, are seldom perceivable in youth, yet they rarely fail of being felt before the age of forty-five. People who have been often bled when young, about this period of life generally begin to be affected with chronic pains; they recover very slowly from fits of illness, and are liable to febrile paroxysms, that become more teazing than dangerous, and in which there is seldom any increase of irritability. I have rarely been deceived in my conjectures respecting patients of this description, when I have met with them. The first of the cases mentioned in the last number of the Medical and Physical Journal, by Dr. Denman, shows that bleeding does not always prevent inflammation or abortion. Nor is it clearly proved, that by taking away blood, we lessen the diameter of the blood vessel, as we find that six ounces from a large orifice has a greater effect than twenty from a small one.

I have taken the liberty of subjoining a short history of a few cases, as proofs of what I have advanced, respecting the use of blood-letting and opium, and with what safety and advantage a large dose of it may be given, when necessary.

Case I.—R. A. about thirty years of age, was on the 9th of August, 1794, brought to the regimental hospital, on account of a blow which he had received on the right side of his head with a poker; for which he was bled twice, and took several doses of salts, by which means, the pain of the head, which seemed very violent, was removed; yet he was unable to go to his duty before the beginning of the following November. This man,

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on the evening of the King's birth-day, 1796, received on the left side of his head a severer blow, with a similar weapon. He now complained of pain not only on the affected side of his head, but also on the other. Bleeding was omitted, and he had given him three grains of powdered opium, which so far mitigated the violence of the symptoms, that he fell asleep. It was necessary to give him an opiate for several succeeding evenings, as the pain returned more than once, during the first week, but was not very severe. He took only a little calomel, and a dose of salts, besides the opium, and was able to go to duty within five weeks after the accident.

Case 2.—J. S. aged forty, came into the Hospital, in Nov. 1795, for a blow on the thorax, which rendered respiration very painful. Twelve ounces of blood taken from a large orifice gave him no relief.

Case 3.—W. M. about twenty-seven years old, was admitted into the Hospital in October 1796, for a pain in the region of the stomach, with nausea; he had been costive during the three preceding days. A dose of salts was given him which gave him stools, but did not in the smallest degree abate the pain. He felt some relief from a blister put to the pained part; but on the third day he found the pain gradually increasing, and towards evening it became very violent, with vomiting, quick pulse, dry skin, &c. the blistered part also was quite dried up. A draught, with two hundred drops of laudanum, of which he was directed to take one third every two hours till he was easier; a large blister was prepared for him, and was applied to the region of the stomach. He was relieved soon after he took the second dose of the opiate, but did not sleep much during the night. By this means, though the pain was greatly abated, yet it was not removed entirely for a week, which rendered a repetition of the opiate (but not in such a dose as the former) necessary, every evening during the period.

In this case, was the seat of the pain in the stomach, or in the gall-ducts?

Case 4.—T. B. twenty-eight years of age, had just recovered from a fever when the regiment was ordered from Portsmouth in July, 1797. While he was unloading a baggage-waggon at Maidstone, he was struck on the back by a large chest of immense weight. I saw him about twenty minutes after the accident, when he appeared to be in great pain, which was increased by the least motion. I gave him immediately ninety drops of laudanum, which not affording him any relief, was repeated two hours afterwards, whereby he soon fell asleep; in the evening he took other sixty drops. The following being a halting day, a dose of salts was given him, and an opiate draught, with sixty drops of laudanum, was directed for him at bed-time, but was afterwards not judged necessary; it was therefore not taken. Next day he was able to travel in a waggon without any inconvenience,

nience; the pain in his back, from the blow, being now considerably relieved. He went to his duty about a fortnight after the accident.

Case 5.—Corporal M. aged twenty-five, very stout, of a florid complexion, was in February, 1798, seized with pains in the thorax, painful respiration, and other symptoms of pneumonia, with a quick and full pulse. He took immediately two pills containing five grains of calomel, and three of powdered opium; about two hours afterwards, as he was not relieved, other two grains of opium were given him, and blisters put to the pained parts, which gave him ease, though he passed a sleepless night. Two grains of opium were given him the three succeeding evenings; and without the use of any other remedy he soon recovered.

Case 6.—G. B. a stout young man, aged twenty-three years; was in April, 1798, thrown with great force against a heap of bricks, which he struck with his head. I saw him about an hour afterwards, when I found on the right side of his head a slight wound; the contused parts much swelled, with pains darting through the whole head, and which seemed to be excruciating; the blood flowed from his mouth and right ear: altogether this was truly an alarming case. I gave him immediately a draught with 120 drops of laudanum, which it was necessary to repeat about two hours afterwards; soon after this second dose he fell into a profound sleep, which lasted upwards of seven hours. It was judged requisite to give him at bed-time the same evening another draught, with sixty drops of laudanum, as the pains, &c. were not so much abated as I expected. On the following day he had a brisk cathartic given him, and on that, and four succeeding evenings, he took an opiate consisting of one hundred drops of laudanum; when all the symptoms, except the swelling and wound, were removed. As he was an officer's servant, and comfortably lodged, he was not taken into the hospital, therefore I was uncertain how soon afterwards he recovered entirely.

I shall add two other cases, to show the good effects of opium in complaints where laxatives seem indicated.

Case 7.—A gentleman of high rank, upwards of forty years of age, and very stout, was in November last seized with a severe pain in the right side of the abdomen, which grew worse in the course of the day, till it became quite alarming. After repeated attempts to procure stools by laxatives and glysters of tartarised antimony and Glauber's salts, without effect, towards evening I gave him ninety drops of laudanum in a little syrup and water, which dose was repeated within half an hour, and soon after followed a copious evacuation by stool, which gave him relief. As the pain was not entirely removed,

removed, a large blister was put to the affected part. A few days afterwards, when the pain had entirely left him, he had a fit of gout which came on very slowly, and very unlike a first attack of that complaint; he had no degree of fever, though the pain in both great toes was severe. This gentleman had in his younger days been afflicted with pneumonia, and some other complaints, for which bleeding was judged necessary; he had been some years subject to flying pains, spasms of the calves of his legs, and occasionally a weakness of stomach, for which he had at different times taken steel and other tonics.

Case 8.—Corporal B. was one evening, on our passage from Ireland, seized with all the symptoms of colic, in a degree more violent than I had ever witnessed it; he took ninety drops of laudanum, and about six drachms of tincture of senna. Within an hour he had several loose stools, whereby he was greatly relieved, and a few days afterwards was quite well.

The subjects of the above cases are still living, and free from any complaint whatever.

In my inaugural dissertation on the the epidemic catarrh, published at Edinburgh, in June, 1793, I endeavoured, in some degree, to combat the too frequent use of the lancet in that and some other diseases of the acute kind; but not with the same confidence that I now endeavour to do so. On this, as well as other professional subjects, I gladly embrace this public opportunity of acknowledging my obligations to Dr. Lubbock, of Norwich.

I shall mention the following case, as I wish it to be generally known.—By the inattention of one of the hospital people, about five drachms of laudanum were taken by one of the patients. I did not see him for several hours after he had taken it; he was then seemingly dying; pulse low and weak, the heart labouring much, skin cold, and covered with a clammy sweat. Though I had not the smallest hopes of success from any means that could be devised for saving him, I diluted about two ounces of elixir of vitriol with a sufficient quantity of water, and, by means of a tea-pot, forced down his throat the greatest part of it.

What would almost appear incredible, within half an hour he was able to speak, and called for victuals. I had once witnessed a fatal instance of poison by laudanum, the quantity taken not half an ounce; though medical aid was at hand, and the patient, a stout woman, had lived upwards of six hours after she had swallowed it. The vitriolic acid was not tried in this case.

Dr. Trotter, a physician far above either my praise or censure, has proposed bleeding as a remedy in some cases of ague, which I am confident will

will never be found neceſſary. I once ſaw a ſoldier who was ſubject to ague, taken ill with it the day after he was blooded. I can, from experience in upwards of four hundred caſes of ague, recommend the following mode of cure as certainly efficacious:

℞ Pulv. cinchonæ flavæ, drachm. x.
Tinct. opii. drachm. i.
Pulv. pimento, vel pip. nigr. drachm. i. ſs. M.

Of this, either put into a bottle of water, or made into an electuary, the patient is directed to take a doſe as ſoon as the cold ſtage comes on; and which he is to repeat in ſuch quantities, and at ſuch intervals, ſo as to finiſh the whole within twenty-four hours. After the medicine has been taken as here directed, I have very ſeldom met relapſes, or found a repetition of it neceſſary. An emetic given, in a tertian, about an hour before the fit is expected, will in general remove it entirely. Thirty drops of laudanum given before the fit, will commonly produce the ſame effect. But in the quotidian or quartan, both will be, for the moſt part, found ineffectual. In the cure of agues the diet ſhould be low, and every article containing alcohol carefully refrained from.

I am, Gentlemen,

Ashburton, Your humble Servant,

24th, Auguſt, 1799. A. HUGGAN.

To the Editors of the Medical and Phyſical Journal.

Gentlemen,

Before I detail the following caſes of *phthiſis*, permit me to aſſure Dr. Maclean, of Sudbury, that I feel highly obliged by his friendly hint reſpecting the neceſſity of having the genuine leaves of *digitalis*, properly collected and prepared. I am well aware, that without the moſt faſtidious attention to this matter, every attempt to appreciate the real qualities of the plant will be unavailing; I have therefore very generally inquired into the nature of the powder which I have employed. The greateſt part of the *fox-glove* which I have hitherto preſcribed has been collected and dried by a gentleman of this place, Mr. Maud, who is ſcrupulouſly exact in his preparations, and who is equally ambitious with myſelf to unfold the poſitive powers of *digitalis*. As ſoon as I read the extract from Dr. Macleah's letter inſerted in the laſt number of the *Journal*, I ſolicited Mr. Maud to give me in writing a brief hiſtory of his mode of collecting the plant, and his ſubſe-

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quent management of it.—The following is the reply I had from that gentleman:—

"W. Maud's respects attend Dr. Mossman: in compliance with his request, and in reply to his inquiries relating to *digitalis*, he has sent the following short statement:—W. M. believes he can assure Dr. M. that the *digitalis* used in all the prescriptions W. M. prepared, was of the most unexceptionable quality, and prepared as nearly as possible, in strict conformity to the statement below:

"The *digitalis* employed has always been collected from healthy, vigorous plants, growing on hilly, uncultivated, or at least in soils not manured, and in situations most exposed to the sun. Those plants which have acquired a darkish, brownish cast are preferred. They are gathered in autumn, after they have received all the advantages of the summer heats, without sustaining any injury from frost. The leaves thus collected are carefully separated from the stalks, and the latter are cut away, so as only to leave room to tye them into small bunches, which are hung to dry in a warm, airy kitchin. When dry it is *partially* powdered, and by this means the stalks and more fibrous parts of the leaves, which require more beating, are completely, or at least pretty fully separated. The finer part of the leaves, when sufficiently powdered, is closely bottled for use."

The *digitalis* so collected and prepared is what I have chiefly used. I perfectly agree with Mr. Maud in the preference which he gives to the leaves of a dark colour, approaching to brown. My ideas also correspond with his, in choosing those plants which grow in situations the most exposed; for I am very well persuaded, that those herbs excel in flavour and quality which are collected from the most elevated grounds.—This opinion requires no evidence to establish it but the most common observation; hence I am induced to believe, that a garden is the worst of all situations (except marshy grounds) for the cultivation of *digitalis*, and that the plant which I have been employing is much superior to that recommended by Dr. Maclean.

If Dr. Maclean will recur to the history of my cases, he will perceive that my *usual* method of administering the *fox-glove* is, by the exhibition of *a grain four times a day*. In the case quoted by the Doctor, my patient was labouring under a very severe *active hæmorrhage*, and I deemed it important to his existence to lessen arterial action as speedily as possible. The employment of the remedies specified in the history of the case, was so efficient as to render a long continuance of them unnecessary; I have no hesitation,

hesitation, however, in affirming that the patient was decidedly under the influence of *digitalis*; for I could plainly perceive some of the most prominent features of its effects, so very justly delineated by the Doctor himself. Dr. Maclean's paper is now before me; and I think his remarks entitled to high consideration, inasmuch as they seem to be the fruit of an unbiassed judgment, enlightened by ample experience. My observations are still so narrow, that at present I am totally unprepared to decide conclusively upon the virtues of *fox-glove*; I feel, however, the importance of the subject; and am determined to prosecute my inquiries till I can at least satisfy my own mind.—I shall only now observe, that opinions respecting its power have already forced themselves upon me, which have considerably lessened the terrors which I entertained respecting the issue of *phthisis*, and I feel irresistibly impressed with the idea, that that disease will, at some future period, cease to be the *opprobrium* of our art.

BRADFORD, *Sept.* 10th. 1799.

I am, Gentlemen, your's respectfully,
GEORGE MOSSMAN.

Cases continued.

CASE 6, *June* 3.—S. P. aged eighteen, has laboured, more or less, for two years past, under symptoms of *phthisis pulmonalis*, accompanied with *anasarca* of the lower extremities—she dates her complaints from sleeping in a damp bed.—She has had several opinions upon her case, and she has taken a variety of medicines, without obtaining any permanent relief. I prescribed for her a grain of the *digitalis* to be taken four times a day, with a cupful of a strong cold infusion of *chamomile flowers*.

June 20.—In a few days after she began the use of her medicines, the *anasarcous affection* began to lessen;—it is now entirely removed. She has taken the *digitalis* regularly, but has occasionally complained of a slight giddiness, accompanied by a tendency to drowsiness; the pulse is reduced from 120 to 100 strokes in the minute. Her difficulty of breathing, she says, is considerably relieved, but her cough is as distressing as ever. I ordered her to take only *two grains* of the *digitalis* daily, but strongly recommended punctuality in taking this quantity.

Aug. 29.—I heard no more of her till this day, when I called to inquire after her, and was agreeably surprised to find her in the bloom of health.—She informed me, that finding the distressing symptoms of her disease gradually abating, she continued to take her medicines for several weeks, till she found them no longer necessary.

CASE 7. *July* 6.—M. P. a married woman, aged forty-eight, about Christ-

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mas laſt, was ſeized with a bad cough, pain in her ſide and dyſpnœa, for which ſhe took no medicine ſince the period above mentioned; all her complaints have much encreaſed—ſhe is extremely feeble and emaciated—her pulſe is 120, ſmall and irregular—her cough diſtreſſes her much, more eſpecially in the night. What ſhe expectorates is of a frothy appearance, and, as ſhe ſays, of a ſaltiſh taſte. She cannot lay upon either ſide without experiencing a very uneaſy ſenſation, accompanied with inceſſant coughing—her dyſpnœa is great—her legs have lately become *œdematous*—her tongue is partially ſtreaked with a white fur—ſhe has great thirſt and no appetite—colliquative ſweats and diarrhœa alternate with each other. *Milk, eggs, broths, jellies, &c.* were recommended for her diet—ſhe was ordered a grain of the *digitalis* four times a day—ſhe had *troches of liquorice and opium* for her cough, and ſhe had a large *bliſter* applied to the cheſt.

July 12.—The *bliſter* operated extremely well, and gave her much relief—her cough is better, and expectoration more free—ſhe ſleeps and eats better, and feels ſtronger than ſhe was a week ago—her pulſe is reduced to 104—her ancles only are a little *œdematous* at night—her medicines were continued.

Sept. 4.—The pulſe is 70—her appetite good—her cough, difficulty of breathing, and all her complaints, have diſappeared.

Case 8. *July* 14.—H. S. aged fourteen, about ſix months ago loſt a brother by *phthiſis*.—She was deeply afflicted by this event, and from the period of her brother's death, ſhe has appeared to decline; her appetite has gradually impaired, together with her fleſh and ſtrength, and ſhe is now much emaciated.—Her tongue is furred; ſhe complains of a pain in her left ſide, more eſpecially upon a full inſpiration—ſhe has a ſhort tickling cough—ſhe has no perceptible chills, but a paleneſs and fluſhing of her countenance are frequently obſerved to ſucceed each other—her pulſe is 125—bowels regular—urine high-coloured—ſhe has occaſionally partial ſweats—her ſleep is much diſturbed—her ſpirits are very irregular—ſhe has never menſtruated. A diet of *milk* was excluſively enjoined, and the uſe of the *ſyring* four or five times a day. I directed her to have a grain of *digitalis* four times a day, with a couple of table-ſpoonful of Dr. Griffith's *anti-hectic preparation*, ſo much recommended in caſes of *phthiſis*.

July 23.—Her medicines, &c. have agreed with her well—her appetite is better—her pulſe 100—her tongue clean—the pain in her ſide much abated—all her complaints are very conſiderably leſſened, and ſhe ſeems to approach rapidly to a ſtate of the moſt complete health.

Sept. 4.—For ſeveral weeks paſt ſhe has enjoyed the moſt perfect health.

Case 9. *Aug.* 22.—J. R. aged twenty-three, caught cold three weeks ago by being wet, and ſitting in his moiſt cloaths—he was ſoon after ſeized with cold ſhiverings, pain in his ſide, difficulty of breathing, and every ſymptom of *pneumonia*. Till to-day he had not applied for medical aid, but had imprudently taken a variety of heating cordials, which had been recommended to him by his neighbours—he cannot lie on either ſide without experiencing a ſenſe of ſuffocation; he breathes with extreme difficulty; his cough is inceſſant, and without any expectoration, except a ſort of blue-coloured froth—his pulſe is 120—extreme proſtration of ſtrength—thirſt conſiderable, and frequent rigors. To the excluſion of every thing cordial, I ordered his diet to conſiſt of *milk* and *eggs*, &c. I preſcribed four grains of the *digitalis* daily, the uſe of the *troches* ſpecified in a former caſe, and the application of a *bliſter* to the cheſt.

Aug. 25.—The *bliſter* operated well—diſpnœa much relieved, and expectoration much more free—no thirſt remaining—appetite good—the moſt remarkable phenomenon, however, is the aſtoniſhing diminution of vaſcular action—his pulſe is reduced from 120 to 74. He ſeems to approach faſt to a ſtate of convaleſcence—he has a ſingular ſort of feeling, which he deſcribes as preceded by a faintneſs, and terminating in a tendency to ſleep. As his cough is ſtill troubleſome, I ordered him a *mixture* to be taken occaſionally, compoſed of *oxymel ſcillæ, ſyr. ex althæa, tinct. opii. camphorat. et vin. ipecac.* The *digitalis* was continued.

Sept. 6.—He is well—a ſlight affection of his head, which aſſails him at a particular time of the day, is the only complaint he has. Upon the ſuppoſition that it is a *nervous head-ach*, I have ordered him the *bark*.

[To be continued.]

To the Editors of the Medical and Phyſical Journal.

Gentlemen,

I send you theſe few obſervations on the ſubject of Generation, and the principle of Life; being a brief analyſis of what I have publiſhed more at large on the ſame ſubject. If you think them deſerving of notice, you are at liberty to inſert them in the Medical and Phyſical Journal.

I am, &c.

Your's very ſincerely,

Newington, Surry,
Sept. 14*th*, 1799.

RICHARD SAUMAREZ.

The

The Medical Journal of the laſt month contains a paper on *Animal Impregnation*, evidently written for the purpoſe of confirming two opinions, which have lately been broached and entertained on the ſubject. The one is, that the palpable application of ſemen to the ovarium does not take place;—and ſecondly, that the exiſtence of corpora lutea conſtitutes the true teſt of animal impregnation.

In order to prove the error of the firſt opinion, I ſhall trace the various modes by which we know fœcundation is accompliſhed in ſome orders of the more ſimple ſyſtems, as it will enable us to underſtand the manner in which it is effected in thoſe of a more complicated ſtructure. Such is the regularity which vegetables, and the lower orders of animals, diſplay in the actions they perform, that we are neceſſarily led to conclude, that thoſe actions are governed by fixed and general principles, which they cannot either ſuppreſs or prevent; there is an appointed period of growth for the different organs in general of each, and an appointed ſeaſon for the evolutions of particular organs, and when the diſpoſition for their reſpective actions begins and ends. The alteration which vegetables periodically undergo, from a torpid to an active ſtate, until fructification is accompliſhed, is obvious to every obſerver. In many vegetables the propagation of the ſpecies is not confined to one, but extends to ſeveral different modes, viz. by branches and buds, by ſuckers, by leaves, and by ſeed; when the propagation of the ſpecies is the conſequence of ſeed, the organ by which it is produced is found to be reſident, for the moſt part either in the ſame branch, or encloſed within the ſame calyx. There ariſes either directly from the ſummit, or from the ſides of the germen or ſeed-bud, an erect column called piſtillum, the baſe of which has received the appellation of ſtyle, and which is terminated by the ſtigma, or crown of the piſtil, and is generally found with a downy covering of a moiſt quality; it is this organ which Linnæus ſuppoſed conſtitutes the female part of generation. External to the piſtil we find the ſtamina to be ſituated; the baſe immediately ariſes from the plant, and proceeding in a thread-like form is called *filamentum*, which is terminated by the *anthera*; the anthera generally conſiſts of two cavities, which contain a fine farinaceous powder, analogous to the *ſemen maſculinum*, called pollen; theſe cavities ultimately burſt, ſo that the pollen which is ſhed from the anthera, or ſummit of the ſtamen is received by the ſtigma, or ſummit of the piſtillum, ſo that an union of both takes place. Theſe are the means which vegetables employ to celebrate their connubium, or marriage, and the mode by which it is conſummated. It appears to me impoſſible to do away the croud of facts which prove the power which the pollen contains, and the faculty it has of imparting the character of the ſyſtem from whence it is produced, to the female ſyſtem by which

which it is received; the various hybrid productions that are the conſequent reſult eſtabliſh the fact beyond controverſy.

If we proceed from vegetables to the lower order of animals, we find that although the mode of propagation may be limited with reſpect to them, that it is far ſuperior to what the higher claſſes poſſeſs. The ſexes are alſo not only particularly diſtinguiſhed, but there is evidently ſexual intercourſe between them: in them the mode of propagation is limited to one, requiring the union of two ſubjects before it can be accompliſhed. The firſt order of theſe animals is called hermaphrodite, when both ſexes, male and female, are found exiſting in the ſame ſyſtem—the ſnail, the ſlug, the leech, &c. belong to this claſs. Although hermaphrodite animals poſſeſs both ſexes, it does not appear that the different ſexes of the ſame ſyſtem ever copulate together; the union of two ſeparate ſyſtems is neceſſary to call forth the combined actions of the four ſexual organs at one and the ſame time.

When we go to examine the generating organs of different animals, we ſhall find that the evolution they undergo at particular ſeaſons is great and ſtriking. The evolution of thoſe organs is leſs evident in the higher than it is found in the lower claſſes—leſs evident in the human ſpecies than in quadrupeds—in quadrupeds than it is in birds, in the amphibia, in fiſh, or in vegetables. The direct evidence we poſſeſs that the ſemen of the male is applied in a palpable form to the ova of the female in the latter ſyſtems, lead us to make an analogical concluſion, that it takes place alſo in the former, although the manner is different, ariſing from the difference in the nature of their organization; I ſhall therefore proceed to examine the mode by which fœcundation in them is accompliſhed.

The organs of generation in fiſh conſiſt of two teſtes, and two ovaria: the ſyſtem that poſſeſſes the one is called the male fiſh; the other is diſtinguiſhed by the appellation of female. If either are examined in the winter ſeaſon, during their torpid ſtate, both theſe organs are found flaccid and empty; on the contrary, when viewed in the ſpring and ſummer, when the evolution in the ſyſtem in general has taken place, theſe parts in particular appear diſtended and full. The teſtes, which are diſtinguiſhed by the whiteneſs of their colour and ſoftneſs of their texture, have received the appellation of roe, and are then full of a white fluid called ſemen. The female organs are called ovaria, known by the name of hard roe, and are completely full of ova.

When theſe parts have attained the full perfection of their evolution, they are expelled from each ſyſtem; the ſemen of the male unites with the ova of the female, and fœcundation enſues, without ſexual intercourſe between both.

both. It is with a view of accompliſhing this end that fiſh in general go in ſhoals—that particular claſſes of fiſh have particular latitudes for their habitation, and particular ſituations to which they reſort at particular ſeaſons, in order that the ſpawn which they ſhed may immediately combine together, an union takes place between the ſemen and the ova, without any intercourſe between the parents, and fœcundation enſues to an extent far ſurpaſſing any example we witneſs of the moſt complicated frame.

In the amphibia, and birds, the ſame enlargement in the fœcundating organs is equally apparent. The animals that belong to the former claſs conſiſt eſpecially of the frog, the toad, the turtle, the lizard, and all of the ſnake kind. I ſhall take the frog as an example, becauſe the changes the male and female undergo are more ſtriking than in any other. We have conſtant opportunities of beholding the palpable application of the male ſemen to the female ova.

The male frog has a teſtis ſituated in the loins, having an excretory duct called *vas deferens*, communicating with a *veſicula ſeminalis*, which finally terminates at the *anus*. The female frog has a number of ſmall ova, attached to a membrane, which is connected to the loins ſomewhat ſimilar to the male teſtis. There is an oviduct terminating in an uterus, to which it is attached. The ovarium and the teſtes are remarkably ſmall during the autumnal and winter months; but as the winter cold departs, and the vernal warmth ſucceeds, the teſtes and the ova become gradually developed, and ultimately aſſume a conſiderable ſize; ſo that when theſe animals are examined in the ſpring, the appearance they diſplay is totally different from what they manifeſted in the winter. Inſtead of being thin and flat, languid and torpid, they are found, lively, and active. The male is plump and fat, the female diſtended, and ſwelled to a conſiderable ſize: and finally, inſtead of ſubſiſting in a ſtate of ſeparation and divorce, they are found embracing each other, and conſummating their union. Animals that are in this ſtate are ſaid to have the *æſtrum* upon them. The male climbs upon the back of the female, paſſes his arms over her ſhoulders, and adheres to the ſurface of her body in ſuch a manner that the vas deferens, which terminates at the anus, is placed exactly above the vagina; this is the condition in which they are found, and which they preſerve for a fortnight, until the final cauſe of their union is accompliſhed: the final cauſe of their union in the female conſiſts in the expulſion of the ova which the ovarium contains—in the male it conſiſts in the diſcharge of the ſemen from the teſtis, through the medium of the vas deferens, upon the ova, ſo that they become ſprinkled by it in proportion as they are repelled, conſtituting the mode by which fœcundation is accompliſhed.

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The mode of propagation in this prolific syſtem, although very ſimple, is even more complicated than it is in fiſh. In fiſh there exiſts a ſeparation between the male and female, but an union only between the ſemen and ova from without; in frogs there is an union between the male and female in general, before fœcundation can be accompliſhed.

The higher ſpecies of the amphibious claſs are all of the ſnake kind: in them we find a conſiderable degree of difference which ſubſiſts;—inſtead of fœcundation taking place without the uſe of ſexual organs, fœcundation can be accompliſhed by means of ſexual organs alone. The male has two *teſtes*, with two *vaſa deferentia*, which terminate not at the anus, as in the frog, but with two diſtinct penes, or male ſexual organs, the ſurface of which are covered over with numerous papillæ. The female has two ſets of ovaria, which extend from the middle of the animal's body to its poſterior extremity, containing an abundant quantity of ova; there are two Fallopian tubes, or oviducts, which receive the ova from the ovaria, and convey them to the uterus, from whence they are expelled. Although the mode of fœcundation is different in theſe higher ſyſtems, the end is evidently the ſame as in the inferior; the ſemen, inſtead of uniting with the ova out of the body, is conveyed within by the agency of the ſexual organs of the male, through the medium of the Fallopian tubes, to the ovaria of the female, in order that it may unite with the ova which are ſufficiently evolved, that fœcundation may be accompliſhed. That the Fallopian tubes poſſeſs the power of conveying the ſemen to the ovaria, is evidently proved from the ſtrong and active periſtaltic motion they diſplay, and which appears evidently deſigned in the firſt inſtance to convey the ſemen to the fimbriæ; while the fimbriæ, which before only covered a ſmall portion of the ovaria, are gradually expanding themſelves, ſo as to graſp and completely encloſe the ovaria. It is by the wonderful reciprocity of action at this time in theſe various parts, that the ſemen is applied to the ſurface of the ovaria, and the ova which have evolved and enlarged become fœcundated by the union of the ſemen with them.*

On examining a doe rabbit, which I killed two hours and a half after ſhe had been admitted to the male, independant of the inward vaſcularity of the Fallopian tubes, and ſtrong periſtaltic motion—of the progreſſive attachment of the fimbriæ to the ovaria—and of the protruding condition of ſeveral ova in them—I do declare, that I diſcovered a fluid in colour and conſiſtency exactly ſimilar to æther, and which ſpread itſelf as æther is wont to do, when rubbed

* Having given in detail all the experiments that illuſtrate the ſubject of animal fœcundation in the Syſtem of Phyſiology which I lately publiſhed, I muſt refer the reader to the work itſelf.

rubbed between the fingers, supported by that portion of the expanded fimbriæ which had not yet grasped the ovarium. I firmly believe that this was the fluid destined to impregnate the ova. I do not, however, wish to dwell too long on one solitary fact, when the analogy is so strong and so general, that it cannot be resisted. The union of the semen to the ova is proved directly in the whole inferior order of animated beings I have examined—in the amphibia—in fish—and in vegetables; why then should it be denied to the higher classes?—For no other reason than the mere supposition that "it is absorbed from the vagina, and conveyed to the general system, where, by its peculiar stimulus it produces the changes which happen *after* impregnation in the uterus—its appendages and the breasts perfecting what the stimulus of coition had begun." This is the mere *ipse dixit* of your correspondent, unsupported by proof, refuted by analogy, arising from his ignorance of the true end for which the act of coition is designed.

In proportion as we ascend in the chain of animated existence, we find a considerable abatement in the effects which œstrum alone produces; the power and disposition to action in the generating organs progressively diminishes, requiring causes of a more active nature than we behold in the lower orders. The power which the female of oviparous animals possesses of evolving the ova she contains when the season for fœcundation is present, does not extend to the animals of an higher class, by virtue of that power alone; a necessity absolutely exists that in them sexual union should take place, not only for the proper secretion of semen, but for the evolution of the ova. The excitement which the ovaria sustain during, and in consequence of that act, constitutes the only means by which the ova can evolve, and become separated from the capsules in which they are inclosed—in the lower orders, a total separation of the semen and of the ova ensues, although no sexual unions have happened has taken place.

[To be resumed in our next Number.]

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

I TRANSMIT to you the following case of Hydrocephalus, for insertion (if it meets your approbation) in your valuable Journal. My attention has been too forcibly of late called to this subject, by the loss of a darling child. There was a degree of obscurity in the symptoms in this case, which might readily lead to a false judgment of the disease, and which, in fact, did induce a medical friend, whose aid I solicited, and on whose discernment I had

had a ſtrong reliance, to doubt of the real nature of the affection, for a conſiderable time after its commencement.

The diagnoſis, if not the moſt difficult, is unqueſtionably one of the moſt important parts of medical ſcience, for none has a greater influence on the event. I am willing to hope that the annexed caſe and remarks may, on ſome future occaſion, lead to the more ready detection of a diſeaſe, which, I am perſuaded, in children eſpecially, is not unfrequently overlooked.

I am, with much reſpect, yours, &c.

WALBROOK, *Sept.* 16, 1799. H. CLUTTERBUCK.

T. C. a little more than two years of age, for the laſt twelve months had enjoyed but an indifferent ſtate of health. The abdomen was large, and the ſtate of the bowels irregular. About two months preceding the preſent illneſs, he was affected with ſevere inflammation of the eyes, and which extended ſuperficially over great part of the head and face, and left a ſcabby eruption on the ſcalp, which diſcharged conſiderably. On Thurſday, the 4th of July, 1799, he was obſerved to droop, and to ſhew a diſinclination for food. The following night he ſlept leſs ſoundly than uſual, and vomited on being taken out of bed in the morning. The ſkin was hot, he was thirſty, and the tongue was covered with a whitiſh cruſt; he refuſed food, and the bowels were coſtive; the tendency to vomit was encouraged by giving a tea-ſpoonful of antimonial wine, which, at the ſame time, evacuated the bowels. On Saturday and Sunday the child continued as before, much indiſpoſed, but with no other appearances than thoſe common to children in a febrile ſtate. The diſorder was attributed to cold; and this opinion was confirmed by obſerving, that the head was inclined to the left ſhoulder, with ſome degree of rigidity, the child crying out when the neck was attempted to be ſtraitened.

July 8th. On Monday the feveriſh ſymptoms had rather increaſed; the lips were parched, and the thirſt was greater. I now firſt began to ſuſpect ſome local affection of the head, and that a foundation was laying for hydrocephalus. There was an unuſual appearance in the eyes, but which I could not well deſcribe. I thought I obſerved a tendency to ſquinting at times, but this was ſo ſmall and fleeting, as to be unnoticed by the by-ſtanders, and was readily ſuppoſed to be the imaginary creature of my fears. There was no reaſon to think the power of viſion impaired: the pupils contracted readily on expoſure to light. The bowels were ſtill coſtive. The pulſe was regular and ſtrong, and hardly quicker than in health. This ſtate of the pulſe, likewiſe, gave me ſome alarm; for it was leſs irritated than in proportion to the general diſorder of the ſyſtem.

There

There was, however, no preternatural flowneſs. The child ſhewed an unwillingneſs to be kept erect, was reſtleſs, fretted much, with a conſtant deſire of changing his ſituation, and of being carried from place to place. The eruption on the ſcalp, which before ſubſiſted now became dry, and ceaſed to diſcharge altogether.

It became now a queſtion in what light to view the diſorder; whether as hydrocephalus, or as ſimple fever? For myſelf, I had adopted the former opinion; but it was imagined my fears had magnified the evil, and that the ſymptoms were no more than thoſe common to children in the teething age. It was reſolved, however, not to loſe ſight of the former ſuppoſition, and eſpecially as the ſtate of the pulſe warranted the uſe of ſuch evacuations as might be indicated. A bliſter was applied accordingly on the top of the head, and the dry ſcabs were rubbed with the ointment of cantharides, to ſolicit a return of the diſcharge. A purgative was given of ſcammony and calomel, which operated readily and freely. The room in which the child was kept was darkened, and the heat of the ſkin moderated by cool air and drinks.

On the 9th and 10th he continued much in the ſame way, without any material change of ſymptoms. His ſleep at night was irregular and diſturbed. The purgative was given daily, together with occaſional ſmall doſes of antimony, to induce a moiſture on the ſurface of the body. He took no food during this time, but drank freely of toaſt and water.

Thurſday the 11th.—The child was reſtleſs the beginning of the night paſt, but ſlept ſoundly towards morning. To-day he appears conſiderably better; he is leſs hot, leſs fretful, and notices, with apparent ſatisfaction, thoſe around him. The tongue is ſtill white, but leſs dry. The appearance of the eyes is natural, and the pupils contract readily. The pulſe is ſtrong, and of the natural frequency *. The inappetency for food ſtill continues.

Friday, 12th, morning.—The feveriſh ſymptoms increaſed towards evening yeſterday: yet the night has been paſſed more quietly than before, with

* I have not thought it worth while to notice the exact number of pulsations in a minute, though they were actually measured. The frequency of the pulse is influenced by such trivial causes, and so often varies from change of posture, of respiration, &c. &c. that an actual enumeration may well be neglected, as affording no satisfactory conclusion, or guide to the judgment. Its general condition, with regard to frequency, may be ascertained with sufficient precision, without the aid of a stop-watch.

with a good deal of sound sleep. The heat of the skin is abated, and he has eaten, for the first time these four days, some bread soaked in tea, with much apparent relish. He is unwilling to be taken out of bed. The appearance of the eyes is natural. He is observed [illegible] his hand almost constantly applied over the right eye, which, however [illegible] with the other, has a natural appearance, and the countenance expresses no pain, and hardly differs from health, except in being somewhat flushed.

I was now ready to believe I had been mistaken in my suspicions of injury existing in the brain. The disorder seemed about to terminate in the most favourable manner. But a considerable change for the worse took place in the course of the day. The feverish symptoms increased considerably towards evening. He shewed great tendency to doze, but his sleep was unquiet and disturbed, and in it he moaned frequently and sighed. The pulse was not perceptibly altered, but there was a change in the manner of his breathing which greatly alarmed me. He breathed slowly, with long intervals, and expiration was frequently accompanied with a long-continued moan. (This symptom I had particularly remarked some time before, in the case of a young man, who had for several months laboured under symptoms of oppressed brain, and in whom I found a large accumulation of water after death.) An unusual appearance of the eyes again struck me; they seemed to be differently directed: but the change was so slight, as hardly to be perceived by the attendants, to whom I pointed it out. The pupils were not perceptibly enlarged, and contracted readily to the light. He had had two or three loose motions in the day, and as he appeared to be uneasy in his bowels, the antimonial was discontinued.

Saturday 13th, ten in the morning. The feverish symptoms ran high till three in the morning. He dozed constantly, with frequent moaning as before. At this time the scammony with calomel was repeated: he appeared better about five o'clock, and eat heartily of bread soaked in tea as before. He slept soundly after this for the space of two hours, without moaning. He is now heavy and drowsy, and his breathing continues slow, with moaning and sighing. The pupils are now evidently enlarged, and contract less readily than they did to the light. The eyes are at times slightly distorted. There is no tendency to delirium, nor any apparent defect of vision. There has been no evacuation by stool since yesterday morning, but he makes water frequently, though not involuntarily. The skin is hot and dry, and the face flushed: the features are composed, and betray no uneasiness. The posture in which he lies is perfectly natural and easy. The pulse is quicker than it was. The purgative was repeated.

Two o'clock, afternoon. Continues to doze; at times quietly, but for the most

moſt part is reſtleſs, and moans frequently; reſpiration as before. Countenance exhibits more diſtreſs, and the muſcular ſtrength is evidently much impaired. He appears to be ſenſible to ſurrounding objects, but the eyes look dull, though without [illegible]: the pupils little, if at all, dilated. Has had two copious ſtools. The pulſe is moderate in ſtrength and frequency, is regular, but ſtill what one would term ſlightly feveriſh. Tongue white. The feet and legs were ordered to be immerſed in hot water, and a large bliſter to be applied to the occiput, and another to the nape of the neck.

Eleven at night. The heat of the ſkin is much increaſed, and the pulſe and breathing are quickened. The dozing continues, but the child is evidently rendered uneaſy by the bliſters.

Sunday 14th, ten in the morning. He continued dozing till one in the morning, when he awoke, and took his bread and tea in a ravenous manner, the eyes appearing wild and diſtorted at the time. Had a lax motion ſoon afterwards, and ſlept pretty quietly for ſome hours. At this time his attention to what is paſſing around him ſhews him to be ſenſible, and he has replied feebly to ſome ordinary queſtions. The pupils are large, but they contract on expoſure to light. The heat of the ſkin is conſiderable. The pulſe is pretty ſtrong, and regular, not exceeding 110 ſtrokes in a minute. The bliſters have diſcharged freely. The breathing is now quick and regular, without moaning, as in ordinary caſes of accelerated circulation.

Monday 15th, noon. The whole of yeſterday and laſt night have been paſſed more quietly than before. The child has dozed almoſt conſtantly, waking at intervals; but the ſleep has been apparently more ſound and natural. He has taken bread ſoaked in tea freely, every four or five hours, when offered him, but he does not aſk for it. He refuſes broths, and other animal food, but takes fruit eagerly. The febrile ſymptoms are more moderate than whilſt the bliſters were acting. The countenance is compoſed. The eyes are at times ſlightly diſtorted: the pupils are large, but contract to the light, though leſs readily than they did a day or two back, when the febrile ſymptoms ran higher.

Tueſday 16th, morning. The night has been paſſed in ſeemingly quiet ſleep, waking now and then for a few minutes at a time. Pulſe regular, but quicker, and more feeble. Heat of ſkin conſiderable. The eyes appear more inſenſible: the hearing and touch not viſibly impaired.

Evening. Had a natural motion. Continues dozing as before, but takes food at regular intervals, when offered. In all other reſpects nearly as before. On being taken out of bed juſt now, and held erect on the

nurſe's

lap, he fainted almoſt immediately; the eyes became glaſſy, with cold ſweats; and he appeared in danger of inſtant diſſolution*. Theſe ſymptoms ſoon went off on his being replaced in bed, but they left him evidently conſiderably more languid and weaker than before.

Wedneſday 17th, morning. He continued dozing till one o'clock in the morning, when on offering him his uſual food, it was obſerved he had ſcarcely power to ſwallow, though he evidently wiſhed to take it. Upon the whole, the child appeared to get rapidly worſe. Slight convulſive motions of the eyes and mouth were obſerved to take place now and then; there was likewiſe ſome frothing at the mouth. The ſkin continues hot, and the face is flushed.

Ten at night. The pulſe grows quicker and weaker: in other reſpects much the ſame.

Thurſday 18th, morning, Stupor continues, Pulſe quick, though tolerably ſtrong. Swallows a little water occaſionally when put in his mouth with a ſpoon. Appears wholly inſenſible.

Evening. The breathing has become quicker, and is performed with labour. Pulſe very rapid and ſmall. A good deal of brown frothy ſaliva has iſſued from the mouth. The heat of the extremities keeps up.

Friday morning. About the middle of the night the breathing became more laborious, with much rattling in the throat. Pulſe nearly as before, rapid but regular, with clammy ſweats, all foreboding ſpeedy diſſolution. Some efforts to cough were made, with the effect of removing the phlegm, and rendering the breathing more eaſy.

Evening. After ſome hours the breathing became again exceedingly laborious, the pulſe too rapid and feeble to be counted, and death cloſed the ſcene about four in the afternoon, on the fifteenth day of the diſeaſe.

The

* Did this arise from the preſſure of the water on the baſis of the brain? Or was it ſimply faintneſs, ſuch as we obſerve to take place on ſuddenly removing a perſon greatly debilitated, from the recumbent, to the erect poſture, and which is probably owing to the veſſels being unable to tranſmit the blood in a direction to which they have for ſome time been unaccuſtomed? A few months ago I met with a caſe much in point:—A little girl recovering from a malignant ſcarlet fever, and ſtill too weak to quit her bed, was attacked with inflammation of the parotid gland, which, after three days of moſt acute pain, preventing ſleep altogether, ſuppurated largely and burſt. A few hours afterwards, on being taken ſuddenly out of bed, ſhe dropped her head, and died inſtantly in the mother's arms, without a ſtruggle, or convulſive motion of any kind.—This may ſuggeſt a caution in ſimilar circumſtances.

The equivocal nature of the symptoms, during a considerable part of the progress, made an examination after death much to be desired. For the following account I am indebted to the friendly offices of Mr. ASTLEY COOPER, Lecturer on Anatomy and Surgery, at St. Thomas's Hospital.

Appearances on Dissection.

"As some suspicions had been entertained, that disease existed in the abdominal viscera, the abdomen was opened, but upon the most careful inspection, no diseased changes could be discovered. The viscera of the thorax were also all in a perfectly healthy state.

"The head was next examined.—The different sinuses of the dura mater were larger than they are usually found at this child's age, and they contained more than the common quantity of blood.

"The vessels of the pia-mater were unusually empty, but a serous fluid had been effused between the laminæ of which this membrane is composed.

"When the superior part of the hemisphere of the brain was removed, the upper surface of the ventricles appeared more prominent than usual; and when this part was struck, a general undulatory motion of the brain was produced.

"An opening was made into the right lateral ventricle, and five ounces of water were discharged from the four ventricles, leaving the parts which formed them widely separated.

"The membrane which surrounds these cavities exhibited no sign of inflammation, and no other marks of disease could be detected."

Hydrocephalus is a disease which, like many others, is so clearly and forcibly described in books, that one would suppose it might in all cases be readily recognised. It is the prominent features, however, alone that are thus laid down; the minuter shades are difficult, and often impossible to be well described in words. The eye easily sees what language is inadequate to paint. Hence it is, that a just knowledge of the nature of diseases is unattainable in any other way than by actual observation. But from the case above described, and from others which I have witnessed, I am convinced that hydrocephalus is often present, without being marked by those striking appearances which are supposed essentially to characterise it. Thus the symptoms which are laid down by the generality of writers as pathognomonic, as stupor, dilatation of the pupils, preternatural slowness of the pulse, and convulsions, were none of them present, in any remarkable degree, in the case above related, till

till towards the close of the disease. At the same time, the resemblance to common fever was so strong, as to induce a hope, for a considerable time, that such was the real nature of it. That hydrocephalus commences often with the common symptoms of fever, and often after, I am well convinced. In one case which I examined after death, I continued under this mistake for the first week of the disease, when the nature of the complaint became evident, by the comatose and convulsive symptoms.

The most striking circumstances attending the above case were, the absence of delirium and convulsion, the contractility of the pupil of the eye, and the regularity of the pulse, which varied little from that of health for a long time, and was never intermittent or preternaturally slow. When these are present, together with the common febrile symptoms, it is not surprising that the nature of the disease should be overlooked, and the most favourable moments for relieving it lost.

Respecting the mode of treatment which was adopted, many, I have no doubt, will consider it as inert and trifling. It was, no doubt, influenced by the uncertainty which existed respecting the nature of the disorder. Whilst a hope remained that simple fever was present in a mild form, going on to its natural termination or crisis, very free evacuations or very active means of any kind, were hardly admissible; especially as the former were not indicated by any marks of active inflammation in the system. But even if there had been less doubt of the nature of the disease, and the marks of oppressed brain had been more apparent, I am not sure that I should have pursued a very different mode of practice from that which was actually employed. The effects of mercurials, and the other remedies commonly recommended for hydrocephalus, afford little encouragement to imitate them. If recoveries have sometimes followed their use, they have at least as often failed. Their powers, therefore, are at best equivocal, and possibly they may sometimes have done harm. Recoveries again have taken place where none, or comparatively inactive remedies, have been had recourse to. A few months back I had under my care, in the Dispensary, a boy of nine years of age, of a scrophulous habit, ill-fed, with a pale and sallow skin; in whom marks of irritated brain arose, but with some peculiarity of symptoms. The pulse and breathing were in this case both exceedingly rapid, the tongue was furred, bowels costive, pupils exceedingly dilated, with great pain in the head, and confused vision; there was likewise some disorder of the intellect. Blisters were applied to the temples, and as there was a perpetual restlessness present, (he dozed and moaned frequently, but had no sound sleep), one drop of tincture of opium was given every two hours, and the feet were bathed in warm water. The bowels were opened by scammony

and

and calomel. By these means, in three or four days, the symptoms gradually disappeared, the quickness of pulse subsided, and the pupils recovered their contractility. The same symptoms returned about a fortnight afterwards, and again yielded to the application of blisters with opium.

The great fatality of hydrocephalus, in spite of the most powerful modes of treatment, may be gathered from the following statement, which I might easily have enlarged. Mr. I. PARSLEY relates a case, in the *Ed. Med. Ess.* v. 3. p. 23, in which blistering, cupping, and scarification of the head, with other remedies, were ineffectually employed. He mentions his having met with many similar cases, which terminated fatally. Dr. PERCIVAL, in a letter to Dr. DUNCAN, containing miscellaneous practical observations, has some remarks on hydrocephalus internus. *(Med. Comment.* v. 5. p. 174).

"The fatality (he says) of this disease has been acknowledged and lamented by the most experienced and intelligent physicians. The late Dr. WHYTT, of Edinburgh, has recorded twenty cases, which baffled all his skill and judgment; and a physician of the highest reputation, in his excellent remarks on this disease, candidly confesses, that it is not in his power to suggest any probable means of curing it; and that it has hitherto disappointed all his attempts, both when confided in alone, and in consultation with the ablest of the faculty. *(Med. Obs. & Inq.* v. 5. p. 40.")

Such was the fatality of the disease before mercury was suggested for its cure by Dr. DOBSON; and we shall not find that it has been materially lessened since. The cases of success are few; those of failure are as numerous, and of these a few only have probably been recorded. Dr. S. F. SIMMONS, in a letter to Dr. Duncan *(Med. Com.* v. 5. p. 415), endeavours to shew that the good effects which have occasionally been observed to follow the use of mercury in this disease, are more attributable to the blisters, and other remedies, which have been employed in conjunction with it, than to the mercury itself. He remarks, that salivation by mercury is sometimes preceded by convulsions in very young subjects. He was informed by Dr. ODIER, of Geneva, that the practitioners of that city, had often succeeded by large blisters to the head. Dr. DAWSON lays great stress on opiates in these cases, for the purpose of obviating spasm. He advises to cover the whole head with blisters, and to apply them likewise behind the ears. In two cases which terminated successfully, he ascribed the cure to the Theriaca Andromachi; but blisters had been conjoined. Mr. WILMER, in his "*Cases and Remarks*," records the unsuccessful employment of mercury, though salivation was induced by it. Dr. EASON, of Manchester, cured a case of hydrocephalus by mercury, but it was of the chronic kind *(Med. Com.*

Com. v. 8. p. 325). Dr. AERY, of Whitehaven, also succeeded by the use of mercury in one instance (*Ibid* 332). Dr. A. HUNTER, of York, relates a case which was cured by the various [illegible] but this also was of the chronic species (*Ibid*). Dr. A. CAMPBELL, of Hereford, says: "In a long course of practice, I have attended many patients ill of hydrocephalus internus, and am sorry to say, I never knew more than one recover; a young man of twenty-five, who was recovered by repeated bleeding, and purging with salts." He then mentions two cases in which mercury was employed; one of which was cured, the other terminated fatally (*Med. Com.* v. 9. p. 240*). A further inquiry into the event of cases recorded, would afford an equally unsatisfactory result with those above adduced.

From these, therefore, it is impossible to place much reliance on any of the modes of treatment which have been adopted hitherto, or to be very sanguine in our expectations of relief from art. We have seen the disease combated by very different means; by bleeding, and other evacuants; by blistering; by opium; and by mercury. Cures have succeeded to all, but they have all as frequently failed. Others again have recovered, where no active means were employed. In the last autumn, when the malignant sore-throat with scarlet eruption, was very prevalent and fatal in and about London, I attended, with Dr. SAUNDERS, a little girl about ten years of age, who, on the subsidence of the febrile symptoms, was attacked with anasarca. From the affection of the head, which now arose, and which kept pace exactly with the effusion in the cellular membrane, I have no doubt that effusion had equally taken place in the brain. Constant delirium was present, with little or no fever, and the pupils were greatly dilated. Violent convulsions also came on, and continued for many hours, when a purgative was given for the purpose of producing absorption: this end was effected in some degree, with proportional relief of the affection of the head; but a few hours again produced accumulation in the cellular membrane, and disturbance of the intellectual faculties. This change I observed more than once, and it is perfectly analogous to what takes place in dropsies, in debilitated habits, where purgatives relieve for the instant, but rather, by their weakening effects, favour further accumulation afterwards. It was determined, therefore, to leave the case to nature, in the expectation, that as the general strength returned, the extreme vessels would likewise recover their healthy action, and the superfluous fluid be removed. In this we were not deceived.

The

* Dr. PATERSON found, on collecting the histories of hydrocephalus, in which mercury had been employed, that the number of patients who died was greater than those who recovered, under its administration, in the proportion of twenty-two to twenty. (*Vide* "Paterson's Letters to QUIN, on the Internal Dropsy of the Brain." Dublin. 1794.)

The anasarca and the affections of the head both gradually disappeared together; the mental faculties, however, remained for some time impaired, a degree of childish nefsad fatuity subsisting for several weeks.

Upon the whole, it is fair to conclude, that the recoveries which have actually taken place in this disease, are more owing to natural efforts, than to the interference of art. Hydrocephalus, like other diseases, differs greatly at different times, in degree of violence and of danger. It arises in subjects very opposite to each other, and therefore not likely to be benefited, exclusively, by any one mode of treatment. It would be well, however, if we knew more than we do of its intrinsic nature, or proximate cause. From its accompanying general anasarca, as it often does, it is, in such cases, probably founded in the same general causes, and calls for a similar mode of treatment. No one would think here of blood-letting, or other debilitating remedies. This, perhaps, is the species of the disease in which blistering promises most, and to which the use of mercury appears best adapted, from the power which these remedies possess of promoting absorption. Some, as Drs. WITHERING, QUIN, and others, consider hydrocephalus as originating in inflammation; and the accumulation as a consequence only of this. Traces of inflammation have not commonly been observed on dissection after death, though they sometimes have; yet there is little doubt that many cases of the disease are accompanied with an increased or inflammatory action of the vessels of the brain. This is evident from the head-ach, throbbing of the arteries, flushing of the face, parched tongue, and other febrile symptoms, which present themselves. Blood-letting and the antiphlogistic plan seem here to be particularly indicated, and have, no doubt, in such cases been successful: where, however, the general system partakes little of the inflammatory diathesis, and the pulse is little irritated (and that there are such cases, is proved by the one detailed above), I fear the effect of general evacuations will be less favourable. Hydrocephalus, too, most frequently occurs in scrophulous and rickety habits, which ill bear evacuations of any kind, to any extent. The tendency to disease, is in these cases so strong, and efforts of art in general so unavailing, that recoveries cannot be expected often to occur. This affection is well known frequently to pervade families, affecting all, or the greater part of the children, at a certain age. This shews how much it depends on general habit, rather than local affection; were it the result only of occasional or accidental causes, our efforts to relieve it would more frequently be attended with success.

Dr. Withering has suggested the employment of digitalis as a remedy in hydrocephalus; but it has not yet received the sanction of experience. To what particular state of the disease it may be adapted; whether it might

relieve by diminiſhing arterial action, or by its power as a diuretic, on the ſame principle that it ſucceeds in the cure of dropſy, is uncertain, and only to be determined by cautious experiment.

Hydrocephalus is eſpecially liable to be overlooked in infancy, and to be paſſed by under the general, and, for the moſt part, unmeaning appellations of *teething* and *worms*. Theſe are convenient terms for the indolence of the practitioner, and ſerve to ſatisfy the anxious mind of the parent. I am acquainted with two inſtances where the caſes were thus lightly treated, and the danger overlooked, and that too by practitioners of ſome note, both of which terminated fatally in a few hours. Diſſection afterwards pointed out their real nature. If the nature of this diſeaſe be ſuch, as I fear it is, that it will in the majority of caſes prove fatal, in ſpite of any treatment, it is ſtill of importance that it ſhould be early ſeen, and not confounded with others of little, or inferior magnitude. Both the character of the phyſician, and the happineſs of families are implicated in this.

Farther Obſervations on the treatment of Hydrocephalus internus:—*By* Mr. Charles Brown, *Surgeon.*

To the Editors of the Medical and Phyſical Journal.

Gentlemen,

By your permiſſion, I continue my obſervations on the treatment of dropſy of the brain. Conſidering the treatment of *hydrocephalus internus* by no means ſo difficult as practitioners in general imagine, I preſume the following remarks will not be found unworthy of inſertion in your very uſeful publication, to which I wiſh all poſſible ſucceſs; and remain, with the greateſt reſpect,

Your moſt obedient ſervant,

No. 25, Hatton Garden, CHARLES BROWN.
Sept. 7th, 1799.

In reflecting, at various times, on the nature and treatment of hydrocephalus internus, ſome ideas have occurred to me which I have neither met with in converſation or books. Our imperfect knowledge of the ſtructure of the brain, and of the diverſified energy of the nerves, in their origin, progreſs, and termination, neceſſarily involves the diſorders of the head in a peculiar

peculiar degree of uncertainty; and it is often extremely difficult to diſcriminate even between the ſympathetic and idiopathic affections of that important organ. It cannot, therefore, be ſurpriſing, that the cauſes of hydrocephalus have not hitherto been aſcertained with any degree of accuracy or preciſion. The light which diſſections afford is obtained only at the cloſe of the malady; and the ſtate of the encephalon may have undergone conſiderable changes, either by the operation of nature, or by the action of the medicines employed.

The *ſymptoms* of this complaint are:

At the beginning a pain in the head, generally confined to one ſide, eſpecially above the eyes, and in a direction between the temples; then follow heavineſs, loſs of appetite, deafneſs, ſickneſs at ſtomach, coſtiveneſs, ſtupor, and coma; there is fever, with a frequent, weak pulſe; the ſkin is dry and hot, and there are frequent ſluſhings in the cheeks. In the commencement of the diſeaſe, the pupils are very much contracted; but as the diſeaſe advances, a dilatation of the pupil takes place, chiefly in that eye on which ſide the fluid is collected. The child at intervals will ſcream out, and have frightful dreams; latterly it will pick the bed-clothes, have *ſubſultus tendinum*, and talk incoherently. In this ſtate I lately attended a child (with a phyſician), who lingered out a fortnight, occaſioning the moſt poignant diſtreſs to its parents. M. Petite, in the "*Memoirs of the Academy of Sciences at Paris*," has remarked other ſymptoms at the commencement of the diſeaſe, which are worthy of attention: theſe are—convulſive motions of the lips and eye-lids; biting the lips; picking the noſe; grinding the teeth; coſtiveneſs, or purging; languor of the eyes; paleneſs; debility; heavineſs, and depreſſion of ſpirits; ſleepineſs, with perpetual moaning; and ſometimes inability to ſupport the head upright. He obſerves, that the diſeaſe comes on after *worms*, painful dentition, and violent convulſions. Dr. Fothergill adds, ſhort and diſturbed ſleep, and towards the cloſe of the diſeaſe, urine and ſtools come inſenſibly away; the iris immoveable; the heat great; breathing ſuſpicious; the pulſe trembling, and quick beyond the poſſibility of counting; after which a ſpaſm puts a period to the gloomy ſcene.

The patients of M. Petite died convulſed, and he found water in the brain.

Hydrocephalus is diſtinguiſhed from apoplexy by its being attended with fever, and from nervous fever by the paroxyſms being very irregular, with perfect intermiſſions, many times a day. In nervous fever, the pain in the head generally affects the middle of the head—in hydrocephalus it is uſually on one ſide; and I agree in opinion with Dr. Darwin, that the great diſpoſition

poſition in perſons labouring under the diſeaſe to lye down immediately after having raiſed their heads from off the pillow, is owing to the preſſure of the water on the large trunks of the blood-veſſels entering the cavity, being more intolerable than on the ſmaller ones; for, if the large trunks are compreſſed, it muſt inconvenience the branches alſo; but if ſome of the ſmall branches are compreſſed only, the trunks are not ſo immediately incommoded: and I think it is highly probable, that where one eye is affected, the diſeaſe exiſts in the ventricle of that ſide. In the chief number of caſes of hydrocephalus I have had an opportunity of examining after death, I have found the fluid lodged in the cavities or ventricles of the brain. Authors have ſet it down as a great peculiarity, that the water has been collected within the brain in particular capſules. Once or twice it has been found above or upon the brain, between that and the finer *tunica* next to it; likewiſe between that *tunica* and the firmer exterior one, which alſo is ſaid to have been ſeparated from the interior vault of the cranium, and conſequently to have given room to water; but in theſe very rare caſes, the water has beſides been found in the ventricles of the brain, where it probably firſt has been collected, and from thence found an iſſue. The late Mr. JOHN HUNTER ſuppoſed, that the fluid was always collected in the cerebrum *only*, and that the cerebellum never had any ſhare in it. Children are ſometimes born with the bregma ſtretched, and a pulſation felt through it; and where this part remains long unoſſified, AQUAPENDENTE adviſes us to diſcharge the water at this place. But this is dangerous; for ſo ſuddenly taking off a preſſure the brain has long been accuſtomed to, may very likely kill the child. HIERONYMUS MERCURIALIS,* who wrote in the beginning of the ſixteenth century, was perhaps the firſt who mentions the diſeaſe as having its ſeat in the ventricles. WEPFER alſo juſt ſays that water has been formed in the cavities of the brain.† BOERHAAVE, Petite, and others have likewiſe ſpoken of it; but no author, I believe, deſcribed it at all accurately before Dr. WHYTT, who expreſsly wrote on the internal watery head, anno 1768. But it has not been generally noticed, that the water lies ſometimes between the pia-mater, and the brain, as it is found to do in maniacs‡; and Dr. UNDERWOOD has met with it both there and in the ventricles, in the ſame ſubject, and always in infants under two years old.¶

Of the Cauſes of Hydrocephalus.

On this head there are various and oppoſite opinions. Dr. PERCIVAL ſuppoſes this complaint to ariſe moſt commonly from glandular obſtruction, and

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* 'Opuſcula aurea, lib. de Morbis Puerorum.' † 'Hiſtor. Apoplect.'

‡ 'Haſlam, on Inſanity.' ¶ 'Diſeaſes of Children, vol. i. p. 272.'

and either general or local plenitude. Dr. QUIN imagined it to arise from preſſure on the brain, and fullneſs of the vaſcular ſyſtem from other cauſes. The remote cauſe is attributed by an able ſurgeon in this city (Mr. EDWARD FORD) to an inflammation of the veſſels of the pia-mater, which may owe its origin to the meaſles, ſmall-pox, ſcrofula, and other complaints, which may affect the brain in the ſame manner they do the meſenteric and other glands. As to any hereditary diſpoſition, no ſound reaſoning can be advanced in its favour*. I conſider dropſy in the head to ariſe in the ſame manner as in other parts of the body. The ventricles of the brain, as well as all other cavities of the ſolid parts, either larger or ſmaller, are kept ſmooth by a ſubtle, aqueous vapour, which continually perſpires from the blood-veſſels. It is eaſy to conceive, that though the vapour be ever ſo ſubtle and imperceptible, within a ſhort time, nevertheleſs, it would, not being carried off for ſome days, or months, be collected in a quantity, ſo as at laſt to diſorder and flow over the place. Providence has prevented the diſorder which would ariſe from hence, by furniſhing the brain with innumerable lymphatic veſſels, which being rouſed into action by proper and well-timed remedies, gradually abſorb the fluid, after which theſe veſſels carry it into the blood again, the ſuperfluous parts of it being depoſited and carried off by certain means provided for that purpoſe.

Under a ſtate of diſeaſe of the nature of dropſy, the vapour is more copiouſly effuſed, and a collection of water is perceptible; this is univerſally the caſe in dropſy in what part ſoever it has its ſeat; therefore the *cauſa proxima* may be a fault either in the tubes that carry the vapour to and from the place, or in the quality of the vapour itſelf. Accumulations of water ariſe in any part of the ſyſtem, whenever the internal veſſels of exhalation are relaxed and dilated, ſo that they perſpire more than a due quantity, and the proceſs of abſorption is more tardy. We know that moſt of the fluids ſecreted from the circulating maſs, and poured into cavities, may be abſorbed from theſe, and returned again by the lymphatics to the courſe of the circulation. But the ſame ſecreted fluids ſeem often to be returned alſo into the courſe of the circulation, or retrograde motion in the excretory and ſecretory veſſels†.—As the diſeaſe may originate from ſuch different cauſes, there can be no doubt but it may ſometimes be a chronic diſeaſe, and its appearances very inſidious.

[To be continued in our next Number.]

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* I have already contended againſt hereditary diſeaſes, in my work on Scrofulous Affections; 8vo.

† Cullen's Phyſiology.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

THE following case of extra uterine fœtus, especially as it is attended with some circumstances tending to the relief of others (who may happen to be in a similar situation) at an earlier period, may not be deemed unworthy of a place in your useful publication.

Mrs. COOPER, of Lakenham, sent for a midwife on the 25th of December, 1798, who informed her, she would be delivered in a very short time, and caused her great pain, with a small discharge of blood, which continued for some days; I suppose, by endeavouring to rupture the membranes, mistaking the vagina, pressed down before the head of the child, for the membranes.

She was, at that time, at the full period of her reckoning. On the 7th of January, 1799, I was sent for, and as she had no pain, I waited a considerable time, and on examining her, found a globular substance very low in the pelvis, which I supposed to be the head of the child, but I could not discover the os uteri. I staid with her some time longer, and told her nothing could be done; but desired they would send for me if her labour came on. She was at that time past what she reckoned her full time, had bore children before, and had been accurate in her reckonings. Said she had felt the child, but thought it different from her former pregnancies, and had felt nothing of the child since Christmas day.

The very deep snow of 1799 falling soon after this time, rendered the roads from Norwich to Lakenham impassable for some days, and I thought she had been obliged to call in such assistance as could be procured in the town, till I was informed by one of her relations, whom I attended, that she was very unwell, but not delivered. I therefore called upon her on my way to Caistor, as I thought there must be something singular in the case. She told me, she had felt nothing of the child since Christmas day; but, that she was certain she had previous to that time, although different from her sensations on similar occasions. The body had nearly the same appearance as in natural pregnancy, with an uneveness a little above the os pubis. The whole had not exactly the usual globular form of the impregnated uterus. She had, at this time, exceeded her reckoning more than two months. I found the child's head pressing down very low, and could not discover the os tincæ in its usual situation, but thought I discovered it above the os pubis. On endeavouring to pass the finger towards the sacrum (the usual situation

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of the mouth of the uterus where it lies high), it could not paſs, owing to the vagina obſtructing it in every direction backwards. I could paſs the finger very high by the pubis, in which ſituation I found the os uteri as before deſcribed. I mentioned my ſuſpicions of its being an extra-uterine fœtus to Mr. Cooper, ſurgeon of the third Lincoln militia, and requeſted him to ſee her with me: he thought it was the os uteri above the pubis, which could not be felt very diſtinctly, as it was ſituated very high. I examined her again, and concluded it was an extra-uterine fœtus, lying between the rectum and the womb, preſſing the uterus up againſt, and chiefly above the pubis.

Mr. Rigby (whoſe opinions upon theſe ſubjects are much to be reſpected) having ſeen her in the earlier part of her pregnancy, I mentioned the caſe to him, and aſked him to ſee her with me. I was prevented being preſent at the time appointed, but requeſted he would examine her; his opinion was, that there was ſomething extraordinary in the caſe, but was not fully confirmed that it was extra-uterine.

Her health was very much impaired, being affected with diarrhœa, for which, ſhe occaſionally took opiates and aſtringents. I was ſent for, early in the morning, on the third of May, ſhe being now, more than four months paſt her reckoning. I found her very weak and low, her mouth ſore; pulſe quick, and the diarrhœa continued; ſhe had ejected during the night, a conſiderable quantity of fœtid, bloody water. On examining her, I found an opening unlike the os uteri, and my finger paſſed immediately into the head of the child; ſhe had no pain except what I gave her, as I uſed ſome force, preſſing upon the inſide of the bones of the cranium, and endeavouring to dilate the opening. I left her, and told her I would call again, which I did, and took Mr. Rigby with me, who examined and brought away a portion of the cerebrum, which was very offenſive. I afterwards brought away one of the parietal and the occipital bone, and alſo one of the temporal; ſhe was very much exhauſted and faint; we therefore left her, fearing it would be impoſſible to extract the whole of the fœtus. Mr. Rigby called on me on the fourth, and after ſome converſation, I ſaw Mrs. Cooper, and found the other parietal bone in the ſituation it was left on the third, or nearly ſo, which I with difficulty brought away. By introducing my fingers into the opening in the vagina, and fixing them upon the vertebræ of the neck, I brought two of them away; but finding the ſhoulders obſtructed by a part of the vagina, I puſhed my hand paſt it, got my finger into the arm-pit, and at laſt, ſucceeded in bringing away the remaining part of the fœtus, in a highly putrid ſtate, no portion of the navel ſtring remaining. It appeared to be a male child, at full time when it died, both from

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the formation of the bones, and the ſize of the fœtus: the woman was ſo faint and exhauſted, that I thought it more prudent to deſiſt from introducing my hand to examine for the attachment of the placenta, concluding, that the leaſt evil would be, to truſt to nature for its expulſion, if it was not already diſſolved, and in a ſtate to come away with the diſcharge.

On the fifth I called, with Mr. ALDHOUSE, and found her very low and faint; ſhe had purged, and her mouth was covered with aphthæ, the diſcharge conſiderable and very offenſive; the womb was nearly in the ſituation before deſcribed, but lower, the opening in the vagina, through which the fœtus was extracted, extending nearly to the neck of the uterus; we could now diſtinguiſh the neck of the uterus, and the uterus itſelf, by the touch; the finger paſſing backwards into the large cavity from which the child was extracted. There was no doubt of a communication between the bowel and the cavity, as ſome ſeeds from a cake, eaten the day before, came away on Mr. ALDHOUSE's fingers, with a portion of fœces; ſome fœces paſſing likewiſe daily by the vagina, although ſhe had a natural evacuation every day. She remained in the greateſt danger for ſome time; her mouth very ſore; purging at times; part of the excrements paſſing by the opening in the vagina, and part naturally by the rectum. Her plan of medicine was cordials, aſtringents, and opiates, as occaſion required, with wine and nouriſhing ſoups, as the ſtomach would bear them.

She is at this time, Auguſt 16, 1799, able to manage her domeſtic affairs; ſhe paſſes her ſtools naturally, but is obliged to wear a cloth, as ſome fœces paſs by the opening in the vagina: the quantity which paſſes the latter way, being much leſſened, within the laſt month, makes one entertain hopes that the opening into the bowel may cloſe.

There are a ſufficient number of caſes on record of extra-uterine fœtus, both in Engliſh and French authors; and to render uſeful the publication of ſuch occurrences, ſome rules might perhaps be eſtabliſhed for the relief of thoſe who may labour under ſuch extraordinary caſes, at the earlieſt period poſſible.

Great part of the diſtreſs and danger ſeems to ariſe from what the conſtitution ſuffers in ridding itſelf of the impediment, and the lodgment of ſo lager a maſs of putrid matter within the body. In the preſent inſtance, the woman, I think, muſt have died before the bones could have been diſcharged, as this opening into the bowels, muſt have been very high, and there could be no natural effort to propel the bones through the vagina.

If a caſe were to occur where the fœtus was ſituated the ſame as in Mrs. Cooper's, would it not be prudent to make an opening in the vagina, ſufficient

cient to admit the extraction, by first perforating the head, and extracting by the crotchet and blunt hook; by which means, probably, the opening into the bowels might have been in this case prevented, and the woman not brought into such imminent danger by the putrefaction of the child?

NORWICH, *Aug.* 20, 1799. E. COLMAN, *Surgeon.*

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

THOUGH criticisms on individual cases may not strictly come within the view of your publication, yet where error *may be* corrected, on a point of no small importance, perhaps a rigid adherence to a general rule may be well dispensed with.

The fifth Number of your *Journal* contains a striking fatal instance of blood-letting, related by Dr. VAUGHAN, who attributed the catastrophe to the introduction of *some* morbid poison into the system, through the medium of the lancet. I must be allowed to differ from the conclusion of Dr. Vaughan, and in doing this, I hope I may rest excused, having but one object in view—the truth. I cannot admit that the fatality of the case alluded to was owing to the action of *any* morbid poison. The case is clearly recorded; it stands on its own evidence—the symptoms; and in the perusal of it the medical reader must form his own judgment.

There are evil symptoms sometimes (though happily but seldom) following the use of the lancet, not depending on the action of any morbid poison; not resting on the unscientific conduct of the operator, but owing their appearance to a peculiarity (call it irritability if you please) of constitution. Sometimes an abscess forms in the cellular membrane around the puncture from the lancet, which commonly approaches to the size of a walnut; and if the habit be very bad, the inflammation will extend far around, and a considerable sloughing of the parts may be the consequence, insomuch as to render the removal of the limb a matter of necessity; and even after amputation, the stump will, in all probability, assume the like disposition to slough. In either case, the symptoms of irritation may be great enough to destroy life.

An inflammation of the reticular, or inner coat of the vein, is sometimes another ill consequence of blood-letting; the symptoms of which were erroneously considered as arising from a puncture of the tendon of the biceps muscle, or of the fascia of the arm, or of a nerve, till the keen, scrutinizing

knife of Mr. J. HUNTER, exhibited the disease in its proper colour. When the vein is disposed to inflammation, much pain is felt after bleeding, and shortly around the punctured part appears a redness and swelling, which soon extends along the arm, both above and below the elbow. The arm feels knotty, and pain is given on the touch. The inflammation and swelling will sometimes extend to the breast. The accompanying symptoms of irritation are always great, sometimes producing delirium, and even the death of the patient. It is said, that horses after bleeding are not unfrequently attacked with this affection of the vein. On dissection, pus has been found in the vein, and even in the heart. It has been imagined that the inflammation has been induced by the external orifice not being effectually closed, but this idea is by no means correct.

One or other of the above consequences of bleeding, I presume the case related by Dr. Vaughan to be; the former, I should imagine, as no inconvenience was experienced till the second day, and the affection did not extend below the punctured part; yet the rest of the symptoms would seem to favour the presence of the latter affection—the inflammation of the vein.

If the conclusion of Dr. Vaughan be erroneous, it ought to be corrected, as by that the poor barber stands convicted of having poisoned his neighbour; whereas I firmly believe, that if the surgeon himself had bled the man, the same would have been the issue. Justice is due to the barber, though I by no means am an advocate for his assuming the exercise of phlebotomy.

Believe me, Gentlemen,

BEDFORD, Your obedient servant,

Sept. 8, 1797. JOHN PULLEY.

P. S. Since penning the above observations, in perusing your sixth Number, I find that Mr. RING, in his remarks on the cow-pox, has noticed the case of Dr. Vaughan; and I am glad to observe, that he also rejects the presumed cause of the event. "I am rather inclined," says Mr. Ring, "to attribute the melancholy event to the length of the orifice, and to a neglect of closing it properly, and promoting union by the first intention." I have above observed, it has been imagined that the inflammation has been induced by the external orifice not being effectually closed; and I must now add, that, under that idea, it has been advised to close the orifice with sticking-plaister; this has been done with the most scrupulous exactness, and yet inflammation, with all its formidable consequences has supervened; still therefore, I must maintain, that we can only look for an explanation of the cause in the badness of the constitution: however, this does not preclude the propriety of properly closing the punctured part, yet the parade of sticking-plaister ought to be rejected.

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

I HAVE had, ſince you laſt heard from me, three caſes of confirmed tubercular conſumption; two of theſe were terminating the ſecond ſtage, the third was advanced into the laſt. They were all exquiſitely marked inſtances of the diſeaſe. The firſt, a young man about twenty-eight years of age, had loſt a brother and a ſiſter by the complaint; he had been under the care of two phyſicians * in this neighbourhood previous to my being called in, but ſo rapid had been the progreſs of the ſymptoms, that, though not three months had elapſed ſince the commencement of the diſeaſe, the ſecond ſtage was far advanced, attended with copious expectoration, profuſe colliquative ſweats, and full-formed hectic; his pulſe near 120. I puſhed, in this caſe, the doſe of tincture to 120 drops in twenty-four hours, but ſlight delirium ſupervening, I reduced it again to 90. The pulſe one day ſunk to 68, but, in general, during the whole time he was under the influence of the digitalis, ſeldom fell below 68, and never, except one day when it ſuddenly mounted to 120, roſe above 90 †. The colliquative ſweats and febrile exacerbations greatly abated, but the expectoration ſtill continued purulent and copious, though not increaſing. It was only through the aſſiſtance of opium, that I was able to give ſo large a doſe of ſaturated tincture; it produced not much ſickneſs, but conſiderable vertigo, exceſſive languor, and ſuch univerſal torpor, that the patient, though ſitting up, was unwilling either to ſpeak or move. After being three weeks under the full influence of the digitalis, with the ſymptoms nearly ſtationary, he became averſe towards proſecuting it further, nor could I perſuade either him or his friends to permit a more extenſive trial. On relinquiſhing the fox-glove, his pulſe ſpeedily returned to the former ſtandard, and the other ſymptoms making their uſual progreſſion, he died in about five or ſix weeks after.

The ſecond patient had been ſuffering under the complaint for nearly two years, and was certainly in the laſt ſtage; he was greatly emaciated, with purulent expectoration, profuſe ſweats, and a pulſe between 120 and 130. By cautiouſly increaſing the doſe of tincture I was able to reduce his

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* Dr. MACLEAN and Dr. CLUBBE, by whom the digitalis, I underſtand, had been adminiſtered in the form of powder; the wiſhed-for effect in conſumption, however, can ſeldom be produced by the powder, though in dropſy it ſeems preferable to any other mode of exhibition.

† His ſurgeon, Mr. SALTER, of Boxford, was very attentive, during my abſence, in noting the variations of his pulſe.

his pulſe to 80. Seventy drops, however, in twenty-four hours, formed the largeſt doſe he could take; even with this quantity conſiderable pain in the head and eyes, with vertigo and ſickneſs, took place, and he reſolutely refuſed to continue the medicine. On taking my leave, I ordered the ſurgeon, Mr. NEWELL, of Colcheſter, to repeat the fox-glove, if poſſible, in a concealed way: this I underſtand was done, but a return of vertigo and pain again put a ſtop to the experiment. The expectoration was not diminiſhed. He died about nine weeks after I laſt ſaw him.

The third, a man of fifty-two, was terminating the ſecond ſtage when I was called in, and had lately loſt a ſiſter by the complaint. His expectoration was very purulent, his colliquative ſweats exceſſive, and his hectic exacerbations ſtrongly marked; cough and difficulty of breathing great; much emaciated, and his ſtrength ſo reduced, that he cannot but with extreme difficulty quit his bed for many minutes. He reſides at Hadleigh, and was therefore immediately under the daily attention of myſelf and Mr. BUNN, an active and intelligent ſurgeon of this place, and who threw into a tabular form the variations of his pulſe, and the doſes of his tincture. He took the digitalis in infuſion of quaſſia for ſeveral weeks, and the tincture was gradually increaſed to 100 drops per day. His pulſe was reduced from 120 to 50, and kept thus reduced for better than a fortnight, with little ſickneſs, and with only ſlight attacks of vertigo. His expectoration rapidly decreaſed; his colliquative ſweats, cough and dyſpnœa gradually vaniſhed; his appetite, which was ſo impaired that a ſmall quantity of broth oppreſſed him, became keen; in ſhort, the man is now in perfect health, and purſuing his uſual occupation.

Thus of five caſes of confirmed conſumption (including thoſe of GRIMES and MARRIS), three have been perfectly recovered. I have no expectation, however, that upon a larger ſcale, the proportion of fortunate to fatal reſult would be what my experience has given.

Two caſes of cough, one of which was attended with evident purulent expectoration, and a caſe of vomica, have alſo occurred to me lately, and have been cured by the tincture of fox-glove, but in theſe no ſymptoms of phthiſical prediſpoſition were preſent.

It is ſingular that I have never yet had an opportunity of exhibiting the digitalis in incipient tubercular conſumption, that is, previous to any ulceration. A fatal deluſion ſeems hitherto to have prevented an early application to medicine in this moſt deſtructive of all diſeaſes. As a proof, however, of what the digitalis can do, even in the very lateſt period of this complaint, I produce the following account:—In March laſt I was

deſired

desired to visit BRIDGET BAKER, a poor girl of this place, aged seventeen, whom I found apparently dying. She had been for some time gradually sinking under a confirmed phthisis; was reduced to a mere shadow, confined to her bed, and only moved from thence by assistants to another, until the former should be made. Pulse 140; breathing laborious and painful, cough almost incessant; expectoration mere pus, and with difficulty ejected; it appeared that a few hours might decide her fate. Being urged, however, by her mother, I began with a small dose of the tincture twice a day. It seemed to give relief, and now anxious that it should be afforded to its utmost extent, I gave her the tincture with my own hands during the whole of her illness, twice or thrice a day, slowly encreasing the dose, until she took 90 drops per day. Her pulse was reduced to 56; her expectoration much diminished; her cough, pain, and perspiration, greatly abated, and she took some wine and food daily. She lived near five weeks, and I regularly gave her the tincture twice or thrice a day, as circumstances warranted. She had no vertigo, not much sickness, nor much irregularity of pulse. She acquired little strength it is true, and never left her bed; but she was easy and tranquil during the day, and for the most part passed the night in sleep; her intellects were perfect to the last moment; her death was free from struggle and from pain, so gentle and imperceptible indeed, that the transition was with difficulty marked.

I am, &c.

Gentlemen,

HADLEIGH, Your's most sincerely,

August 9th,* 1799. NATHAN DRAKE.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

THE remedies employed by the lower class of people for the cure of diseases, if carefully examined, and their effects properly explained, would afford considerable amusement to medical men, and perhaps be attended with some kind of instruction; but there would be some difficulty in procuring satisfactory information relative to every remedy which they use; some of them being handed down from generation to generation, as carefully as if it were a landed property, and the knowledge of the preparation and use is known only to the family to whom it belongs. In such a case, therefore,

* *This interesting Letter was transmitted to us by a friend of Dr. Drake, so late that we received it only on the 18th of September.*

fore, little advantage could be expected; except, from ſtating the effects which are produced from ſuch means, we are able to imitate theſe with other remedies perhaps more efficacious.

The remedies which are uſed by the common people of this city for the cure of the tooth-ach, are very various; one of them, however, has appeared to many ſo extraordinary, having been practiſed only lately, that I muſt beg leave to mention it, as well as the explanation given by thoſe who apply it.—I ſhould firſt mention, that their idea of the cauſe of this diſeaſe is from a worm, or worms, being engendered in the tooth affected, and from this the pain is actually called the *worm*, which, unleſs this worm be diſlodged, cannot be cured. The remedy I allude to is well calculated to ſupport this idea, and very apt to deceive a ſuperficial obſerver. It is applied in this way:—a ſmall quantity of the ſeed of ſome plant is put into a metalic tube, ſhaped like a tobacco-pipe, in the bowl of which is put the ſeed, fire is then applied to it; the ſmoke which iſſues from the ſeeds is directed, by means of the tube to the hollow tooth, and being very acrid, cauſes a prodigious increaſe of ſecretion of ſaliva, which being preſerved in a baſon, and afterwards viewed with a magnifier, or even with the naked eye, is found to contain a quantity of ſmall white threads, not unlike the aſcarides, and theſe are ſaid to be the worms from out of the tooth: a proof more convincing than ocular demonſtration could ſcarcely be adduced, and of courſe, little reaſoning was neceſſary to confirm the hypotheſis; for facts being ſtubborn things, it ſeemed neceſſary to examine theſe *worms*, but nothing ſatisfactory appearing from them, it was moſt readily *ſwallowed* by thoſe who had paid little attention to the conſtruction of the human frame.

The only way that ſeemed to me probable, to explain this uncommon appearance was, that this particular ſpecies of ſeed (which, by the bye, they keep a ſecret), by having heat applied to it, thereby expelling a ſmall quantity of water from thoſe ſeeds that are neareſt the heat, and ſoftening thoſe above, readily ſeparates its fibrous germs, which, being carried through the tube by the condenſed moiſture, fall into the mouth, and are there carried off by the ſaliva into the baſon, and are then ſhewn as the cauſe of all their diſtreſs.

The plant from which theſe ſeeds are produced, I have never been able to aſcertain; but on looking into ſome old books, I found the following particulars:—"This peyne doth come eyther by an humour diſcending out of the head to the teeth or gummes, or it may come by corroding or eating of wormes, or it may come by drinking of hote wynes, eating of hote

ſpices,

ſpices, or eating of hote apples, peares, and ſuch lykes, or it may come of a hote liver or ſtomake.

A REMEDY.

"Firſt purge the head with pilles of cochæ, and uſe gargaries, and if it do come of any cold cauſe, chew in the mouth divers times, the rote of horehound. And if it come by wormes, make a candell of waxe with henbane ſeeds, and light it, and let the perfume of the candell enter into the tooth, and gape over a diſh of cold water, and then may you take the wormes out of the water, and kill them on your naile; the worme is little greater than the worme in a man's hand. And beware of pulling out any tooth, for pul out one, and pul out more. To mundify the teeth, waſhe them every morning with cold water, and a little roche alome*."

From this extract, therefore, we find that the idea of worms being the cauſe of tooth-ach is of pretty old date; the book from which it is copied, was printed at London in the year 1575, and is intituled "*The Breviarie of Health; wherein doth follow, remedies for all maner of ſickneſſes and diſeaſes, the which may be in man or woman. Expreſſing the obſcure termes of Greke, Araby, Latin, Barbary, and Engliſh, concerning Phyſicke and Chirurgerie. Compiled by* ANDREWE BOORDE, Doctor of Phiſicke, an Engliſhman."

This book, which is a ſmall quarto, and printed in the black letter, ſeems to have been entirely neglected, but as I find ſome account of the author written in the laſt page of the book, I have copied it, and is as follows:—

"Andrewe Boorde practiſed phyſic in Hampſhire, and was a man of great ſuperſtition, and of a weak and whimſical head. He frequented fairs and markets, and harangued the populace in public; and, to uſe the words of one of his contemporaries, "he made humourous ſpeeches, couched in ſuch "language as cauſed mirth, and wonderfully propagated his fame. From "the Doctor's method of uſing ſuch ſpeeches at markets and fairs, it came "that in after times, thoſe who imitated the ſame humourous, jocoſe lan-"guage, were ſtiled *Merry Andrews*."

Dr. Boorde was author of "The merry tales of the Wiſe Men of Gotham"—"The Introduction of Knowledge, a Poem"—"The Miller of Abington," a poor imitation of Chaucer's Miller's Tale.—"The Principles of Aſtronomical Prognoſtications"—"The Doctrine of Health"—"The Promptuary of Medicine"—The Doctrine of Urins." He lived in the days of

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* This method of curing the tooth-ach has long been practiſed in many parts of England. Some use cummin-ſeeds, some henbane, others aromatic herbs with a little ſalt, &c.

of HENRY VIII, EDWARD VI, and Queen MARY. Having been once a Carthuſian, he continued ever after to profeſs celibacy, to drink water, and to wear a ſhirt of hair. The title-page of his "Introduction of Knowledge" runs thus: "The firſt boke of the Introduction of Knowledge, the which doth teach a man to ſpeake parte of al maner of languages, and to know the uſage and faſhion of al maner of countryes, and for to know the moſt parte of al maner of coynes of money, the which is currant in every region." From this flaming title it appears, that the art of puffing was early known to authors and bookſellers.

By the firſt opportunity, I intend to ſend you a paper on the inſtruments at preſent uſed in the practice of midwifery, with a deſcription of a new one. I have lately tried the external application of opium in nephritic complaints, as well as ol. tereb. and æther, with the ſame good effects as Dr. WILLICH mentions *.

I am, Gentlemen,

ABERDEEN, Your's ſincerely,

Sept. 14, 1799. WILLIAM DYCE.

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

IN looking over old Welſh manuſcripts for ſelecting materials for the Welſh Archaiology now printing, I caſually met with the following fragment, which, as it relates to the hiſtory of the venereal diſeaſe, I have ſent a tranſlation of it to you, under the idea it might be an acceptable article in your valuable publication.

I remain, Gentlemen,

PENTON-STREET, PENTONVILLE, Your's, &c.

Sept. 9, 1799. WILLIAM OWEN.

A Remedy for the Great Puſtulous Eruption, and its Degrees.

This remedy was ſent by M. RY. TILER, a French phyſician, when it was the year of our Lord, one thouſand and five hundred, ſave ſix years, to King HENRY the Seventh, the firſt perſon in this kingdom who was afflicted with that diſeaſe. It was turned into Engliſh by Mr. STRADLING; and DAVYDD AB MEIRIG DDU turned it into Welſh.

There

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* See our *Journal*, No. V. page 307.

"There are nine ſorts of diſorders of the great puſtules; and there are five of them irremediable, and not to be helped; and there are four againſt which there is a certain remedy: and, of the nine, there never came but three into this iſland, and people have two of them frequently; but the third, let it be guarded againſt, which is called in France *mabtai yſums yſton*: that is, the dry eruption, the baſis of which proceeds from the heart.

The firſt of the three is of a cold and dry nature. Its ſymptoms are ſhivering and chilline ſs, and nevertheleſs ſweaty; pain in the ſhoulders, or in the other joints, from the loins upwards, and yet full of fleſh, and craving for ſweet things. In the height of the diſorder, a kind of dry heads break out, with black eyes in them, and void of matter, growing bigger and bigger, from nipples to teats, like dry warts, in the end growing large and in irregular lumps, breaking into narrow wounds.

THIS IS THE REMEDY.

If the perſon is not freed from the pain in his joints, let him have this emetic: take a quantity of the bark of the walnut-tree *, throwing away the upper rind, then bruiſe it moderately ſmall, and waſh it in clean water; then take a quart of Rheniſh wine, or Malmſey, or old ale, and put the bark into it to ſtand for three hours, ſo that it becomes viſcid, then ſtrain it clean, and put it on the fire to be warmed a little, and when warm, throw into it three-pennyworth of long pepper. Put the patient in bed until nine o'clock, and then give him the above drink, and at eight at night, and the ſame time next morning, and he will diſcharge a cruel quantity of obnoxious matter and impurity. Take the weight of ij. drachms of ſpermaceti, and the weight of iiij. of pepper in powder, and throw it upon wine, or old ale, gently warmed, and give it to the patient to drink, and there will be an eruption of what lurks in the body.

Guard againſt applying too much ointment; for the three evils attending the cure are, the extinction of the veins, ſending away of the blood, and filling them with poiſon; for it is dry and heating; on that account, better is an emetic with the unction, for the ſtrength of the perſon.

The ſalve for the pain of that pox is this: Take the leaf of fat of a red pig, and take away the membrane; take two parts of it, and pound it in a mortar well, then take a pennyworth of quickſilver, and kill it well: this is the way it is to be killed; take ſome urine in a cup and throw the quickſilver into it, and ſtir it with the finger, until it is ſeen to ſeparate into particles like the heads of ſmall pins, which are to be thrown into the mortar with

* I am not certain whether the walnut or filbert-tree is meant, from the name given it here.

with the lard, and the whole to be beaten well together, until it appears blue, from the colour of the quickſilver. Then take the weight of iij. drachms of maſtic, and pound it into fine powder, and take the weight of ij. drachms of ſpermaceti, and put theſe two things with what is above-mentioned, and pound them well a ſecond time. Then take the third part of lard before reſerved, and put in a pan on the fire to be melted with ij. drachms of camphire in it; and then pour what is melted into the mortar to the above ingredients, and let the whole be again well pounded and mixed in that manner. Take of the oil of bays two ounces, and two ounces of Exeter oil, and pound them alſo with the above in the mortar, until you ſee them of the colour of the Exeter oil, and then put the ointment in a box or other clean veſſel, to be well kept. Put the ſick perſon in bed, with ſufficiency of cloaths on him to cauſe a gentle ſweat. . . . . .

[*Here it breaks off, owing to there being leaves loſt in the manuſcript.*]

W. O.

☞ We have inſerted the above fragment, to ſhew the firſt preparations of mercury in the cure of lues.—EDITORS.

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

HAVING read with pleaſure, in your *Journal* for June, ſome obſervations on the ſubject of Quackery, by ALIQUIS, I have taken the liberty of making a few remarks on the ſame ſubject, by inſerting which in your valuable work, you will oblige

Your moſt obedient ſervant,

ALIUS.

The ſubject which has occupied the attention, and engaged the pen of the writer referred to, is undoubtedly an important one, and the remarks which he has made upon it are juſt and pertinent. "That evils of ſuch magnitude ſhould be ſuffered to paſs unnoticed" muſt excite wonder in the minds of thoſe who are capable of judging concerning the extent of the miſchief. The writer, at the ſame time, that he points out the evil to be dreaded, with great propriety repels the inſinuation "that the regular profeſſors of phyſic are intereſted in the diſſemination of theſe ſpurious noſtrums, the ſuppreſſion of which would leſſen the progreſs of diſeaſe, and of courſe diminiſh the number of patients who are ultimately compelled to ſeek relief from them, for the diſorders brought on by quacks, mountebanks, empirics, &c."

The

The plan for erecting a public board for the examination of every new medicine is undoubtedly judicious, and, if properly executed, might contribute, *in a conſiderable degree*, to the prevention of at leaſt a part of the miſchief to be dreaded as the conſequence of the unlimited indulgence which is at preſent afforded to the venders of theſe pretended remedies. But could this plan be carried into effect, according to the benevolent wiſh of your correſpondent, would there not ſtill remain a fruitful ſource of miſchief to the public?

The author of theſe remarks makes a diſtinction between thoſe medicines "the compoſition of which is known, and the venders of which are ignorant pretenders to medical knowledge, as being in ſituations of life remote from the profeſſion of phyſic," and thoſe which come forth ſanctioned by the name of a phyſician of known abilities and integrity. This diſtinction is undoubtedly well-founded, and the value of a medicine compounded under the direction of a man of ſcience, muſt differ widely from that, the ingredients of which are put together in an unſkilful manner, without any regard to the effect which the different articles may have upon each other, and by a perſon totally ignorant of the effects which the compound may produce on the conſtitution of the perſon who makes uſe of it. The latter may prove in every caſe inefficacious, and in ſome caſes may be injurious, whereas the former when adminiſtered with judgment and deſign, with a proper regard to the known effects of its different ingredients, and the ſuitableneſs of theſe to the removal of the ſymptoms, under which the patient labours, may prove a valuable medicine. But let us ſuppoſe that a method could be adopted to aſcertain the ingredients of the medicines referred to, and that hereby the ſale of "poiſon" in a thouſand forms ſhould be prevented—let us farther ſuppoſe that it ſhould appear upon examination that they have been compounded with the greateſt care and attention, according to the preſcription of a moſt able phyſician, and that they are recommended to be uſed only in ſuch complaints as they were originally deſigned to relieve—ſtill but a partial removal of the evil of which the writer complains, would be obtained. It muſt be obvious not only to every man of *medical ſcience*, but alſo to every man of *common ſenſe*, who thinks cloſely on the ſubject, that a medicine which has proved effectual for the removal of ſome diſeaſe, may be very improper for a patient labouring under a diſeaſe bearing the ſame name. What would be proper in a particular *ſtage* of any diſeaſe, and under particular *circumſtances* which may occur, would be highly improper and might prove injurious, or even fatal, at a different period, or under different circumſtances; and it is particularly important to remark, that the more powerful and efficacious the medicine, and the more juſt and true the report

which

which is circulated of its surprising and sudden effect in curing disease, the more dangerous does the use of it become, if the application of it in any instance should be improper. The medical practitioner who, with great judgment orders a medicine to be taken *to-day*, may see it necessary to forbid the use of it *to-morrow*: it may have answered the purpose for which it was designed; but, that being accomplished, the repetition of it may be unnecessary, or may even be attended with inconvenience. It is not to the use of any specific medicine that the cure of a disease is to be attributed, but to a diligent and careful attention of the practitioner to the different symptoms which occur, and to a *change* of medicine, and variation of plan, according to the urgency of these symptoms, and the alterations taking place in the system in consequence of them.

That an individual, however, who with great labour and ingenuity had discovered some medical compound, should not fail to reap the advantage of such discovery, nor the public be deprived of what, upon proper examination, might prove a valuable remedy, let such a board as the writer proposes be instituted, and upon a report from this board, let the inventor receive from the public some valuable compensation for the discovery, or let him continue to be the sole proprietor and vender; but let it be sold ONLY to those who, knowing the effects which it is likely to produce, are the proper and the only judges of the instances in which it may be employed with safety and advantage.

Let the Apothecaries' Company, from time to time, purchase of the proprietor such a quantity as they may find necessary for their demand.—Let a quantity of it be found in the drawer or in the phial of every private apothecary, ready for use, when it may be directed as the whole, or the part of a medical prescription. In this way let the inventor receive a compensation for his diligence and ingenuity, and the public be secured from the dangerous effects of a compound, which, if it possess any powers, must, in many instances, though perhaps in a slow and secret manner, prove injurious to those who have made use of it.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

I TAKE the liberty, through the medium of your valuable *Journal*, to correct a misstatement of Dr. DARWIN's principles, made by Mr. BROWN, the ingenious author of "*Observations on 'Zoonomia*," some time ago published in

in Edinburgh. This miſtatement occurs in the firſt chapter of that work, in which the author endeavours to prove, that according to Dr. Darwin's principles, the original production of ſenſorial power is impoſſible.

Dr. Darwin, ſuppoſes, "that ſenſorial power, or the ſpirit of animation, is the immediate cauſe of the contraction of animal fibres, and is liable to general or partial diminution, or accumulation; that the quantity expended in the continual motions of life, is ſupplied by the ſecretion or production of it in the brain and ſpinal marrow, while, at the ſame time, a certain quantity of ſenſorial power is neceſſary for the action of a hand." From theſe circumſtances, Mr. Brown thinks that he can prove the fallacy of Dr. Darwin's reaſoning. "For, (ſays he) in order to call ſenſorial power into exiſtence, it is neceſſary that it previouſly exiſt in the brain and ſpinal marrow, as much as in the glands which ſecrete any other fluid. The thing ſecreted muſt therefore exiſt before the organ which ſecretes it can be called into action."

Mr. Brown is aware of an objection which may be oppoſed to his reaſoning, viz. that the embryo may derive a ſmall portion of ſenſorial power from the parent, and thus be capable of increaſing the quantity by ſecretion. But this objection he thinks cannot be admitted, "becauſe (ſays he) the embryo, according to Darwin, is a ſimple filament, without ſenſorial power, or the means of producing it."

In this, however, conſiſts Mr. Brown's error; for on examining the chapter on Generation of the '*Zoonomia*,' p. 480, he will find that Dr. Darwin thinks "that the embryo, at the earlieſt period of its exiſtence, as ſecreted from the blood of the male, would ſeem to conſiſt of a *living filament*, with certain capabilities of irritation, ſenſation, volition, and aſſociation," and this opinion he adopts, though he thinks it "difficult to be conceived how a living entity, which this embryo is, can be ſeparated or produced from the blood by the action of a gland."

Another quotation from the '*Zoonomia*,' p. 492, will ſtill further prove Mr. Brown's miſconception of Dr. Darwin's idea. "I conceive the primordium or rudiment of the embryo (ſays Dr. Darwin), as ſecreted from the blood of the parent, to conſiſt of a *ſimple living filament*, as a muſcular fibre, &c. and I ſuppoſe this living filament, of whatever form it may be, to be endowed with the capability of being excited into action by certain kinds of ſtimuli."

Auguſt 6th, 1799. J. Y.

An Hiſtorical View of Surgery in the Sixteenth Century.

[Continued from our laſt Number, pp. 155—160.

§ 12. TO become acquainted with the moſt celebrated ſurgeons of that century, we ſhall proceed in chronological order. One of the oldeſt chirurgical writers is HIERON BRAUNSCHWEIG, a ſurgeon who practiſed at Straſburg. His book contains but few original principles, as he does not enter upon the theory, and points out the means as well as the manual operations, rather in a mechanical manner. On the treatment of ulcers his ideas are generally correct; he does not abſterge the pus with much ſolicitude, but, on the contrary, conſiders it as a healing balſam. He mentions a caſe of hydrophobia, the ſymptoms of which became manifeſt after twelve months had elapſed ſince the bite of the dog; and againſt which he preſcribed cantharides internally. The external remedies he uſually applied, were regulated conformably to the difference of climate, ſo that in a moiſt climate he uſed abſorbents, while in a warm climate, he directed humid applications. In depreſſions of the cranium, he recommends an ointment of the white of eggs and oxycroceum, which he believed to be very efficacious.

The name of JOHN DE VIGO, a native of Rappali, in Genoa, and phyſician to the Pope, is no leſs celebrated. He wrote two Compendiums of Surgery, and I have already obſerved, that he was no advocate for operations; but he is the more liberal in his praiſe of medicinal ſubſtances, for inſtance, of a ſolution of white vitriol in roſe-water, in epiphora; of the oleum elemi, &c. in wounds of the nerves. His literary knowledge was extremely defective, and his method of treating external diſeaſes much too raſh, as he was too profuſe in the adminiſtration of wine. Yet we meet occaſionally with intereſting remarks in his works. He opens abſceſſes by the ſemilunar inciſion, gives a pretty correct account of the cauſes of gangrene, and teaches us to treat it with the actual cautery. He extirpated an encyſted tumour under which the Pope had laboured, by the Egyptian ointment and ſublimate. In a ſimilar manner he treated ſcrophulous tumours, and the whitlow, while he likewiſe applied the actual cautery for theſe diſeaſes, as well as for the fiſtula lachrymalis. According to the old practice, he began amputation with making an inciſion into the mortified part; but at the ſame time he diſſuades the practitioner from preſcribing opium during the operation. The doctrine relative to concuſſions of the brain, he has delivered with tolerable accuracy for thoſe times; and he alſo obſerved, that bleeding of the noſe in this caſe was critical. He attempted to cure wounds of the head merely with abſorbent remedies; but he does not fail likewiſe

likewiſe to recommend the application of the trepan as ſpeedily as poſſible. On account of the double membranes of the brain, he objects to placing the trepan on the ſutures of the cranium, as he had frequently obſerved, that, after wounds of the head were apparently healed, they were attended with a concealed inflammation of the dura and pia-mater, or of the cortical ſubſtance of the brain.

§ 13. The treatment of wounds would have experienced an entirely new epocha, if MICHAEL ANGELO BIONDO, of Venice, who practiſed ſucceſſively at Naples, Venice, and Rome, had been a man of ſufficient celebrity. He firſt recommended *cold water* to be indiſcriminately uſed as the beſt remedy in all kinds of wounds, excepting thoſe of the nerves and contuſions; while he expected miraculous effects from this remedy, which it certainly has produced, according to modern experience, in numberleſs caſes of injuries of the head. Indeed, Biondo attributed to his *oleum abietinum* almoſt equally powerful effects; but his book was too defective in compoſition and arrangement to be entitled to general approbation.

The large chirurgical work of JOH. ANDR. DA CROCE, had no ſtronger claim to profeſſional ſupport than the former. The author, who practiced at Venice, was a mere compiler from the medical works of the Arabians: he alſo recommended the trepan in all caſes of fractures of the cranium.

The doctrine reſpecting the injuries of the head, is however much indebted for its improvements to JAC. BERENGAR DE CARPI *, with whoſe character, as a diſtinguiſhed anatomiſt, the reader will become acquainted in the ſequel. He was the firſt who expoſed the fallacy of the uſual ſymptoms formerly obſerved in fractures of the cranium; for ſeveral caſes had occurred to him in which the patients could bear conſiderable concuſſions. He doubted the reality of reciprocal or oppoſite fractures, when the power operates only on one ſide; but he obſerved a fracture of the interior table of the cranium, though the exterior table had been uninjured. He believed that depreſſions of the cranium could be healed by plaſters; and aſcribed moſt of the unfavourable ſymptoms ariſing from injuries of the head to the ſplinters of bones which irritated the brain and its membranes. In all ſuch caſes, he above all things, recommends the oil of roſes, as well as the oil obtained from the huſks of the grape, and likewiſe the dyers' weed.

§ 14. MARIANO SANTO DE BARLETTA, whom we already know as a celebrated lithotomiſt, practiſed ſurgery at Naples, and wrote, among other works,

* *Berengar, de Fracturis Cranii.* 8vo. Lugd. Batav. 1651.

works, a commentary on ſome of the chirurgical works of Ebn Sina. In theſe we find indeed much aſtrological jargon, and an uncommon animoſity againſt phyſicians who interfere with the practice of ſurgery, without underſtanding the application of ointments, and the uſe of mercury: but Mariano Santo has nevertheleſs acquired great applauſe for baniſhing ſeveral prejudices which prevailed in the treatment of wounds, and which had even been ſanctioned by the names of eminent writers. He oppoſed the uſe of all cold and aſtringent remedies in bruiſes and eryſipelas. He particularly attacks Berengar, on the miſapplication of the oil of roſes in wounds of the head, and recommends in place of it, ſpirit of wine. He alſo ridicules the idea of filling up the depreſſions of the cranium and preventing dangerous conſequences, by plaſters: on the contrary, he affirms that the patient will die apoplectic, before this remedy can have any effect. In fractures of the cranium, he entirely rejects the chiſſel and the hammer, and ſupports his cenſure with very concluſive arguments. Laſtly, he does not attempt to ſtop the hemorrhage by applying the actual cautery like his predeceſſors, but by a proper ligature.

The great anatomiſt Gabriel Fallopius, of whom we ſhall farther treat in the ſequel, was likewiſe an experienced ſurgeon. Although he adhered too cloſely to the opinions of his predeceſſors, yet his works contain many important principles relative to the treatment of chirurgical caſes. He was indeed no friend of the chiſſel for removing the fractured bones of the cranium, and likewiſe adviſed the ſpeedy application of the trepan, even previous to the fourth day, yet he not only recommended the cold and aſtringent applications too generally, but likewiſe formed too ſanguine expectations from internal remedies. He occaſionally removed large pieces from the cortical ſubſtance of the brain, without experiencing any ill effects. In humid ulcers he uſed alum-water, and in the caries oſſium, he applied the actual cautery. The amputation itſelf he performed with red-hot inſtruments, and adviſes to burn the diſſected veſſels afterwards ſeparately. In other caſes of hemorrhages, however, he diſapproves of the expedient of burning, and gives the preference to the ligature. Againſt gangrene he uſes arſenic and ſublimate; in luxations he condemns the uſe of cerates, and recommends ſimple humectation of the bandage with cold water. He propoſes the melliferous moiſture which ſettles on the leaves of the elm-tree, as an excellent vulnerary, and highly praiſes the virtues of pure olive oil, in the cure of wounded nerves. In the fiſtula lachrymalis he does not perforate the oſſa lachrymalia, but performs the operation with a ſyringotom, and endeavours to remove the callus with Egyptian ointment. In very protruding ruptures, he cauterizes the annulus abdominis, to produce an eſchar,

eschar, thus to slough off the ring, and to enable him the more effectually to reduce the protruded parts. In cancer he makes use of arsenic and oil of roses; he also extirpates the cancerous ulcer, and destroys its roots by the actual cautery.

[To be continued in our next Number.]

A concise History of the principal Discoveries in Anatomy.

[Continued from our last Number, pp. 160—168.]

§ 18. THE gradual progress towards the most interesting of all anatomical discoveries may be traced from the method of explaining the *smaller circulation of the blood through the lungs*, which was adopted by many anatomists towards the end of the sixteenth century. Much depended here on a due examination of the septum of the ventricles of the heart, which GALEN considered as perforated, or at least supposed that there were pits in it large enough to form the third ventricle of the heart. Even BERENGAR perceived the incongruity of this idea, while he found the septum so solid, and the perforations in the human heart so imperceptible, that he expressly declares it to be next to impossible that the blood could exude, through this septum, from the right to the left ventricle of the heart. As this notion prevailed, anatomists were consequently induced to conjecture, that the vena cava likewise originated from the heart; and hence VESALIUS so obstinately maintained the imperforation of the septum. If therefore the vena cava arose in the liver, and conducted the blood to the heart, in this case the aorta, which besides the vital spirits contains blood also, must either receive this blood from the pulmonary artery, after it had passed through the lungs (this circulation, however, was then unknown), or there remained no other method of accounting for it, than by admitting the exudation of the blood through that septum. The ingenious LAGUNA paid attention to this circumstance, when he maintained that the septum is perforated, and that part of the blood circulated from the right into the left ventricle of the heart, while another part flowed through the pulmonary artery into the lungs, and served for their nourishment. Hence MONAVIUS wrote to CRATO, that PIGAFETTA, a pupil of FALLOPIUS, had publicly maintained in the University of Heidelberg, that the septum of the ventricles of the heart is impermeable; an opinion which would be branded with heresy by the German physicians of those times! Perhaps these authors were misled, by comparing the structure of the heart in the lower animals with that of man, to suppose that the aperture of the foramen ovale in man

tinued even after birth, and conſequently to admit the perforation of the ſeptum.

Next to Veſalius, MICHAEL SERVETO was the firſt who delivered the opinion relative to the complete impermeability of the ſeptum, and ingeniouſly applied it to explain the circulation of the blood through the lungs; a diſcovery, the firſt traces of which appear in the writings of this author. He ſays, for inſtance, "the vital ſpirit of the arteries penetrates, through their anaſtomoſes with the veins, into the latter; for, according to the previous aſſertion of Veſalius, every vein, in the different parts of the human body is moſt intimately connected with an artery. It is impoſſible that the blood can paſs through the ſeptum from the right into the left ventricle of the heart, becauſe the former is quite impermeable: hence it muſt paſs through the lungs; here it receives freſh vital ſpirits from the atmoſpheric air, and thus it again returns from the lungs to the heart." That the purpoſe of the pulmonary artery cannot be that alone of nouriſhing the lungs, Serveto concludes from this circumſtance, in particular, that the artery in queſtion is uncommonly large and wide in proportion to its vein, that it is accompanied throughout by the vein, and that there are other veſſels deſigned by Nature for the ſupport of the lungs. Nor is it conceivable, that the acceſſion of vital ſpirit takes place in either of the two ventricles of the heart, as neither of them is ſufficiently capacious for that purpoſe." *—In this paſſage, therefore, we recognize the firſt germ for diſcovering the circulation of the blood through the lungs. It was written about the year 1552, and the work of Serveto appeared in 1553.—It has indeed been maintained from a cotemporary work, written by JAMES RUEFF, a ſurgeon, at Zurich, and publiſhed in 1554, that he diſcovered the great circulation of the blood; but it can be attributed only to their total ignorance of literary hiſtory, and their defective explanations of difficult paſſages, that ſome French ſurgeons prepoſterouſly endeavoured to wreſt the laurel from the immortal HARVEY, † and beſtow it upon their countryman, Rueff. The paſſage to which GARENGEOT alludes, treats merely of the diſtribution of vital ſpirits through the whole body, by the arteries: ‡ It is, however, unneceſſary to enter into farther particulars reſpecting this ſubject; as PORTAL § has amply refuted the laſt-mentioned writer.

[To be resumed in our next Number.]

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* *Servet.* "*Reſtitut. Chriſtianism.*" Lib. v. p. 169. Edit. 1790

† *Garengeot* "*Spanchnologie.*" Vol. II. p. 156. & seq.

‡ *Rueff* "*de Conceptu et Generat.*" Lib. i. cap. iv. f. 6. b.

§ *Portal* "*Hiſt. de l'Anatom.*" Vol. I. p. 515.

HINTS

HINTS AND IMPROVEMENTS

IN THE PRACTICE OF

MEDICINE AND SURGERY.

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

WITH the view of rendering as public as poſſible the eaſy means I have diſcovered of ſpeedily ſubduing a very common, and, if treated in the common mode, a very dangerous diſeaſe, I avail myſelf of the extenſive circulation of the "*Medical and Phyſical Journal*," and incloſe the copy of a letter which I have this day written to His Royal Highneſs the Commander in Chief, on the "Prevention and Cure of Dyſentery." The utility of the treatment I recommend is demonſtrated by ſucceſsful experience in a multitude of caſes. It is conſequently independent of any theory. It was, however, deduced from one ſimple as itſelf, and which, in its turn, it ſerves to ſupport.

At ſome future period, when profeſſional avocations are fewer and leſs preſſing, I intend to ſubmit to the public a more particular account both of my theory and practice, accompanied with a ſchedule, on a perfectly new plan, of the caſes I have treated.

Wiſhing ſucceſs to your valuable Journal,

H. M. S. *Atlas*, in TORBAY,
10*th of Aug.* 1799.

I am, Gentlemen,
Your moſt obedient, humble ſervant,
D. WHYTE, M. D.

Copy of a Letter to His Royal Highneſs the DUKE *of* YORK.

10*th Aug.* 1799.

May it pleaſe your Royal Highneſs,

AS in the intended expedition much ſickneſs muſt from fatigue and expoſure neceſſarily enſue—and as, in the preſent ſeaſon of the year, it is probable dyſentery will be one of the moſt prevailing complaints, I conceive it a duty which I owe my country, to communicate to you a very ſimple method by which that otherwiſe dreadful diſeaſe may be, in a few hours, completely removed.

On

On the inſtant of attack let the belly of the patient be inveſted with five, ten, fifteen, or, if fewer will not ſuffice, twenty folds of a flannel bandage, whoſe breadth is from ſix to ten or twelve inches, or more—let the patient, moreover, be inveſted with a flannel ſhirt, or waiſtcoat with ſleeves, and immediately put to bed.—If neither flannel ſhirt or waiſtcoat can be procured, the patient may turn into bed well buttoned up in a regimental jacket. If convenient, he will alſo do well to dilute with warm gruel, while perſpiration, both general and topical, is further promoted by a covering of two, three, or four blankets, and by the excluſion of cold air, particularly partial currents.

If the purging and tormina ſtill continue, or if the patient has head-ach, or any other ſymptom of general fever, no time muſt be loſt in recurring to the lancet—and we muſt not be deterred by the low ſtate of the pulſe.—It is the removal of pain and purging that is required, and from ſucceſsful experience in ſome hundred caſes, I ſay confidently, that by ſuch means we may always ſucceed. I have frequently taken from forty to fifty and ſixty ounces of blood in a couple of hours, and in ſo doing ſaved many valuable lives.

In moſt caſes, however, the diſeaſe will yield to flannel rollers—and it will not even be always neceſſary to put the patient to bed.

In this diſeaſe all kinds of medicine do miſchief. Wines and ſpirits are particularly injurious.

To prevent relapſes, as well as firſt attacks, expoſure to cold or moiſture, or even to agreeably-cooling currents of air, is to be carefully avoided, eſpecially when the body is warm and relaxed, as during ſleep, or after fatigue.—In ſuch circumſtances, anointing the body with oil, and wearing warm cloathing, particularly a flannel ſhirt, will be found uſeful.—I make a point of anointing all my patients on the removal of the rollers.

Among ſoldiers and ſailors ſcurvy is the moſt common pre-diſpoſing cauſe of this diſeaſe.

Scurvy is the product of nitrous or ſeptous acid gas, of which foul air or azote is the principal conſtituent, and where people are crouded together is always more or leſs preſent. Although too frequently overlooked, I have found it as common in jails and camps, as on ſhip-board during long voyages. Of the cauſe I ſay nothing.—It is too well known to require comment.

Happy ſhall I be if the above rules ſhould be acted upon, and prove the means

means, as I am confident they will, of preventing the fatal consequences of one of the most dreadful maladies to which human nature is liable.

Trusting that the importance of the subject will excuse the liberty I have taken,

I have the honor to be your Royal Highness's

Most obedient, humble servant,

(Signed) D. WHYTE.

His Royal Highness Field-Marshal the Duke of York.

A Case of Inflammation on the Glutei Muscles, &c. of a threatening tendency, and accompanied with violent symptoms of general irritation, speedily repressed and cured by the combined internal and external use of cold water:—*Communicated by* ROBERT KINGLAKE, *M. D.*

WERE the subsequent case of external inflammation, rapidly subdued by the salutary influence of reduced temperature, a solitary instance of its curative agency, and did it not form a series of similar, though less striking occurrences in my experience (which on some future occasion will probably be detailed to the public), it would have less claim to be rescued from oblivion, and be less worthy of record in your practical collection, than from this consideration it would seem to merit.

Mr. B. aged about forty, and of an athletic constitution, was attacked, in the beginning of August, with rigor, succeeded by febrile symptoms, a sense of preternatural heat, throbbing, and visible tumefaction, occupying the glutei muscles, and extending to the anus, rectum, perinæum, and membranous part of the urethra. The inflammation had been progressively increasing forty-eight hours before I saw the patient: at that time the irritation of the system was extremely violent, pulse hard, full, and rapid, insatiable thirst, skin hot and dry, partial suppression of urine, constipation, incessant, painful, and fruitless efforts to empty the bladder and rectum, considerable tension of the lower region of the abdomen, &c.

The local irritation, and, consequently, the general symptoms excited by it, had been much aggravated by the injudicious application of warm cataplasms to the parts affected, the internal use of terebinthinate medicines, oppressive

weight

weight of bed-clothes, unventilated room, &c. This noxious plan of treatment was by my direction reversed; the rigid discontinuance of whatever might inordinately excite, was enjoined; folded cloths, moistened in cold spring water were ordered to be applied to the inflamed parts, comprising the membra genitalia externa and abdomen, and to be renewed every half-hour or oftener, if a sense of unusual or inflammatory heat should sooner return.—To co-operate with this refrigerating plan, the patient was directed to dilute plentifully with cold water, drank in small quantities, at short intervals, and to persist in it as long as it proved grateful, or was demanded by febrile heat and thirst. The intestines and urinary bladder were copiously evacuated by divided doses of an aqueous solution of vitriolated soda, repeated, as long as necessary, at short intervals.

Immediate alleviation was afforded by the combined external and internal use of cold water, but the morbid sensations of the patient warranted its unremitted application for twelve hours, when the swelling, tension, and pain were so much diminished, as to admit of lengthening the intervals of its renewal. The succeeding forty-eight hours were employed in furthering the cure, by adapting the force of the reduced temperature to the decreasing influence of morbid heat, and on the third day inclusive from the commencement of this plan of treatment, the patient had no other remains of inflammation, than slight soreness of the part affected when pressed, and a livid hue on the surface. The general health, which suffered only from sympathetic irritation, also returned to its natural standard, and neither local nor constitutional inconvenience has since been experienced.

The salutary effects of refrigeration in attempering and correcting morbid heat, and obviating its probably suppurative, and possibly gangrenous consequences, were in this case very apparent. Had it been applied in less force, or uncombined with plentiful internal dilution, it most likely would not have proved equally effectual.

Farther experience will, perhaps, evince, that no principle of curing diseases is better founded, than that of combating redundant heat with proportionate cold, or, more pathologically speaking, of retrieving, by transferring media, the vitiated processes of organic action, which generate an undue and destructive temperature: nor are there, perhaps, any medicinal agents so uniformly operative, and so commensurate with the object to be attained, as cold water.

The patient's sensations afford a good practical rule in the application of reduced

reduced temperature: when permanent chilliness is not induced, its operation can have no hurtful tendency, and *vice verſa*.

The converſe of the propoſition, with regard to cold being ſalutary in repreſſing morbid heat, holds with reſpect to heat being beneficial in diſeaſes of deficient temperature, ſuch as febrile chills, paralytic affections, &c. and it will be accordingly found, that water, at the temperature of 100 degrees of Fahrenheit's thermometer, internally and externally employed, will, in ſuitable circumſtances, prove the moſt efficient, durable, and congenial ſtimulant.

An Account of two Caſes of Lithotomy, where the wounds were healed by the firſt Intention. By GRIFFITH ROWLANDS, *Member of the Corporation of Surgeons, London, Surgeon to the Infirmary, and to the Lying-in Charity in Cheſter.*

JOHN GOLATHAN, aged four years and eight months, admitted into the Cheſter Infirmary on June the 5th, 1787, was cut for the ſtone on the eighth, and diſcharged cured, on the 19th of the ſame month.

The lips of the wound were brought together with ſlips of ſticking-plaſter and dreſſed with ceratum ſpermaceti ſpread on lint; a compreſs of linen (ſparingly moiſtened with ſpirits of wine *) was then applied, and retained with the T bandage. I took particular care in the application of the bandage, to make it ſupport the lip of the wound next the raphé. My patient was placed in bed on his *right ſide*, a ſlip of old linen tied round his knees to keep them together, and pinned to the ſheet, to prevent his turning on his back. He took eight drops of laudanum immediately after he was dreſſed, and very ſoon fell into a ſound ſleep; but this being my firſt attempt, after the operation of lithotomy, to deny the urine a paſſage through the wound, I was very watchful over him. I determined, if he did not paſs his urine through the penis in four hours, to remove the dreſſings; but at the end of three hours, he made water freely, and went to ſleep again, without diſturbing the wound. I did not dreſs him until the 12th, when

* In every case where it is my wish to unite wounds by the first intention, as after amputation, I always moisten the compress and external covering with spirit of wine or brandy, from which I have derived much advantage.

when I found the lips of the wound completely united, and on the 19th he quitted the Infirmary in perfect health.

On the 19th of September, 1795, I cut THOMAS SORTON, a child of three years of age, and took from him a ſtone weighing two drachms—he was treated in the ſame manner as Golathan, in regard to dreſſing and poſition in bed, and recovered without any interruption. He left the Infirmary in ſeventeen days from the operation.

Every experienced practitioner muſt be aware, that this plan can only anſwer in caſes where the ſtone is eaſily extracted, and where there is a certainty that no fragments are left behind. I think, likewiſe, that it is more likely to ſucceed in children than adults, from the proportionable ſmallneſs of the wound, &c. &c.

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

FROM the variety of new remedies lately introduced into the Medical World, and the conſequent inquiries into their reſpective efficacies, made by Profeſſors, I conceive that the ſucceſsful application of any one of them, (as on the other hand its failure) ſhould be communicated publicly and undiſguiſedly, by which means we ſhall be more certainly able to aſcertain the advantages likely to reſult from their adoption and adminiſtration. Impreſſed with this idea, I venture to trouble you with a caſe in which great benefit ſeems to have been derived from the uſe of the *hepatiſed ammonia*.

A young man with whom I am acquainted, had been, from his infancy, troubled with an incontinence of urine, the diſcharge of which he was not at any time able to ſuppreſs, particularly during night. The copious evacuation of this ſecretion neceſſarily cauſed a conſtant and conſiderable degree of debility, but I never noticed any ſymptoms of hectic. A diſeaſe ſo diſtreſſing and unpleaſant in itſelf, naturally induced his friends to ſeek every poſſible means of relief, by applying to ſeveral phyſicians of eminence, whoſe preſcriptions and advice, although exactly followed, produced no good effect; on the contrary, the malady continued to increaſe with his years. I had heard much promiſed from the introduction of the hepatiſed ammonia, and was tempted in this inſtance to eſſay its virtue. I previouſly examined the ſtate and appearance of the urine voided, and found it to poſſeſs both that peculiar ſmell and ſaccharine taſte, ſo commonly diſtinguiſhed in caſes of diabetes. On holding it to the light in a glaſs veſſel,

veſſel, it exhibited the appearance of a bluiſh-red colour, which rendered it ſomewhat cloudy and opaque; placed in any other ſituation, it appeared perfectly limpid. He began according to my directions, with taking three drops of the ſpecific, night and morning in a little water; this he gradually increaſed to twenty or twenty-five drops each doſe: I alſo deſired him to uſe animal, and abſtain from vegetable food, and ordered for his common drink ſome water of an alkaline quality. In this regimen he punctually perſiſted, till he obtained the intended benefit: from the commencement of this courſe, he gradually amended, the evacuations of his urine became leſs frequent, and at length not involuntary; by degrees it perceptibly loſt its unhealthy taſte, ſmell, and colour, and in ſhort, he is at this time entirely releaſed from his diſagreeable diſorder, and ſeems to acquire daily his uſual ſtrength and vigour.

Should this ſimple relation afford ſatisfaction to any of your numerous readers, I ſhall feel myſelf favoured by its inſertion in your very intereſting Miſcellany.

I am, Gentlemen,

With reſpect,

Your obedient ſervant,

O. W. B.

BRADFORD, WILTS,
Sept. 11, 1799.

To the Editors of the Medical and Phyſical Journal.

GENTLEMEN,

AS there are many practitioners in the daily habit of uſing the *aqua ammoniæ acetata* of the Diſpenſary, and who are much attached to its uſe as a febrifuge medicine, the powers of which are conſiderably increaſed, and its efficacy improved, by the following mode of preparing it, I truſt it will be found worthy of being inſerted in your very uſeful and valuable journal. I think it a duty incumbent upon me, to ſubmit it to the medical practitioners, aſſuring them that it has all the efficacy of the former medicine, in addition to new acquired properties, one of which is its being infinitely more pleaſant and agreeable to the taſte.

I am, Gentlemen, with great reſpect,

Your humble ſervant,

CHARLES LYNAM.

No. 48, ALDERMANBURY,
Auguſt 12, 1799.

A Cheap and expeditious way of faturating the Aq. Amm. Acet. with Carbonic Acid Gas.

Take a common ſtopper-bottle, the one which it is uſually kept in the ſhop, and fill it about two thirds with acetum diſtillatum; then weigh the requiſite proportion of ammonia, which break into lumps of a ſize ſufficient to be admitted into the bottle, and put them in directly one after another; as, if the ammonia is broke too ſmall, or put in too ſuddenly, it occaſions too quick an extrication of the gas, and a quantity of it is loſt. The ſtopper of the bottle muſt then be tied over with a piece of leather, and put in its uſual place; interpoſing a ſubſtance between the top of the bottle and the ſuperincumbent ſhelf, ſo as to fit tight, which conſiderably adds to the preſſure, and tends to combine more intimately the carbonic acid gas; after having ſtood a few hours, the ammonia is diſſolved, and the carbonic acid abſorbed by the liquor.

The aqua ammoniæ acetata, thus prepared, is very ſtrongly impregnated with carbonic acid gas; and is greatly deprived of that mawkiſh diſagreeable taſte which it has, when made in the uſual way.

With reſpect to the properties of the aq. ammon. acet. as a medicine, it is unneceſſary to particularize them, as they are ſo well known. The writer can, from experience, ſpeak of its ſuperior good effects as a febrifuge made as above, combined with carbonic acid gas, with this peculiar advantage, that it tends to keep the bowels open, even when under the influence of opiates.

It likewiſe ſits eaſy upon moſt weak and irritable ſtomachs, when ſcarcely any other medicine would be retained; and as ſuch might be uſed with propriety, in place of the ſaline draught, in a ſtate of effervescence.

Its uſe as an external application has been often tried, with marked good effect, made in this manner; and from analogy I conceive it might be adopted with great advantage in a variety of caſes, the application of which muſt be determined by the practitioners.

According to BERGMAN, ammonia contains $\frac{45}{100}$ of carbonic acid, $\frac{43}{100}$ of pure ammonia, $\frac{12}{100}$ of water, that is nearly half its weight of air; ſo that in a pint of the aq. ammon. acet. in which 4 drachms of ammonia is uſed, there are about 108 grains weight of air, which, according to its ſpecific gravity, will be equivalent to $159\frac{1}{10}$ cubic inches of carbonic acid, the greater part of which unites with the liquor; ſo that the materials made uſe of for one pint (without any expence) are capable of furniſhing more than four times their

their bulk of carbonic acid, a quantity equal to any good effect, where it may be deemed uſeful to the ſtomach and bowels.

The intimate knowledge the writer has of the beſt manner of making the nephritic alkaline waters, firſt ſuggeſted to him the idea of combining the carbonic acid extricated from the ammonia, with the liquor itſelf, conceiving that it might be applied to ſome uſeful purpoſe. The nephritic alkaline waters, of themſelves, are a ſufficient proof of the antiſeptic and good effects the carbonic acid has upon the animal economy; which waters, the writer has brought to the higheſt degree of perfection ever attained in this or any other country, by a machine, whoſe mechanical powers of preſſure and retention cannot be exceeded; in which ſtate he begs, through the medium of your valuable publication, to apprize the faculty, that the waters may be obtained, at his houſe in the city, with any proportion of alkali, as may be beſt ſuited to the peculiar circumſtances of a patient's caſe.

Artificial Seltzer water, and other medicated waters, prepared upon the ſame principle, which are infinitely ſuperior to the natural ones; containing more air, as well as a more ſelect quantity of ingredients. It is unneceſſary to particularize the virtues of the above waters, as no practitioner in medicine can be unacquainted with their high and valuable qualities.

Remarks on the Cure of Spaſmodic Aſthma.

[Concluded from our laſt Number, pp. 169, 170.]

IN ſpaſmodic aſthma, ariſing from tubercles of the lungs, a large bliſter applied to the ſhoulders gives eaſe to the breaſt, and promotes expectoration. After the paroxyſm, emetics are uſeful; ſometimes a purgative, conſiſting of manna, Glauber's ſalt, and ſoluble tartar, has ſpeedily terminated the fit. A more immediate, though only temporary relief, may be given to the patient by ſpirit of hartſhorn, eſſence of caſtoreum, or a ſolution of aſa fœtida in pennyroyal-water, of which, a table-ſpoonful muſt be given every five hours.

A more effectual method, however, ought to be adopted, in order to reſolve gradually the tubercles of the lungs, and the viſcid mucus ſecreted by the glands, which ſo frequently occaſions aſthmatic ſymptoms, and chronic dyſpnœa. If the uſual reſolvent ſalts ſhould not produce the deſired effect, a ſolution of the *muriat of barytes* muſt be adminiſtered in a proper vehicle. Indeed, pure water mixed with the eighth part of vinegar, and ſweetened

with

with honey or ſugar, has alſo proved beneficial in a paroxyſm of aſthma, if drank in ſufficient quantity; but for patients with whom acids do not agree, neither this acidulated water, nor the oxymel of ſquills are proper, but the volatile alkali and aſa fœtida are generally efficacious.

With a view to prevent the return of ſpaſmodic aſthma, a great variety of remedies have been preſcribed with ſucceſs, according to the different conſtitutions and circumſtances of patients: the principal of theſe are, the bark, the chalybeates, vitriolic elixir, country air, equitation, a flannel waiſtcoat worn next the ſkin, ſetons, and the long continued uſe of the common pilulæ ſcillæ.

Diſeaſes admitted as In and Out-Patients under the care of the Phyſicians of the Weſtminſter Hoſpital, from the 20th of Auguſt to the 20th of September.

Fevers	11	Gaſtrodynia	2
Scarlatina	1	Hooping Cough	2
Amenorrhœa	4	Hemoptoe	4
Anaſarca	5	Hypochondriaſis	1
Aſcites	2	Impetigo	1
Aſthenia	1	Itch	8
Aſthma	3	Jaundice	1
Catarrh	1	Phthiſis	2
Cholera	1	Prolapſus	1
Colic	1	Paralyſis	1
Cough	3	Pleuriſy	1
Cephalæa	4	Quinzey	1
Diarrhœa	5	Rheumatiſm	7
Dyſpepſia	2	Struma	3
Dyſentery	2	Urticaria	1
Dyſuria	1	Worms	5
Enterodynia	3	Vomiting	3

The fevers of this month have diſtinctly aſſumed the bilious character.

*** *The third Liſt of Diſeaſes will, if it be found, appear in the next Number; as it has either been miſlaid in the Printing-Office, or miſcarried by the Penny-poſt.*

Printed for R Phillips 71 St Paul's Church Yard.

MEDICAL AND PHYSICAL

INTELLIGENCE,

(Original and Selected.)

On the aromatic Wood of Aloe, with a Botanical Deſcription of the Excoecaria Agallocha, and the Aquilaria Ovata:— By Profeſſor WILDENOW, *of Berlin.*

[Illustrated by a coloured Plate.]

THE agallochum, which is known by the name of aloe-wood, or the aromatic aloe, is one of the moſt valuable ſpices imported from the Eaſt, and has been in high eſtimation, even in the earlieſt ages. According to the different ſpecies of the plant, it is called *lignum aloes*, *agallochi veri*, *aquilæ*, and *calambac*, all of which differ remarkably in their ſenſible properties. It is, however, very difficult to aſcertain the botanical character of theſe various ſpecies.

The aromatic wood of aloe is properly a reſin, which has pervaded the pores of the tree. The genuine ſort of this reſinous wood is as precious as gold, and is uſed only by the great and affluent in the Eaſt-Indies, China, and Japan, as an agreeable perfume, with which they fumigate houſes: hence it is but rarely imported into Europe. It is black, and variegated with grey veins, ſwims on water, and if ſtrongly rubbed on glaſs, leaves behind reſinous particles, which neither water, ſaliva, expreſſed oils, nor an alkaline lye, but ſpirit of wine only, will diſſolve and remove. Its odour is very grateful.

This ſubſtance has, in former times, been much uſed as a medicine, not only in biliary complaints, diſeaſes of the liver and ſtomach, and dyſentery, but likewiſe as a remedy for the maw-worm; but at preſent it is entirely neglected—a revolution to which ſeveral of the ancient remedies have been ſubject, and which is likely to take place with many of the modern.

Father DE LOUREIRO aſſures us, that he diſcovered, in the province of Conchin-China, the tree which affords the true aloe. This aromatic wood is found in reſinous maſſes, only in old, half-decayed, hollow trees. According to this writer, the tree belongs, in the ſyſtem of LINNÆUS, to the firſt diviſion of the tenth claſs, the Decandria Monogynia: he called it *Aloexylum Agallochum*. It grows on the higheſt mountains of Conchin-China, on the banks of the river Lav, which flows through the whole of that province. Loureiro had no opportunity of ſeeing the bloſſoms on the tree; he could only once obtain them dried, and tranſmitted by a friend, ſo that the parts of fructification were much bruiſed and lacerated on a long journey, and he could with difficulty give the following deſcription:—

ALOEXYLUM AGALLOCHUM,.

Differ. ſpec. Aloe. *foliis* lanceolatis, alternis: *pedunculis* polyfloris, terminalibus.

Hab.

Hab. *Arbor* magna: *trunco* et *ramis* erectis, altissimis: *cortice* cannabino, fusco, glabro, nec crasso.

Folia lanceolata, octo polyces longa, integerrima, plana, glabra, subcoriacea, alterna, petiolata. *Flos* terminalis, pedunculis polystheris.

Usus. Ligni hujus suffimenta inter omnia maximè æstimantur apud nationes Orientales. Ex arboris cortice fit vulgaris charta, in quâ Conchinchinenses scribunt, sicut in Japonia fit ex cortice Mori.

Virtus medica. Excitans, corroborans, cephalica, cardiaca. Suffitus valet contra vertiginem & paralysim. Pulvis cohibet vomitum et fluxus ventris, præcipuè Lientricos, quod non propriè astringendo, sed corroborando agit.

This tree is not of a poisonous nature, and yields no milky sap when perforated. With respect to the *genuine* wood of aloe, Loureiro maintains that the various species differ remarkably, both in colour and flavour. By some botanists, this aromatic wood has been confounded with the *Lignum Aquilæ*, which is likewise esteemed for its agreeable odour, and like the Agallochum verum, Calambac, and Garo de Malacca, affords different species of perfume. KAEMPFER and LAMARCK have given a particular description of the genuine aromatic aloe. CAVANILLES, an eminent botanical writer, calls the plant that produces this valuable drug,

AQUILARIA OVATA.

Character genericus.

Calyx turbinatus, coriaceus, semiquinquepartitus, laciniis ovato-acutis patulis persistentibus.

Corolla nulla.

Stamina: urceolus calyci imo adhærens, monophyllus, quinquepartitus, laciniis crassis tomentosis profunde bifidis, adeo ut decemfidus appareat. Ex singulis divisionibus totidem adsurgunt filamenta brevissima squamulis breviora: antheræ decem, oblongæ versatiles.

Germen in squamulorum centro et fundo calycis, ovatum, coronatum stigmate brevi simplici.

Fructus: capsula pyriformis, lignosa, bivalvis, bilocularis: dissepimentum bipartibile, innascens valvis medio septiferis: futuram ambiente membranula brevi.

Semina solitaria nigra corpore spongioso circumdata; alterum sæpe abortivum.

Habitat in Malacæ montibus. *

Differ. Spec. A. Foliis alternis, ovatis, mucronatis.

Garo de Malaca. *Lamarck. Encycl. Tom. I. p.* 49. *Tom. II. p.* 610.

Arbor, cujus rami constant ligno albicante-luteo, cortice griseo tecti: villosique tenerrimis summitatibus.

Folia alterna, petiolis sustentata brevibus pilosis, ovata, terminata mucrone, integra, glaberrima, uninervia, nervo ramoso, venisque subtilissimis.

Stipulæ nullæ.

Florum situs et numerus mihi ignotus.

Of this plant we have given our readers an accurate copy taken from the work here quoted: and it is remarkable, that Loureiro describes probably the same plant in his "*Flora Conchinchinensis*," under the name of *Ophispermum Chinense*: as it differs from the former only by a long filiform style, and a bipartite stigma. Perhaps this apparent difference arises from the

* Vid. *Cavanilles Dissertat.* VII. pag. 377. tab. 224.

the flower of the plant deſcribed by CAVANILLES, having been injured by being dried and compreſſed between paper. He has given no deſcription of the calyx, and is of opinion, that it does not exiſt. Profeſſor WILDENOW, however, ſuppoſes that the ſpecimen in queſtion is in this reſpect incomplete. The fruit is a compact, ligneous, oviform, compreſſed, two-celled capſule. Each cell contains a ſeed with a ſungous edge. According to LINNÆUS, this plant alſo belongs to the firſt order of the tenth claſs, the Decandria Monogynia.

SONNERAT and KAEMPFER aſſure us, that the genuine wood of aloe, which is ſo highly valued, is obtained from this tree; and it is nevertheleſs probable, that ſeveral trees afford that precious drug; for all writers on the ſubject obſerve, that the difference among them, both in ſcent and colour, is remarkably great. For the ſame reaſon, Profeſſor Wildenow is inclined to believe that the *Excoecaria Agallocha* of Linnæus, yields a ſimilar drug, which has been introduced into commerce, under the ſpecious name of aromatic aloe.—The reader will find a ſprig of this tree, with male flowers, on the annexed plate; and as the work of Linnæus is generally known, we ſhall, inſtead of tranſcribing his deſcription, tranſlate that given by Profeſſor Wildenow, in German.

"This tree (ſays he) grows wild in the Eaſt-Indies, and belongs to the third order of the twenty-ſecond claſs of Linnæus, the Dioecia Triandria, that is, the male and female flowers grow on diſtinct ſtems, and the male flowers have three filaments. The trunk of this tree is of a very conſiderable ſize. The bark on the ſmaller branches is of a light brown colour, ſmooth, and ſomewhat cracked. The leaves come out alternate, are petiolate, ovate, ſharp-pointed, entire, coriaceous, of a deep green colour, and gloſſy on the upper ſurface. The flowers are diſpoſed axillary, in ſeveral ſpikelets. The male flowers are green, and, in their growing ſtate, ſhort and columnar. The filaments are gradually developed, become progreſſively longer, and have yellow anthers. Linnæus aſſerts, that the male catkins are compoſed of mere filaments, three of which uniformly ſtand together. But on the male flowers (which only the Profeſſor had an opportunity of examining) he obſerved a roundiſh pointed ſcale, a ſmall corolla of two petals, and three anthers.

"The female flowers are green, arranged in catkins, and formed like the male flowers. The germ is round, and has three ſtyles. The fruit is a three-celled capſule. On cutting the tree, a quantity of milky ſap flows from the orifice of the wound, and, if it be brought in contact with the eye, occaſions blindneſs. In very old hollow ſtems, there is a reſin which has penetrated through the brittle wood, and is likewiſe known in commerce, by the name of lignum aloes.

"From this account we may conclude, that the beſt and moſt valuable wood of aloe is obtained from the Aloexylum Agallochum; next to that, one of an inferior quality from the Aquilaria Ovata, and the moſt indifferent kind, from the Excoecaria Agallocha.

EXPLANATION OF THE PLATE.

Excoecaria Agallocha: *a.* A branch of the natural ſize, with the catkins juſt opened.

b. A catkin in full bloſſom.

Aquilaria Ovata: a foliated branch.

a. b. Two flowers of the natural ſize.

c. The flowers repreſented full blown, but ſomewhat magnified, ſo as to diſplay the nectary, with the ſtamens, and the pedunculus.

d. The

d. The nectary magnified with the filaments.
e. A filament, with the anther much magnified.
f. The fruit, with the calyx of the natural ſize.
g. The ſame diſſected.

We are indebted to a Correſpondent whoſe paper is ſigned "PHILO," and is dated Auguſt 26, for the following communication, which, we preſume, will not be overlooked by our botanical readers:

The ſubject is the *Meſembryanthemum Pinnatifidum*. See "*Curtis's Botanical Magazine*," pl. 67. If that excellent botaniſt had not publiſhed his account of this plant ſo ſoon, when he had only ſeen a very young ſpecimen of it, he would probably have ſuperſeded what I have to ſay; for whatever was curious ſeldom eſcaped the obſervation of his penetrating eye. I am not ſufficiently acquainted with the genus Meſembryanthemum, to know to what degree the different ſpecies vary with regard to the form of the ſeed-veſſels, but I believe the difference is very conſiderable, as in ſome ſpecies they are five-celled, in ſome four, and in ſome ten-celled, correſponding with the number of ſtyles; but having had one of this ſpecies ſtand in my window for ſome months this ſummer, I have had frequent opportunities of obſerving it. The whole habit of the plant, and even ſimilar cryſtalline points all over the ſtalks, beſpeak at firſt ſight, it's near relationſhip to Meſembryanthemum cryſtallinum, or common ice-plant. Like this too, it is an annual, contrary to the generality of the genus. The young botaniſt, however, as yet unacquainted with the habits of plants, and their natural families, might be much puzzled to find it in his ſyſtem, as it has for the moſt part only five, ſometimes ſix ſtamens*. This circumſtance ſeems to ſhew the natural affinity between the genus craſſula and this. The petals are far leſs numerous than in moſt of the genus, generally ſixteen.

Mr. Curtis has obſerved, that if the weather be fine, the bloſſoms open about two or three o'clock in the afternoon, moſt of the ſpecies open ſooner, but in general not till about noon, whence the name, which ſignifies noon or mid-day flower. My plant ſtood in a bow-window fronting the Eaſt, and had the morning ſun full upon it till twelve o'clock, and no longer, yet it never opened till two o'clock in the afternoon, at which time it was not expoſed to the rays of the ſun; in its time of flowering, therefore, it appears to be influenced by ſome other cauſe than either heat or light, as are many other plants: ſee the Horologium Floræ, in Linnæus's *Philoſophia Botanica*. But the circumſtance which attracted my attention moſt, and indeed is the cauſe of my troubling you with theſe remarks was, the ſeed-veſſel. This affords a good inſtance of what I underſtand by capſula turbinata. Its flat top, or umbilicus, is neatly marked with five rays, diverging from a point in the center; as the capſule ripens it becomes ſomewhat diſhed, ſo that it will hold a little water, and the foot-ſtalk is bent up to hold it in a horizontal poſition. While the weather continues fine, the fruit dries, but does not open; but when the rain falls, a little water lodges in the diſhed top, ſoaks in, and now the five triangular valves, the points of which before met in the center, fly open, expand horizontally, and are even bent backwards, bringing with them an internal tranſparent membrane, neatly jagged at the edges, the whole having the appearance of a full blown flower, of which the outer valve forms the calyx, the inner membrane the corolla.

The

* It ſhould be remarked, that this, and all the obſervations, were made upon one individual.

The cells containing the ſeeds are thus in part laid open, expoſing them to be waſhed out by the rain and diſperſed; I ſay in part, becauſe they are not entirely uncovered, part of the inner membrane remaining attached to the diviſions of the cells (diſſepimenta), forming a five-radiated ſtar, by which the ſeeds are prevented from being all ſuddenly waſhed away. When the rain ceaſes, and the capſule becomes dry, the valves cloſe as before, and may be made to open at pleaſure, by dropping a little water into the diſhed top of the capſule as the water dries away, the valves cloſe again, and thus this ſemblance of a flower may be made to expand or ſhut up at pleaſure *. I made a little attempt to improve the ſpectacle by colouring the tranſparent membrane, to make it more nearly reſemble a corolla, but for want of proper materials, I ſucceeded very badly. Could the outer valves be ſtained green, and the inner membrane crimſon, yellow, or any other ſhewy colour, in ſuch a manner that the neceſſary wetting ſhould not make the colours run one into another, it would make an amuſing recreation.

Dr. SCHERER, of Jena, in a letter to VAN MONS, on the *chemical action of light*, obſerves that he inſerted in the ſeventh Number of his Journal, a Memoir of Count RUMFORD, in which that philoſopher expreſſes his doubts of light having the power to act chemically on bodies. Among the experiments he adduces to ſupport this opinion, the moſt remarkable is that in which charcoal has affected, in darkneſs, as complete a reduction of the ſolution of gold, as it would have undergone in the preſence of light.—"*Annales de Chimie*," No. 91.

Dr. SCHERER alſo communinates an account of an apparatus, by means of which bleaching may be executed with the oxygenated muriatic acid alone, as well as by the addition of ſoda. He proves that the ſolution of indigo is leſs diſcoloured, in proportion as the acid is more ſaturated with this alkali. *Ibid.*

On the preparation of the *muriat of barytes*, the ſame chemiſt remarks that he found the operation conſiderably ſhortened by uſing, what he calls, the native carbonat of England, or the *witherite*. By this means, not only the difficulty of ſeparating the barytes from the ſulphat of this earth is avoided, but the ſalt is prepared at half the ordinary expence.—*Ibid.*

Mr. SMITH has ſome time ſince communicated, in the European Magazine, a very curious hypotheſis reſpecting the production of ſulphur; while he maintains that it is collected in Dumfrieſhire, at Moffat, and Harrowgate, from a ſoil compoſed of the remains of plants and vegetable earth; and that, during the act of vegetation, by ſome unknown proceſs of nature, the ſulphuric acid is generated, which combines either directly with ſome of the vegetable ſubſtances, or with ſoda, in the ſame manner as the different animal acids are formed.

"It is probable (remarks Dr. Scherer) that during putrefaction, the oxygen of the ſulphuric acid is firſt volatilized by the carbon and hydrogen, as that effect takes place during combuſtion; with this difference, however, that in the latter operation the liberated ſulphur is re-oxygenated, while during the former it combines with the ammonia, and conſequently, when this combination diſunites, it alſo combines with the hydrogen gas.—*Ibid.*

M. FRIES,

* If put into warm water, the expanſion will be performed quicker.

M. Fries, of Rofingen, is preparing for the preſs, an Eſſay on the *Stœchiometry* of Richter, and alſo a continuation of his inquiry reſpecting the *application of mathematics to chemiſtry*. Theſe reſearches are of greater importance than may be at firſt conceived; and the doctrine of affinities, in particular, will derive much advantage from them; for, in chemical action, the affinity of bodies depends more on their compoſition and decompoſition, than on their occult qualities. The ſame idea has been formerly adopted by Kirwan, but this learned chemiſt did not know how to make an extenſive application of it, ſo that he failed in a great number of very delicate experiments.—*Ibid.*

M. Juch has informed Dr. Scherer, that he diſtinctly perceived the ſmell of *nitric acid* exhaled by the percuſſion of *ſugar*. He imagines that the atmoſpheric air, by becoming partly diſoxygenated, yields ſufficient portions of azote and oxygen, to form this acid.—*Ibid.*

M. Lentin, of Gœttingen, aſſerts that the *falling ſtar* is a new animal ſubſtance prepared in the ſtomach of ſome animal, where it acquires its gelatinous conſiſtence. He found in ſeveral ſpecimens of this ſubſtance the thighs and other parts of frogs: hence he concludes, that it may probably be the muſcular fibre of that animal. The whole appeared, at firſt, to diſſolve by diſtillation, and to form an aqueous, colourleſs liquid; but, towards the end of the experiment, there appeared a little empyreumatic oil, and a ſubſtance reſembling carbon remained in the retort. The ſtrained liquor had a very diſagreeable ſmell: it imparted to the turnſol a red colour, and he believed that this effect was produced by the zoonic acid. M. Lentin remarks, as a ſingular circumſtance, that this ſubſtance may remain for ſeveral months, expoſed to the combined action of moiſture and heat, without changing to a putrid ſtate.—*Ibid.*

M. Gaertner has lately communicated to Dr. Scherer ſome intereſting obſervations on the conſtituent parts of *urine*, and on the luminous property of *touchwood*. Theſe remarks are contained in the Chemical Journal edited by Scherer, but which is not yet come to hand.—*Ibid.*

M. Von Crell has lately announced in the laſt mentioned Journal, that *carbon* is the baſis of the *boracic acid*.—*Ibid.*

Domeſtic Intelligence.

It having been ſuggeſted to us, that a conciſe Account of the different Hoſpitals, Infirmaries, and other Medical Inſtitutions in Great Britain, would be acceptable to many of our Readers, and alſo tend to diffuſe the benefits of the Healing Art; in compliance with this ſuggeſtion, we requeſt our Correſpondents to furniſh us with ſuch accounts of theſe Eſtabliſhments, as may ſeem likely to anſwer uſeful Purpoſes. We ſubmit the following outline of the Particulars: an Account of the Origin or Foundation of the Inſtitution; a conciſe Hiſtory of its Progreſs to the preſent Time; a Deſcription of its preſent State, with reſpect to Direction, Medical Officers, number of Pupils, Patients, &c. annually admitted.

Dr. Bradley will recommence his Courſe of Lectures on the Theory and Practice of Phyſic, at the lecture-room, No. 102, Leadenhall-ſtreet, on Monday the 7th of October, at ſix o'clock in the afternoon.

Dr.

Dr. CRICHTON, of the Weſtminſter Hoſpital, will commence his uſual autumnal courſe of Lectures on the Theory and Practice of Phyſic, Chemiſtry, and Materia Medica, on Monday the 7th of October. Theſe lectures will hereafter be delivered at No. 15, Clifford Street, Bond-Street.

Dr. DENNISON and Dr. SQUIRE, Men-midwives to the Lying-in Charity for delivering poor women at their own habitations, will commence their Lectures on the Theory and Practice of Midwifery, and the Diſeaſes of Women and Children, in the firſt week of October, in the following order: Dr. Denniſon at the London Hoſpital, and Dr. Squire at No. 2, Little Cloiſters, under the Gate-way, Weſt-Smithfield. Theſe lectures will be continued through the year, and the day of beginning each courſe advertiſed in the public papers.

Gentlemen attending theſe lectures will find conſiderable advantages in real practical midwifery.

Dr. BATTY, of the Britiſh Lying-in Hoſpital, Brownlow-Street, and Phyſician to the Infant Aſylum, will begin a Courſe of Lectures on the Theory and Practice of Midwifery, and the Diſeaſes of women and children, on Monday, October 7, at his houſe in Great Marlborough-Street.

Mr. CRUIKSHANK and Mr. WILSON, will begin the winter courſe of their anatomical Lectures on Tueſday, October 1, at two o'clock, at their Anatomical Theatre, in Great Windmill-Street.

Mr. WILSON will begin his Lectures on the Principles and Practice of Surgery, on Monday, October the 7th, at ſeven o'clock in the evening, as uſual.

Mr. JOHN PEARSON, Surgeon of the Lock Hoſpital, Aſylum, and Public Diſpenſary, will commence his uſual courſe of Autumnal Lectures, on the Principles and Practice of Surgery, on Monday, October 7, at ſeven o'clock in the evening, at his houſe in Golden-Square.—Gentlemen who attend theſe Lectures, may have the advantage of exemplifying the general doctrines they ſhall hear delivered, by attending the Chirurgical Practice at the Diſpenſary.

Of the late Profeſſor GREN's "*Elements of Chemiſtry*," in two volumes, which we have already noticed in our fifth Number, p. 514, we can now confidently promiſe a faithful and claſſical tranſlation, from the joint efforts of two learned chemiſts, a German, and a native of this country. We have ſeen a ſpecimen of the firſt ſheets of this excellent Compendium, from the Engliſh preſs, and were informed that the work ſhall appear towards the end of the preſent year: the plates are engraving by that eminent artiſt, Mr. LOWRIE.

Dr. WILLICH and the Rev. P. WILL propoſe ſpeedily to publiſh a monthly work, entitled: *The Domeſtic Magazine and Review*—on a plan entirely new, and to be embelliſhed with plates. Particulars are ſtated in a Proſpectus, circulated by all bookſellers of reſpectability in the three kingdoms.

CRITICAL

CRITICAL RETROSPECT

OF

MEDICAL AND PHYSICAL LITERATURE.

[FOREIGN AND DOMESTIC.]

A Treatise on Febrile Diseases; including intermitting, remitting, and continued Fevers; eruptive Fevers, Inflammations, Hæmorrhagies, and the Profluvia: in which an Attempt is made to present at one View, whatever, in the present State of Medicine, it is requisite for the Physician to know respecting the Symptoms, Causes, and Cure of those Diseases. By A. P. WILSON, M. D. F. R. S. *Ed. Physician to the County Hospital, at Winchester, &c.* Vol. I. 8vo. pp. 729, *London.* Cadell and Davies.

THE author, in his Preface, gives the following account of his views in undertaking this work. "When I first turned my attention particularly "to febrile diseases, I had no view of undertaking so laborious a work as "that in which I am now engaged. For several years, I devoted the whole "of my time to the study of these complaints, in order to qualify myself "for reading lectures on them, which I did in the summer of 1796, at "Edinburgh.

"My reasons for making choice of febrile diseases for the subject of my "lectures were, that they form the most important branch of medicine, "and that which is least generally understood. The practice in most "other diseases is simple; but in febrile complaints the symptoms are "infinitely varied; minute circumstances often point out essential dif-"ferences in their nature, and consequently in the plan of treatment.

"A very infirm state of health has obliged me to abandon the plan of "continuing to give lectures, and I am inclined to think that I may render "the result of my studies useful to others, in another form.

"With regard to the extent of the work, as far as I can judge, five "volumes will comprehend the whole of my plan. In the second, and "part of the third volume, I shall finish the first part, that which treats of "idiopathic fevers; and the second part, which treats of the symptomatic, "will form the remainder of the third and the two last volumes. The pre-"sent volume, however, forming a treatise on *intermittent*, *remittent*, and "*continued fevers*, may be regarded as not essentially connected with the "volumes which are to follow."

This first volume commences with an *Introduction*, which contains the author's *Nosology* of febrile diseases, not materially differing from that of Dr. CULLEN, but more correct in several of the definitions.

The *first book* is devoted to the consideration of *intermitting* and *remitting fevers*. In the treatment or cure of these, he lays down the conduct proper to be pursued during the paroxysm, and during the apyrexia, or remission.

During the cold stage, he recommends *external* warmth and blisters, but not internal stimulants of any kind, unless emetics may be comprehended under that title.

In the hot stage, the indication is to produce a copious perspiration as soon as possible; which is effected by removing irritation, as that of bile in the stomach;

ſtomach; by diluents; by ſudorifics; by ſupporting the action of the heart and arteries; and laſtly, by moderating excitement. The means of fulfilling theſe are then explained, with an account of the modus operandi of the remedies.

During the apyrexia, the author gives directions relative to the diet and exerciſe, at conſiderable length; and then examines the ſeveral medicines and the beſt mode of adminiſtering them, viz. the barks, aromatics, Fowler's ſolution of arſenic, opium, mercury, &c.

The *ſecond book* treats of *continued fevers*, in which Dr. Wilſon conſiders the ſymptoms, cauſes, criſes, prognoſis, contagion, &c. and under the head of *Proximate Cauſe*, he examines Dr. CULLEN's hypotheſis. This hypotheſis, the invention of HOFFMAN, was ſlightly varied by Dr. Cullen, and has been ſo generally received by his pupils, that we apprehend our author will diſpleaſe ſome of theſe, by the ſlight notice he takes of it, and the little importance he aſſigns to it.

The Brunonian doctrine is explained at greater length; its defects and errors are pointed out; its merit candidly appreciated and commented upon; and ſeveral means of correcting and extending its application ſuggeſted: we believe, however, that many of BROWN's partizans will not agree with our author in ſeveral of his objections to that ſyſtem, nor in ſome of his propoſed improvements.

Under the head of treatment or *cure* of continued fever, Dr. Wilſon *firſt* conſiders the means of ſtopping a fever at its commencement, by inducing a *criſis*: and *ſecondly*, the treatment when we fail to induce a *criſis* at its commencement. On both theſe points, Dr. Wilſon has exhibited the practice of the beſt authors; and his regular reference to them, through his whole work, conſiderably enhances its value to the young ſtudent; to whom we warmly recommend it as the beſt ſyſtematic introduction and guide we have ſeen.

Lectures on Diet and Regimen: being a ſyſtematic inquiry into the moſt rational means of preſerving Health and prolonging Life; together with Phyſiological and Chemical Explanations, calculated chiefly for the uſe of families, in order to baniſh the prevailing abuſes and prejudices in Medicine. The ſecond Edition, improved and enlarged, with conſiderable additions. By A. F. M. WILLICH, M. D. 8vo. 708 pages. (Price Nine Shillings in boards, or half a Guinea on fine paper) *London.* Longman and Rees. 1799.

The tendency of this work is ſufficiently obvious from its title; and as it will not be expected that *we* ſhall here enter upon a critical examination of its merits or demerits, we truſt to diſcharge our duty to the unprejudiced reader, by giving a ſhort analyſis of its various contents, together with a few extracts.

In an "Advertiſement" prefixed to the firſt edition of theſe "*Lectures*," the author informs the public, that, with the exception of the eighth chapter "Of Evacuations," and the ninth "Of the Sexual Intercourſe," they were delivered in the months of January and February, 1798, at Bath, and in the ſubſequent ſpring at Briſtol, to numerous and reſpectable audiences. In the compoſition of this comprehenſive work, he acknowledges his obligations to many Engliſh and German writers, and adds the following exordium: "Should the rules and cautions interſperſed throughout, tend in the ſmalleſt degree to increaſe the knowledge of the inquiſitive, diſſuade the unwary from injurious habits, or reſcue the ſenſualiſt from the brink of deſtruction, the exertions of the author will be amply compenſated."

An

An "Analytical Table of Contents" is prefixed to the work, and an Alphabetical Index is added, to facilitate occasional reference.

In a general "Introduction," from page 25 to 98, the author explains the design of this publication; takes a cursory view of the general laws of Nature; and investigates the origin and causes of disease. The doctrine of temperaments he illustrates with some practical remarks of Professor SOEMMERING; from these we extract the following passages:

"There is," says that learned Professor, "a certain line observable in all the more perfect animals, by which Nature is regulated in performing the functions of body and mind; in preserving or impairing the health, and in exerting all those energies of life, on which the happiness of the creature depends. This line is various in different individuals, and the variety cannot be completely explained on the principle of the ancients, by a difference in the qualities of the blood alone; though a human body of a moderate size contain not less than thirty pounds weight of that fluid. Other terms must therefore be substituted for their sanguine, choleric, phlegmatic and melancholy temperaments," p. 40.—After having taken a more extensive view of the economy of man, and investigated the remedies suited to the causes productive of a particular disposition of mind and body, Professor Soemmering attempts to classify and fix the characteristic marks of the different temperaments.

"All the modifications of temperaments," says he, "appear to be varieties of the *sanguine* and *phlegmatic*.

1. The sanguine is variable. It is marked by a lively complexion; the vessels are full of blood; and persons of this habit are seldom able to bear great warmth; they are predisposed to inflammations, and possess a high degree of irritability and sensibility. All is voluptuous in this temperament. They are fickle in every thing they undertake; are affable, and soon become acquainted, but as soon forget their friends, and are suspicious of every body. Whatever requires industry they abhor, and hence they make little progress in science, till they advance in age.

"2. The sanguineo-choleric enjoys all the health and serenity of the sanguine, with all the perseverance of the choleric.

"3. In the choleric, the body is soft and flexible, without being dry and meagre, as in the melancholic; the skin has a tint of yellow; the hair is red, the eyes dark and moderately large, with a penetrating expression, and frequently a degree of wildness; the pulse full and quick; the muscular contractions in walking, speaking, &c. are rapid; the bile is copious and acrid, and hence the vermicular motion is active, and the body not liable to costiveness. Persons of this class are particularly fond of animal food. They possess great magnanimity, are fitted for laborious undertakings, and seem born to command.

"He whose temperament is hypochondriacal, is a burthen to himself and others. Persons of this class are subject to diseases of the liver, and hence have a sallow complexion. They are never content with their situation, and are a prey to envy and suspicion.

"The melancholic temperament is marked by a gloomy countenance, small, hollow blinking eyes; black hair; a rigid or tough skin, dry and meagre fibres. The pulse is weak and languid, the bile black, the vermicular motion slow. The perceptions of persons of this disposition are quick, they are fond of contemplation, and are slow in the execution of labour, which they patiently undertake; they bear with resolution the troubles of life; and, though not easily provoked, are nevertheless vindictive.

"The

"The bœotic, or ruſtic temperament, has many of the qualities of the ſanguine, in common with many of thoſe of the phlegmatic. The body is brawny, the muſcles have but little irritability, the nerves are dull, the manners rude, and the powers of apprehenſion weak.

"The gentle temperament is a combination of the ſanguine, choleric and phlegmatic. Univerſal benevolence is the diſtinguiſhing character of this claſs: their manners are ſoft and unruffled; they hate talkativeneſs; and if they apply to ſcience, their progreſs is great, as they are perſevering and contemplative. Laſtly,

"The phlegmatic claſs is marked by a ſoft white ſkin, prominent eyes, a weak pulſe, and languid gait. They ſpeak ſlowly, are little hurt by the injuries of the weather, and ſeem born to obey. From their little irritability, they are not eaſily provoked, and ſoon return to their natural ſtate of indifference and apathy." p. 47,

(To be continued in our next Number.)

Obſervations on the diſeaſed and contracted Urinary Bladder, and frequent painful Micturition; with ſome Cautions reſpecting the Uſe of the cauſtic Bougie, in the Treatment of Strictures in the Urethra; to which are added, Obſervations on the Schirro-contracted Rectum, &c. By JOHN SHERWEN, M. D. Member of the Corporation of Surgeons, (1s. 6d.) *London*, Johnſon. 1799.

The author juſtly obſerves, that the diſeaſed and contracted urinary bladder, in ſome of its features, nearly reſembles the ſcirrhous rectum, and like that produces a frequent and often fruitleſs ſtimulus to expulſion; and though, like the ſchirrous rectum, it does not admit of being cured, it will ſometimes admit of palliation.

After having given an accurate diagnoſis of this diſeaſe, and inveſtigated the prediſpoſing cauſes, Dr. Sherwen points out the pathognomonic ſymptoms, by which it may be diſtinguiſhed from *calculus*. He ſtrongly recommends the uſe of the cauſtic or armed bougie, and faithfully deſcribes the method of applying it with advantage.—His obſervations on the ſchirro-contracted rectum are pertinent and original: he illuſtrates them with the hiſtory of a fatal caſe, from which he draws the practical inference, that clyſters, cathartics, and diluents are hurtful in this diſeaſe, while relief might be obtained from mechanical means—catheters and bougies. Theſe, according to his directions, ought to be made of horn, or whalebone, ſmoothly poliſhed; as this ſubſtance, by immerſion in boiling water, becomes ſoft and pliant, and will retain its ſoftneſs ſome time after it is removed from the boiling water. It will adapt itſelf to the natural curvature of the pelvis, and ſhould be carried on to the obſtructed part ſlowly, gently, and ſteadily, with the utmoſt tenderneſs and circumſpection, but at the ſame time with ſufficient force and reſolution.

The "Poſtſcript" contains ſome uſeful hints, which we here communicate to our readers:

"Since the publication of the above paper," ſays Dr. SHERWEN, "I have been conſulted in ſeveral melancholy caſes of this diſeaſe, and have, in ſome inſtances, promoted a diſcharge of thin fæces, by the introduction of a rectum probe, made of poliſhed whalebone.

"In one unhappy caſe, that of the late Mr. HOARE, of Enfield, the purging had exiſted, and been managed with tolerable comfort, upwards of twenty years; but the gut became at laſt ſo much cloſed and diſeaſed, that

that the fæces made a passage into the bladder; and, during the last month of his life, not a drop was discharged except through the penis, from which it was almost constantly oozing, mixed with urine.

"There are symptoms connected with a diseased bladder and rectum, which have been often erroneously ascribed, by medical men of high reputation and real abilities, to an enlargement of the prostrate gland. It is therefore the duty of every practitioner, since that gland lies within the reach of his finger, to take the earliest opportunity of examining and ascertaining its condition. In those cases, which have fallen under my observation, I have most frequently found it in a state of extenuation."

NEW MEDICAL PUBLICATIONS IN SEPTEMBER.

The first volume of the Medical and Physical Journal, containing the earliest information on subjects of Medicine, Surgery, Pharmacy, Chemistry, and Natural Philosophy; together with a Critical Retrospect of all new books in these departments of literature. Conducted by T. Bradley, M. D. and A. F. M. Willich, M. D. 8vo. 10s. boards. *Phillips.*

A Treatise on Febrile Diseases, including intermitting and continued fevers, eruptive fevers, inflammations, hæmorrhages, and the profluvia. By A. P. Wilson, M. D. 8vo. 9s. boards. *Cadell* and *Davies.*

A Synopsis of the Chemical Characters, adapted to the new Nomenclature proposed by Messrs. de Morveau, Lavoisier, Berthollet, and De Fourcroy, &c. &c. By W. Jackson, *Practical Chemist.* On a whole sheet copper-plate. *Price* 2s. plain, and 2s. 6d. coloured. *Symonds.*

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Disquisitio botanico-medica Tremellæ Nostoch: cui accedit Tremellæ palmatæ descriptio. c. tab. aen. 4to. *Lipsiæ.* Barth.

Einschraenkungen, &c. Strictures on the latest Essays relative to Brown's Theory of Excitement: By F. W. C. Hunnius, M. D. 8vo. (16 grosch. or about 2s. 1d.) *Weimar* Gœdicke.

TO CORRESPONDENTS.

We have received two *communications relative to the discovery of musk and salt of hartshorn, in gangrene and sphacelus. As, however, this subject appears to us* nearly *exhausted, we are under the necessity of deferring them to a future Number, while we gratefully acknowledge the favours of our Correspondents.*

The following papers have also been received, and shall, if room permit, be inserted in the next Number: "*A favourable termination of an adhesion of the placenta after delivery.*"—"*Observations on one of the means by which the eye has been supposed to accommodate itself to the different distances of objects.*"—"*An Analysis of the Institutions of Practical Medicine, delivered in Lectures: By* J. B. Bursérius de Kanifeld, *&c.*"

The "*Questions*" *addressed to us by our obliging Correspondent from Kidderminster, we must decline to answer; as they do not appear to involve a proposition connected either with medicine, or its* "*useful*" *auxiliary branches.*

The anonymous letter from Stourbridge, addressed to Dr. W. was so complete a specimen of insanity, that it has been returned to the General Post Office, for the recovery of the postage; especially as the writer had the additional indiscretion to enclose it in a double *cover, and to direct it to the care of a respectable bookseller in town.*

A representation of the external organs of Generation in a Calf of unusual structure.

N.o 1.
Side View.

N.o 2.
Back View.