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To the Editors of the Medical and Physical Journal.

GENTLEMEN,

HAVING been employed by Mr. William Jardine, to construct several new invented Instruments of Surgery, and fortunate enough to have acquitted myself much to his satisfaction in their execution, he is desirous (as a testimony of approbation towards me, and from a conviction of the utility and importance of his productions) to present the designs and descriptions of them to the public; and has commissioned me not only to superintend the engraving of the plates, and arrangement of the descriptions, but to entreat that they may be favoured with a place in your extensive and most useful Publication. He has also favoured me with a Letter, which, in strict propriety on *my part*, should perhaps have been suppressed, but which he has expressly desired may accompany the insertion as a necessary and proper introduction. In complying with these his instructions and wishes, I have availed myself of the opportunity afforded, of introducing a representation of an improved method of constructing the seton needle, an alteration in the form of this instrument having become indispensable, when used with a tape prepared with a solution of the elastic gum, according to a late ingenious and elegant improvement: As the nature of this tape would not permit it to adapt itself in folding or doubling when passed through the eye of the needle, so compactly as the common skein, instead of the eye, I slit the steel for about three-quarters of an inch, in the flat direction of the needle, and adjust the two parts so as to form a kind of spring forceps, holding the tape with sufficient firmness to draw it through the flesh perfectly smoothly, and without the least obstruction.

In the hope that these Communications may be deemed worthy of appearing in your valuable Collection,

I am, &c.

JOHN SAVIGNY.

King Street, Nov. 13, 1802.

NUMB. XLVI.

TREPHINE AND TREVET.

In presenting the following inventions to the public, it is not improbable but the common objection against increasing the number of instruments, in any, but more especially the surgical art, will be incurred. This objection must, in a certain degree be admitted, where the last productions are not better than the first, or do not supersede their use. Experience alone must decide whether or not the designs now submitted will fall under this censurable description.

It has frequently, and with much reason been observed, that the principles of new invented or improved instruments (if at all complicated in their appearance) are only or at least best understood by the inventors or improvers themselves: To obviate this remark, it is much to be wished, that young surgeons were more generally instructed in the use and management of instruments, that by attention and *practical* application of them on dead subjects, or a variety of other appropriate substances, they might acquire that mechanical adroitness in their actual use, in which, it is to be lamented, they are so frequently deficient, and a more ready comprehension of the advantages of improvements in their construction, which it is acknowledged and *felt*, is so very difficult to convey by the best engraved representations or the most careful and studied descriptions. Apprentices in all mechanical professions are usually first accustomed to the structure and proper application of their tools, before they are allowed or expected to finish any of their respective works; why Gentlemen, intended for the noblest of all professions, should not be initiated with equal care in knowledge so far more important, has long been matter of astonishment and regret, since it may fairly be presumed, that if they were, or if their own natural talents were industriously exerted towards the attainment of this most essential branch of professional ability, the advantages to the science, and to mankind in general, would be as happy as incalculably great.

Description of an Apparatus attached to the Trephine, in the Operation of Trepaning, by which it is effectually prevented from slipping suddenly down upon the Brain.

In this contrivance, the circular cylindrical saw in common use is suspended by its shank (cut with a screw thread or worm of extremest fineness) screwed through the extremity of a lever, moveable by a pivot upon the superior part of a trevet, or triangular rest. This trevet is adjusted to any part of the head, and the saw it suspends, brought at the same time upon the portion to be perforated, by lengthening or shortening the legs or branches of the trevet, which, for these purposes, are furnished with screw threads, and pass through the upper frame or top.

In

In the same manner, by varying the length of either leg, the side of the saw is raised or depressed during the operation, as the inequality of the bone may require. The fine screw upon the shank is also of further use in placing the saw, with greater exactness, upon the part intended, and allowing it to enter as deep as necessary, while it prevents it, in its working, from passing too suddenly through the perforation, and thereby injuring the brain.

The screw upon the shank should be of so fine a thread, that though constantly turned, it should not pass faster through the lever than the saw does through the bone.

The thread of the screws upon the legs of the trevet should be coarse, in order to regulate its position or necessary variations with more celerity; and the legs should, in adjusting it, be placed as nearly as the condition of the part to be operated upon will admit, at equal distances from each other.

Before applying the saw, an impression should be made in the bone deep enough to confine the saw in its place while working; this may be most readily effected by the new instrument invented for that purpose, and represented by fig. 2. of the next plate.

In working the instrument, the operator with his left hand grasps the lever and one of the legs of the trevet together, and with his right, directs the handle of the saw; if the shank of which should appear to pass quicker through the lever than the teeth do through the bone, (an occurrence the operator will readily be sensible of by the irregular motion or unsteadiness of the lever) he must occasionally give the handle a slight turn in the opposite direction; but this is an inconvenience which from the fineness of the screw upon the shank, and the manner of holding the instrument in the left hand with proper management, will seldom or never occur.

It has been observed by a celebrated practitioner, (to whom this invention has been submitted) that "although it will, with much certainty, answer its design of protecting the brain from injury, by the trephine falling in too suddenly upon it; it will require a greater length of time in working, than either the trepan or trephine, and that any person, accustomed to operate either upon the dead or living body, may easily avoid the inconvenience which this instrument is intended to obviate, and that no surgeon ought to operate who has not had many opportunities of dissecting, and performing operations upon dead subjects."

Although, to practitioners of experience, such a guard may be unnecessary, if it but enable the timid and inexperienced operator to proceed in such a nice and hazardous operation with greater expedition and safety, than from a want of confidence

in his own dexterity he otherwise would, one very important end is gained by the improvement.

If no surgeons were allowed to perform this operation but those who have had such opportunities of dissecting, &c. what must become of the greatest part of mankind, liable to such accidents, who are obliged to take such assistance as they can get; for, comparatively speaking, very few surgeons indeed have had the opportunities mentioned, and yet amongst such, are found very clever men, who have performed the operation in question, very dexterously and very successfully.

The same trevet, with a little alteration or addition, may answer the purpose of a Levator, by substituting a second lever, with a coarser screw at its extremity; and instead of the trephine, another instrument to pass through it, in the same manner, with its inferior end properly constructed for the purpose. In this case, the handle of the instrument, in its use, must be turned the contrary way to *that* when the trephine is employed in making the perforation.

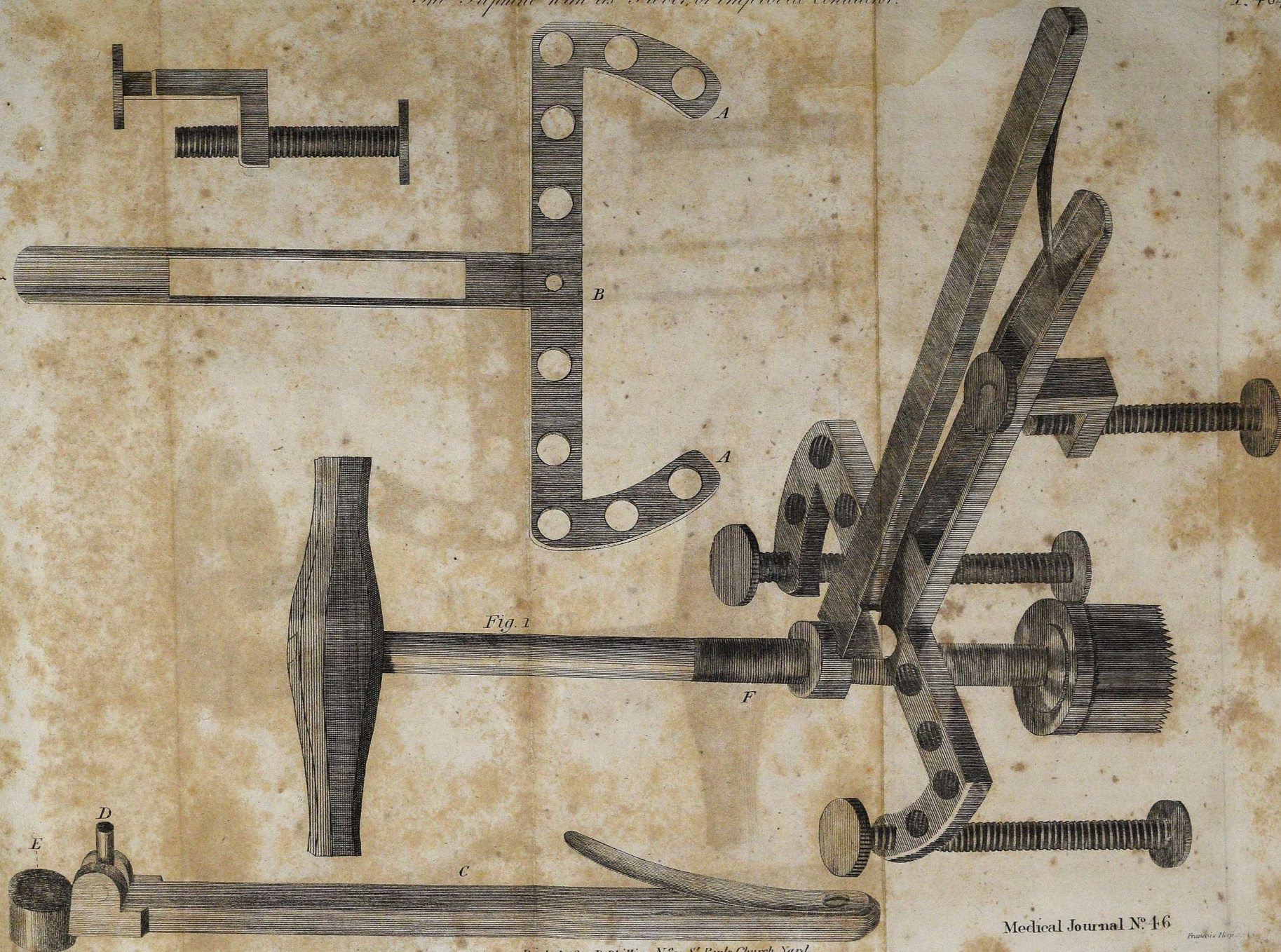
Fig. 1. Represents the trevet, with the saw suspended, ready to be applied to the part to be perforated. A. The top of the trevet, with its various holes for receiving the feet, and occasionally shifting them. B. The hole to receive the pivot of the lever. C. The lever separated from the trevet. D. The pivot which connects the lever to the top of the trevet. E. The hole in the end of the lever through which the saw passes. F. The fine screw upon the shank of the trephine.

IMPROVED LENTICULAR.

The Lenticular is an instrument, apparently better adapted to its intent, than experience can allow to be the case. Were the bones to be perforated of a softer nature than they are, it might probably succeed perfectly well; but to cut off all the pointed and unequal parts necessarily remaining after the perforation of so hard a substance as the cranium, under all the various circumstances of so delicate an operation, requires an instrument of a very different construction to the common lenticular.

The instrument hitherto employed for this purpose, requires more force, or at least more steady application, than can be exerted by the most expert operator in turning it, so as to remove with indispensable smoothness the pointed and hard splinters, so close to such a delicate and irritable membrane, while the fragments which the cup was intended to receive are, by the unavoidably unequal and unsteady motion of the hand, very liable to be thrown out of it.

The invention recommended as its substitute, is formed of two segments of a circle of about the same depth as the common saw, one of them with a cutting point, or angle, somewhat prominent. They are fixed upon the stem of a handle,
at



at such a distance from each other, that when compressed within a circle, they act with some degree of force against its internal edges.

It resembles, in some respects, the circular saw with two parts of its circle removed; the cup to receive the splinters is fixed upon the inferior extremity of the cutting part.

It is adjusted to circles of different diameters, by a spring connected with the cutting part. The skull being perforated, on gently pressing with the thumb and fingers of the hand that holds the instrument, the sides or segments, they are made to approach each other, and are thus introduced into the circle with the projecting part of the cup under the part of the bone, which the operator may think most proper; the depth of the opposing segment is made variable (by sliding it upon the stem of the handle) as the inequality of the part, or its contiguity to the brain, may require. The spring giving the segments a distending power, they consequently press against the interior part of the circle; the operator has therefore nothing more to attend to than to turn the instrument round, drawing the projecting cup gently up against the under part of the cranium, when, with one revolution, all the prominent and ragged parts are removed with smoothness and delicacy. On extracting the instrument, the same mode of pressing its sides or segments towards each other must be observed, as on its introduction.

Fig. 1. A View of the improved Lenticular. A. The segment with the cutting part somewhat prominent at B. C. The receiving cup. D. The projecting part of the cup. E. The sliding segment opposing the cutter, adjusted by the screw, F. G. The handle. H. The stem of the handle. I. A spring to regulate the diameter of the instrument. K. A milled head screw, by which the strength of the spring is increased or diminished.

IMPROVED RASPATORY.

Although in the operation of the trepan, many surgeons have now laid the raspatory aside as unnecessary, or ill calculated for its purpose, it may certainly be more easily and more expeditiously performed, when, before the application of the saw, the pericranium is removed; but it must be admitted very difficult to scrape off just so much of the membrane as is merely necessary for perforating the skull, without an instrument, with which we may describe a circle of equal diameter with the saw intended to be used. The raspatory in common use is by no means adapted to this end; either *more* of the bone will be denuded by it than is necessary, or the saw must be impeded in its progress by *too little* of the membrane being removed.

The designed instrument (fig. 2) will not only readily remove the portion of membrane necessary for the admission of the

the saw, but is attended with this further advantage, that it will make a circular impression of depth sufficient to confine it in its place, and of course, to retain it perfectly steady in the beginning of the perforation (a part of the operation I have sometimes seen attended with much difficulty) so as to supersede the necessity of the centre pin of the trephine; or should the operator wish in particular cases to perforate *part* of the circle only, to ascertain the thickness of the cranium, or any other desired information, he may, by this instrument, satisfy himself, without retarding the operation.

This invention has been proved, on trial, to make its way into the cranium much faster than the saw, and, for expedition, may be used conjointly with it, beginning the operation with the former, and concluding it with the latter.

The instrument nearly resembles a cooper's marking iron, and is constructed to form circles of different diameters, by means of an adjusting slide, to which the cutter or blade is fixed. The centre pin is formed as a screw nearly its whole length, and rises into the handle, as the cutter sinks into the bone, thus rendering the side of the circle more perpendicular than it otherwise would have been, and, in consequence, the saw more steady in its future progress. It is furnished with two blades, one scooped, the other plain. They succeed equally in perforating the bone, but are attended with this difference, the scooped blade, according to the original idea, cuts out the membrane, and sinks into the bone, while the plain one, though it cuts faster, cannot answer all the purposes of the raspatory.

Fig. 2. Represents the improved Raspatory. A. The handle. B. The centre screw. C. The adjusting slide, to adapt the instrument to circles of various diameters. D. The screw to fix the adjusting slide. E. The scooped blade fixed. F. The cutting blade. G. The screw for fixing or removing the cutter.

The method of adapting the instrument to saws of different diameters, and the addition of the plain cutter, are improvements by Mr. Savigny.

INSTRUMENT FOR EXTRACTING STUMPS. (Fig. 3.)

The gum having been properly separated, the operator, with his right hand, takes a firm hold of the handle of the instrument and presses down the point of the blade, (the serrated edge undermost) between the soundest side of the stump and the adjoining tooth, if he can there introduce the instrument.

The point being, in the opinion of the operator, sufficiently depressed, he then turns the serrated edge upwards, keeping it closely against the side of the stump, and describing in its action nearly a semicircle, sometimes obtaining a fulcrum from the adjoining tooth, if sound, by the pressure of the back of the instrument against it,

INSTRUMENT FOR ŒSOPHAGUS CASES.

As many sharp pointed substances, such as fish-bones, &c. apt to stick in the throat, cannot, without danger of wounding the œsophagus, be forced down into the stomach, an instrument is proposed for *extracting* such substances, which I presume will be found to answer its purpose better than any thing of the kind I have yet seen, and is so very easy in its application, that *any person*, with a moderate dexterity, to whom its principles have been once explained, need not hesitate, in a case of extremity or distress, to apply it. Hence, peculiarly serviceable, when in such accidents, medical assistance cannot be immediately obtained; and, when it is further considered, how very general is the danger and alarming its consequences, it may be deemed an act of humanity to recommend this valuable and truly useful little instrument, as a constant appendage to the sideboard of every private family.

It is made of five or six threads of catgut, nearly three inches long, twisted round a wire that passes through a flexible tube, and protrudes about two inches and a half beyond its extremity. One end of the twist is fixed to the end of the tube *a*, and the other somewhat tapered to *that* of the wire *b*.

In its contracted form, (fig. 4) it is to be introduced so far into the throat, that all the catgut may be supposed to have got beyond or below the bone or other substance to be extracted. The ring at the end of the handle *d*, and outside of the mouth, is then to be drawn upwards about an inch, by which the catgut threads are extended, as in fig. 5; and thus withdrawing the instrument, the bone, &c. will be extracted with it.

Fig. 4. Shews the instrument complete, and in the form in which it is to be introduced into the throat. A. The flexible tube. B. C. The twisted catgut. D. The ring at the end of the wire, on which the catgut threads are fixed.

Fig. 5. The instrument when introduced into the throat, with the threads extended under the substance to be extracted.

The above instrument, with Mr. Cruikshank's admirable contrivance for extracting pieces of money, &c. and the sponge probang, arranged in a compact case, are at all times to be met with at Savigny's.

Fig. 6. The improved seton needle.

Fig. 7. The same, with the tape of elastic gum attached.

Mr. JARDINE'S LETTER.

Sir,

London, 10th of May, 1802.

The liberal and disinterested manner in which you have assisted me, by executing the various instruments agreeable to

the enclosed designs, justly entitles you, as a tradesman, to what future benefits may be derived from the sale of others, formed from the same designs.

You have, therefore, my permission to make from the said designs, as many of the instruments as may be required, and also to publish, in any manner you may think most proper, the descriptions of the same, with which I have furnished you.

In the hope (for your sake) that the demands may be considerable,

I remain, Sir,

Your obliged and most obedient servant,

Mr. JOHN SAVIGNY,
King Street, Covent Garden.

W. JARDINE.

To Dr. BRADLEY.

DEAR SIR,

MY attention having been particularly engaged for many years past on the subject of mineral waters, which I have long considered as a fertile source of important remedies, I feel particular pleasure in availing myself of your respectable Journal to direct the attention of medical men on some improvements lately introduced into this country by Mr. Paul, of Geneva, in the imitation of mineral waters; improvements which he had introduced abroad for many years past, and which I should certainly have taken the opportunity of mentioning in the work which I published about two years ago on that subject, had they, at that time, reached my knowledge. And I feel the more inclined to take this kind of public notice of the ingenious labours of Mr. Paul, as this gentleman has, in the most liberal manner, divested himself of any kind of secret or mystery, with regard to all physicians, or other competent persons, who have desired to become acquainted with his inventions and processes, and as I am one of those to whom he has communicated, without any reserve, all that could interest me in those respects.

Mr. Paul, on his first introduction in this country, has laid before the public the translation of a Report made in the year 1799, to the Institute of France, by some of the most distinguished chemists in that country, on his manufacture of artificial mineral waters at Paris. These gentlemen have considered the establishment in question not only as an object of medical and scientific

scientific inquiry, but also as a kind of public concern, and an undertaking which ought be encouraged, from the national advantages which it is likely to produce.* This report, which is accompanied by the most favourable certificates from the Faculty of Geneva, and that of Paris, bestows the greatest praise on Mr. Paul, both as a mechanic and chemist, and renders to his establishment the most authentic justice. I do not by any means propose following here the Institute of France in their circumstantial examination of Mr. Paul's pneumatic laboratory, and of the mechanical part of his operations. All that I would say in this respect is, that the whole of his laboratory, and especially his method of impregnating water with gas, have appeared to me singularly well contrived and executed, and have entirely corresponded with the impression which I had received from the reports above mentioned.

In my Treatise on Mineral Waters, I have pretty fully stated the opinion which I have formed on the utility of that class of remedies, and have offered also some conjectures on the mode of their operation. I have attempted to show, that the remarkable effects which are obtained from certain substances, taken in that diluted form, rather than in a solid shape, as also the apparent disproportion between the minute quantities in which these substances are taken, and their powerful effects on the animal economy, ought to be attributed partly to their state of extreme division, partly to the effect of the aqueous vehicle itself, and that those effects are, in certain cases, powerfully assisted by an increase of temperature.

As to the gaseous waters, and particularly those that are strongly impregnated with carbonic acid gas, of which Seltzer water is a striking instance, I shall not repeat here the opinions which I have advanced in the same work, on the medicinal use of those waters.† Every body, I believe, is now ready to admit, that in most dyspeptic complaints, the portion of gas which escapes from the liquid immediately on its reaching the stomach, and is thus applied to that organ in a gaseous form, produces, at least, very grateful palliative effects; and as it is generally acknowledged, that the‡ portion of gaseous acid, which enters the circulation along with its aqueous vehicle, gradually produces on the animal economy other more important, though less immediate effects. The universal repute which this class of waters has gradually acquired in Europe, both as affording a pleasant

* See the Reports, &c. † Treatise on Mineral Waters, p. 232.

‡ Treatise on Mineral Waters, p. 460.

pleasant beverage, and an efficient medicine, and the encouragement which has been given in this and other countries to the artificial preparation of those waters, are, of themselves, strong proof of their beneficial effects; and I feel the greater satisfaction in seeing their utility every day more generally acknowledged, as I was the first who recommended them, at an early period of my medical practice, to the attention of professional men, for the relief of some of the most distressing disorders.*

I have stated at full length in the Treatise, to which I beg leave once more to refer, my opinions on the imitation of mineral springs, and my notions respecting the advantages and disadvantages that may be expected from mineral waters artificially prepared. Mr. Paul has not only distinguished himself by his improvements in the imitation of the natural gaseous springs, but he has also introduced to notice, other gaseous medicinal waters, which are not met with in Nature, and appear to be compositions altogether new and artificial.

Previous to the late improvements in the imitation of mineral waters, this art had for many years been carried to a considerable degree of perfection, by the labours of several natural philosophers, and particularly by those of the illustrious Bergmann. Assisted by accurate analysis, chemists had long since imitated various natural springs, and had even succeeded in impregnating, in some degree, these artificial waters with their gaseous contents, a difficulty which had long appeared unmountable. But Mr. Paul, by long continued labour and experience, and assisted by a careful study of natural philosophy, and of mechanical science, decidedly appears to have arrived at a more perfect imitation of natural springs, than any former chemists; he has, besides, usefully varied and combined these imitations, and has even succeeded in presenting, under a liquid form, certain gaseous substances which Nature never affords in that shape, and which several respectable medical men have already recommended as valuable acquisitions.†

In regard to the natural gaseous waters, and particularly that of Seltzer, Mr. Paul has not only carried their artificial composition, in point of energy and strength, much beyond Nature itself, but he has also introduced a new method of preparing what he calls the *mild* Seltzer water, which has been considered abroad as a real and important improvement. Every one knows the common method of obtaining carbonic acid gas for the purpose of impregnation, which consists on pouring sulphuric acid
on

* See a Letter to Dr. Percival in his Medical Essays.

† Reports to the Institute.

on chalk, marble, or any other sort of carbonated lime. This method Mr. Paul employs, for the preparation of his strong Seltzer water. But it has been observed, (and the remark, I believe, has occurred abroad much more frequently than in this country), that those waters, when prepared in that degree of strength that renders them so agreeable to the stomach, are apt to produce in hectic patients and in certain constitutions extremely irritable, too stimulating effects. These effects, which are not so obvious in the natural gaseous waters, have been supposed to depend on some particles of the vitriolic acid being dissolved in the gas and carried along with it into the water. In order to obviate this inconvenience, Mr. Paul has had recourse to the method of disengaging his gas from chalk by heat alone, and he has found that water prepared with this gas, in the same degree of impregnation, was milder in its effects, and entirely free from those irritating qualities. This idea has had the fullest approbation of the National Institute, and of the Medical Society of Paris. I have had the opportunity of tasting water prepared by that method, and it appeared to me rather less agreeable to the palate than the strong sort, although perhaps not less resembling the natural spring. With regard to its medicinal qualities, I have not had yet any opportunity of ascertaining them by experience, and this new kind of water has scarcely yet, I believe, been tried in this country. But admitting it to possess those advantages in particular cases, that the French chemists and the Faculties of Paris and Geneva have ascribed to it, I believe its use will be found much less general than that of the strong sort, particularly in this island, where such extremely irritable habits are far less common, and where a decided preference is likely to be given to the most agreeable and stimulating kind.

The Sedlitz water is another sort of artificial mineral water introduced by Mr. Paul in this country. It is another instance in which Art has considerably improved the process of Nature. This water consists of vitriolated magnesia, in the proportion of two drachms or even half an ounce to the pint, and is so powerfully impregnated with carbonic acid, as to render the bitterness of the salt scarcely discoverable. Of this water I have already some experience, having for some time been in the habit of prescribing it as a very pleasant aperient medicine. The Sedlitz water has also been tried with success, in conjunction with a chalybeate, and is likely to prove in this way, a very useful tonic purgative, and peculiarly well adapted to diseases of the liver, such as occur both in Europe and in warmer climates, especially under habitual costiveness, and the diminished

ed secretion of bile; the proportion of the magnesia vitriolata may be varied at pleasure.

I have occasionally met with patients who found this water rather more strongly impregnated with gas than they could easily bear; but this can at all times be remedied, simply by suffering the water to stand in the glass for a few moments before drinking it.

The gaseous alkaline water, commonly called soda water, has long been used in this country to a considerable extent, and has, for many years past, been prepared in England with great success. Mr. Paul is fully as happy in this as in other preparations; and he has introduced also the gaseous pot-ash waters, to which, in certain cases, some practitioners give the preference. These alkaline waters are more extensively used than any other kind of mineral waters, and are certainly, from the large portion of alkali they contain, of great importance in the treatment of several disorders. But I cannot help thinking, that a great number of persons who drink soda water, without any medical interference, and merely on account of the pleasant effect of the gaseous acid on the stomach, would probably find the Seltzer water more grateful than the soda water, in which the acrid alkaline taste is more or less prevalent, and which may frequently owe the preference which is given to it, to the name having become more familiar.

With respect to the oxygenated water, and the other kinds of gaseous waters, which are altogether artificial compositions peculiar to Mr. Paul, I cannot say I have yet had any opportunity of examining their medicinal effects. But it appears to me, from the authentic Reports of the Faculties of Paris and Geneva, that some of them, and the oxygenated water in particular, are not unlikely to become useful medicines, and that if any advantage in certain cases may be expected from *oxygenating* the system, an opinion which several medical men of character have lately entertained, this would appear to be a much safer and more rational mode of oxygenation than the means proposed.

I shall only farther mention another improvement introduced by Mr. Paul, which is that of using for his mineral waters, glass bottles, instead of the earthen bottles which have hitherto been generally used for that purpose. It is certain that the latter, from their porous texture, and from their being imperfectly glazed, suffer a quantity of gas to escape, and even sometimes of the liquid itself; whilst, by means of glass bottles, and with the indispensable precaution of laying them on their sides, mineral waters can be preserved for any length of time, with-

out any loss of their gaseous contents; and experience has shown that they can be conveyed, unaltered, to any distance whatever.

New Broad Street,

Nov. 5, 1802.

I am, &c.

W. SAUNDERS.

Cases admitted under the Care of the Surgeon of the Finsbury Dispensary, St. John's Square, Clerkenwell, from October 10, to November 10, 1802.

Phlegmone Testis - - -	1	Contusiones - - -	2
Mastodynia - - -	3	Lues - - -	3
Paronychia - - -	3	Gonorrhœa Impura - - -	2
Pernio - - -	1	----- Mucosa - - -	1
Sarulis - - -	1	Vacciola - - -	6
Abscessus Genu - - -	1	Schirrus Mammæ - - -	1
----- Maxilla - - -	1	Hydarthrus Genu† - - -	1
----- Scrophulofi - - -	7	----- Ischû - - -	1
Sphacelus Faciei - - -	1	Hydrocele - - -	1
----- Dorsi - - -	1	Hernia - - -	1
Ulcera Artuum - - -	7	Spina Incurvata - - -	1
Rhagas Mamillæ - - -	1	Prolapsus Ani - - -	1
Fistula in Perinæo - - -	1	----- Uteri - - -	1
Leucoma - - -	1	Dysœcæa - - -	1
Combusturæ - - -	4	Varix - - -	1
Fracturæ Costarum - - -	2	Tinea - - -	1
Spasma Cubiti* - - -	1	Eruptiones Chronicæ - - -	3
Paralysis Traumatica - - -	1		
Vulnus Artus - - -	1		
		Total	67

* The injury which we usually denominate, in common language, a sprain, does not seem to have been distinguished as of a peculiar nature, by any Nosologist, except Vogel, who intends, if I understand him right, to express this accident by the term *spasma*, Gen. 479, "*Species solutionis continui tendinum, vel ligamentorum CITRA RUPTURAM, membri mobilitatem dolorificam inducens.*" Other Nosologists do not make any distinction between sprain and rupture, as under the genus *Ruptura*, both varieties of the accident seem to be defined; thus Sauvage defines *Ruptura*, "*Tendinum, &c. &c. Solutio, vel VEHEMENS DISTRACTIO;*" while Vogel, as above, seems to distinguish them, as appears to me with propriety, "*Citra Rupturam.*" For although in sprains some fibres may be in many instances torn asunder, yet I should prefer applying the word *Ruptura* to those accidents which are evidently attended with rupture of tendons, &c. and *Spasma* to those which are not evidently so connected, and which we usually term Sprains. In the nosological arrangement of chirurgical diseases, by Mr. H. Monro, the author has classed this accident in the same species with "*Contusio.*"

† Cullen has called the disease, *White Swelling*, *Hydarthrus*; which however, does not appear to express the real nature of the disease, as *Hydarthrus* would seem to imply a dropical accumulation in a joint, which is not the case in

The case which I have denominated Paralysis Traumatica, happened in a young woman, nineteen years of age. About the beginning of October, she cut the extremity of the little finger nearly off; which wound, however, produced at first no uncommon symptoms, and healed very readily; a fortnight after the accident, the pain in the finger increased, extended along the arm, and an absorbent gland at the elbow became enlarged and very painful; about a week from the commencement of this enlargement, she found suddenly, that she was deprived of sensation in the whole arm, from the shoulder downward, and likewise the power of voluntary motion.

A week after this time (Nov. 3) she became a patient at the Dispensary; at which time the paralysis of the arm continued very complete, there being a perfect abolition of both sensation and voluntary motion, except that when some powerful electric shocks were passed through the arm, they were slightly felt; her pulse was equal in both wrists, and of a natural degree of fullness and velocity; the paralytic arm was colder than the other; she complained of some pain in the head, and her bowels were constipated.

After passing some electrical shocks through the arm, and likewise subjecting it to the electric friction, I directed a blister to the fore part of the arm, and that the remaining surface should be rubbed with mustard, with a cathartic internally.

Nov. 6, No alteration with respect to the paralysis, but the pain in the head increased. Applic. emplastrum cantharid. ad nuch. Calomel, gr. ij. omni nocte. Haust. cath. omni mane. Continue the electricity and friction.

Nov. 8, A slight degree of sensation in the arm, but no voluntary power; directed the calomel every night, and the cathartic medicine every morning, to be continued, and that she should take, likewise, twice a day, tinct. guaiac. ammon. ℥ss.

Nov. 10, This morning the perfect sensation and power of voluntary motion returned as suddenly as they had left her; the enlargement of the lymphatic gland has disappeared several days; there now remains an aching pain in the arm. I recommended a continuance of ℥ij. of tinct. guaiac. bis die.

Whether this very sudden attack could be attributed in any measure to the wound of the finger I very much doubt; as it is a circumstance not easy to be accounted for, how an injury, or
division

in the true White Swelling; I have however retained the name from his authority, and have given the same appellation (*Hydarthrus Ichi*) to that disease of the hip which is usually known by the very indefinite term the *Hip-Case*, as it appears to be of the same nature as the Scrophulous White Swelling of the Knee,

division of the extremity of a remote branch of a nerve could deprive the trunk of that nerve of its natural functions; in fact, not one trunk alone, but the whole of the nerves emanating from the axillary plexus. We have heard of locked jaw, and other convulsive motions produced by slight wounds of the extremities, but never, as I recollect, of a complete paralysis; and although there was inflammation of an absorbent, as was evident from the swelling of the lymphatic gland, yet I think the paralysis of the arm must be attributed to other causes.

A case of tumour of the throat was admitted a few weeks since, which was attended by some peculiar circumstances; the disease existed in the person of a young woman, and had every appearance of bronchocele, being a swelling of a diffused nature, rather soft, and colourless; had appeared very gradually, and occupied the situation of the thyroid gland, confining itself principally to the right side; it was unattended by pain, but was so large as to cause considerable uneasiness and difficulty in swallowing from the pressure communicated to the œsophagus. I at first directed the free internal administration of spong. ust. and applied externally cloths kept constantly moist in a solution of ammon. mur. in vinegar. Under this treatment for several weeks, no alteration with respect to the size of the tumour had occurred. After this time I perceived that one particular part became more prominent than the rest; not in the centre of the tumour, but nearly at the circumference, and over the centre of the throat. This portion continued to project till it had formed a kind of mamillary process, very different from the usual regular elevation of an abscess. This projection soon became inflamed, and after a few days appeared to contain matter, when I opened it, and discharged some, which did not much reduce the size of the principal swelling. The opening, after the first day, discharged much serous fluid, nearly limpid, but very little pus, and gradually the tumour began to subside. As the wound seemed to have great propensity to heal, I introduced a pea daily, to promote and accelerate the discharge; after the continuance of which treatment about a fortnight, as the tumour had totally subsided, I suffered the small aperture to close.

This case appears to me to point out the good effects which are likely to ensue from the establishment of a drain in cases of Bronchocele, as by the passing of a seton through the gland, which offers a very reasonable probability of success; this has been performed in several cases, but with what result I am not acquainted. The disease is one of those which frequently continue uncured from the great length of time generally necessary to produce any change; the spong. ust. has often been found very successful, and would no doubt prove so much more frequently

quently, but that persons have seldom patience and resolution to continue its use for a sufficient length of time. Any mean, therefore, which would afford a cure in a short space of time, comparatively, would be particularly valuable, especially in those countries where the disease is endemial.

68, Hatton Street.

J. RICARDS.

*Account of Diseases in an Eastern District of London,
From October 20 to November 20, 1802.*

ACUTE DISEASES.		Ophthalmia		3
Typhus Mitior	4	Paralysis	1	
Peripneumonia	3	Chlorosis	7	
Dysenteria	4	Amenorrhœa	9	
Variola	3	Gastrodynia	4	
Rheumatismus Acutus	2	Diarrhœa	3	
Scarlatina Anginosa	3	Hæmorrhœis	2	
CHRONIC DISEASES.		Fluor Albus	6	
Dyspnœa	12	Dysuria	2	
Tussis	14	PUERPERAL DISEASES.		
Phthisis Pulmonalis	3	Menorrhagia Lochialis	4	
Pleurodyne	2	Mastodynia	2	
Hydrothorax	5	Dolores post Partum	5	
Ascites	2	INFANTILE DISEASES.		
Anasarca	4	Ophthalmia	3	
Cephalalgia	6	Aphthæ	5	
Vertigo	2	Tinea Capitis	4	

Numerous instances of *Scarlatina Anginosa* have occurred. This disease is not uncommon at this season of the year, and is frequently attended with more alarming symptoms than in the earlier months.

Chilliness and shiverings, the usual precursors of fever, introduce the other symptoms of this disease. At an early period there is a sense of fulness and uneasiness about the throat. Deglutition is generally more difficult and painful than in the *Cynanche Maligna*, a disease which, in many of its symptoms, bears a near resemblance to the present. A scarlet eruption is observed upon the skin, which in a few days disappears, and where the disease is mild the fever usually subsides at the same time.

One of the patients referred to in the list, was a child about four years old, to whom the disease proved fatal. In this case, towards the close it assumed much of the appearance of the *Cynanche Maligna*. The fauces were covered with dark coloured sloughs; there was a considerable discharge through the nose, of a dark and offensive matter, and the respiration became so laborious that the patient seemed to die of suffocation.

History

History of a Girl with an extraordinary Conformation of the Heart, with Observations on Animal Heat, illustrative of the Case; by MARTIN TUPPER, of Exeter College, Oxford.

MARIA BAILEY, ætat. 13, was rather stout of her age, and of middling stature, had a scrophulous aspect, a thin cuticle, and light brown hair; she appeared perfectly well nourished, but her whole skin was always more or less of a bluish purple colour, more particularly the face, lips, and extremities of the fingers.

She was born at the full period, when it was observed by the parents that her skin was not so red as it is usually at that time. She was unusually quiet for the first fortnight of her life, but soon afterwards, and without any evident cause, she became troubled with almost incessant fits of crying, during which the expirations were so long continued and violent that they frequently threatened suffocation, and induced a very great degree of blackness in the countenance; the succeeding inspirations were always very difficultly performed, and were accompanied by a stridulous sound. These distressing symptoms continued very violent for the space of five months. She was always worse in the night time, or when she laid in a recumbent position; she often dozed in the day, but her sleep was much disturbed by sighs and efforts to cry, and it scarcely ever was complete.

At the age of five months she was put under the management of a nurse in a very airy situation at Clapham, where she remained a year and a half, during which the crying fits still continued very frequent and violent.

At two years old, (having been weaned about four months) she was sent home; the crying had at that time in some degree diminished, but a cough had begun to disturb her; and it was observed, as a circumstance which had not been before noticed, that the blue colour remained in the intermission of the fits.

At the age of eighteen months, (the period when she began to walk) it was observed that a great difficulty of breathing took place during, and remained some time after, any exertion.

Soon after this, the parents saw with concern that she could not run and play with other children without being threatened by suffocation.

At seven years of age the patient returned to London. Her body was throughout of a purplish colour, but more particularly her lips, face, and arms. Her respiration continued to be

very much affected, and the heart disturbed in its actions, by the least exertions. She was always very chilly, and generally fought the fire even on the hottest summer's day. Her appetite was good, and the urine and stools perfectly natural. Her sleep was tolerable, provided her head was well propped up, but it was accompanied by a rattling noise in the throat. She always laid on the back, with her head thrown much backwards, and her mouth open. She often started while asleep, and very often (her head having either slipped too low, or having deviated from the position just mentioned) the rattling in the throat became excessive, when she started up in great fright, much swollen in the countenance, and threatened by suffocation.

She never perspired under any degree of exercise. She always felt herself cold during and some time after any exertion, although increased frequency of pulse and of respiration were always the consequence. When she walked in cold weather, she did not hasten her pace to increase the temperature on the surface, but, on the contrary, was in the habit of standing still for a while to produce that effect.

Having continued in this state (though rather getting worse and worse every winter) till the autumn of 1799, the difficulty of breathing, cough and startings during sleep became excessive. The actions of the heart were frequently much disturbed, and the difficulty of breathing was proportioned to their violence. She was in some degree relieved of these symptoms by blisters, &c. From this period till November, 1800, she continued nearly in the same state, when she was admitted an out-patient at Guy's Hospital. Dr. Babington observed, that her various symptoms, together with her general appearance, arose from some singular conformation of the heart, which no medicine could possibly remedy; he however prescribed a blister for the scrobiculus cordis, and the *infus. rosæ. c. magnes. vitr.* to remove a costiveness which she then laboured under. When the temperature of the surrounding medium was at 42° of Fahrenheit, I measured her animal heat; the mercury under her tongue then stood up to 96° ; her pulse beat 82 in a minute, and was rather small and quick; her respiration was rather uneasy; her face, lips, and fingers, and her whole body were as usual of a purplish hue. Half an hour afterwards I repeated the experiment with the same result. I lament that I had no opportunity to make further observations upon this curious subject.

The patient continued much the same till February 18, 1801, when she gradually became unusually heavy and sleepy. Two or three days after this, she got out of bed in the middle of the night, to alleviate an inordinate thirst, by which she had been troubled

troubled some days; and at about six o'clock the following morning she expired, without the least struggle or sign of suffocation.

She had never been susceptible of fear, and was very little affected by the passions of the mind. Whether the atmosphere was warm or cold, damp or dry, she always felt equally chilly. She was not more partial to animal than to vegetable food, or the contrary. Her appetite, urine, and stools, were perfectly natural. She had never menstruated.

APPEARANCES ON DISSECTION.

The lungs were very small, and receded very far back, so as to appear puckered up towards the spine. There was rather more serum collected in the right side of the pleura than usual.

Upon opening the pericardium, the heart appeared natural, and together with its vessels was perfectly in situ.

The liquor pericardii was natural and in due quantity.

The liver was rather larger than natural.

The spleen was rather small, though not more so than it is sometimes met with.

The alimentary canal was perfectly found, except the great arch of the colon, which was præternaturally contracted.

The cellular membrane was œdematous.

The muscles were as florid as they generally are.

Nothing was to be observed with respect to the capacity of the auricles or ventricles; but, upon examining the former, the foramen ovale appeared in the same state as it is in the foetus. There was likewise found a deficiency in the septum ventriculorum at the basis of the heart, and disposed in such a manner as that the blood must have gone nearly in equal quantities from each ventricle into the aorta.

The edge of the opening in the septum ventriculorum was exactly opposite to the centre of the aorta.

A Conformation of the Heart, so uncommon as in the present case, must necessarily lead those who are acquainted with the laws of respiration and circulation to an explanation of many of the symptoms which this patient laboured under.

It is easy to be conceived, that in the case of this patient, the circulation could not be carried on regularly and perfectly. From the diminished size of the lungs, it is probable that a very inadequate portion of blood circulated through them, and added to this, a large quantity of it necessarily passed through the foramen ovale and opening in the septum ventriculorum without going through them at all. It also follows from the former circumstance, that upon any exertion the heart would be overloaded and respiration performed very imperfectly, and hence those distressing symptoms which continually accompanied her

on the least exertion, from the period at which she began to walk till her death.

It has been before observed, that the edge of the opening in the septum ventriculorum, was exactly opposite to the centre of the aorta, and was so situated as that the blood must have passed nearly in equal quantities from each ventricle into that vessel. Now, as the right side of the heart is necessarily loaded under difficulty of breathing, a larger quantity of venous blood would, at that time, pass into the aorta through the passage of communication common to the two ventricles, and through the foramen ovale, and thus account in a great measure for the degree of chilliness she experienced under all kind of exertion.

OBSERVATIONS ON ANIMAL HEAT.

Many important facts relative to respiration have, since very remote periods, been well investigated and ascertained. Since the more modern discoveries, however, many philosophers have ingeniously explained some of the functions of the animal economy, and particularly that of the lungs, by reasonings purely chemical. We cannot give a decided opinion upon these subjects, but we will, in as short a manner as possible, present an outline of the latter, and attempt to shew that some difficulties will present themselves to those who consider it too chemically.

Experiments fully demonstrate, that the pure part of the air is materially altered by respiration. The capacity of this for heat far exceeds that of the expired gasses, from which it is evident that a considerable portion of heat has been, in some manner, disposed of, during the contact of the inspired air with the membrane which lines the air cells of the lungs.

The blood is formed from animal or vegetable matter, or from both, and, like each of them, abounds in hydrogen and carbon; both these bodies have a strong affinity for the basis of oxygen gas, and when they combine with it, caloric is always extricated.

According to Dr. Crawford, nearly one-sixth of the oxygen gas inspired, contributes to form aqueous vapour; the remaining five-sixths enter into the composition of the expired carbonic acid gas. Now both these bodies being denser than pure air, the last nearly in the proportion of 2 to 1, it is evident, that if a certain quantity of oxygen gas were to be instantly decomposed by the carbon in the lungs to the production of carbonic acid gas, the heat that would be evolved from their difference of capacity, would be immediately set at liberty, and be productive of a very high degree of temperature, if it were not absorbed by the blood at the instant of its liberation.

It appears that the inspired air comes very nearly into contact

taut with the blood contained in the minute ramifications of the pulmonary artery, in which it is highly charged with hydro-carbonaceous matter, and that the pure part of it* is decomposed by that combustible substance to the formation of aqueous vapour and of carbonic acid gas, the capacity of which being less than the capacity of oxygen gas, the superabundant heat immediately combines with the blood thus deprived of a portion of its carbone and hydrogen (and thus increased in capacity) to form arterial blood.

In the act of respiration then, the venous blood loses some combustible principles, by which its capacity becomes increased, and, at the same time, combines with the heat that results from the difference of capacity which exists between the inspired and the expired gasses.

In the course of circulation, especially through the capillary vessels, the blood continually takes up hydro-carbonaceous matter, by which its capacity for heat becoming diminished, sensible heat is gradually evolved, and the animal body thereby chiefly preserves its temperature.

When warm blooded animals are placed in a cold medium, their venous blood assumes a much darker hue than when they are placed in a warmer; for, as the animal heat greatly depends upon the evolution of the heat from the blood, in consequence of its combination with hydro-carbonaceous matter, more especially in the capillaries; so, therefore, when animals are placed in a cold medium, they deteriorate more air in a given time than when they are placed in a warmer; and hence it appears, that the quantity of heat which is separated from the air, and absorbed by the blood in the act of respiration, is, in every instance, and, *cæteris paribus*, proportioned to the necessity; there may then possibly be a certain degree of temperature at which arterial blood ceases to combine with the hydro-carbonaceous matter, and when there consequently cannot be a decomposition of pure air in the lungs, unless indeed it arises from the action of the chyle, which the blood acquires before it circulates through the lungs, and independently of that substance, which is probably chiefly secreted by the capillary vessels.

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* According to some experiments which were made by the late Abbé Spallanzani, and which will be, or have been, published by Venturi, it appears that a great number of animals absorb nitrogen gas by the lungs from the respired air. A respected friend of mine has, likewise, (I believe) proved by experiment, that a certain volume of atmospherical air contained less nitrogen gas after he had respired it carefully for some time, than it did before the commencement of the experiment.

The rarity of the air in tropical, and its density in polar, climates might be adduced as a cause of the permanency and nearly equal degrees of animal heat in those situations; but if this were the case, a highly carburetted state of the arterial blood would of necessity be found in the former, which I believe is not the fact.

It is rather extraordinary that the animal heat, in the case before us, was not considerably less than has been noticed. It is, however, probable that the blood was more completely carburetted in the act of circulation, than if the usual circumstances had existed (for when any part of the system is affected, the powers of life are often præternaturally exerted in another connected with it): and if this conjecture be allowed, a comparatively greater proportion of the heat, which was imparted to the blood in the lungs, must necessarily have been separated in the body.

The oxydation of the blood is a subject still involved in some obscurity. It cannot, I think, be ascertained, whether the basis of oxygen gas combines with the blood in the act of respiration, and afterwards circulates with it in a chemically combined state, unless it is proved that the quantity of it consumed in that process exceeds that which forms one of the component parts of the aqueous vapour and carbonic acid gas expired: and, if the proportion of oxygen in the two latter be greater than that which is inspired, another source of difficulty will again present itself; for, we have no method of distinguishing that aqueous vapour which, it is supposed, is formed by the combination of the basis of oxygen gas, and a portion of the hydrogen of the blood, and that which some of the vessels situated on the membrane which lines the cells of the lungs secrete, in common with those of other membranous surfaces. Lavoisier and Seguin have made some experiments, from which they were induced to believe, that the quantity of oxygen gas consumed in respiration was greater than that which enters into the composition of the gasses and vapour expired; but some doubts concerning this important subject seem still to remain with some eminent physiologists.

The consideration of the placental circulation, and of the change which is effected on the blood contained in those minute branches of the umbilical arteries which ramify upon the membrane lining the cells of the maternal part, would, however, rather seem to favour the idea of oxydation. It is well known that the maternal and foetal systems cannot be injected by one another, and that the blood of the umbilical vein is more florid than that in the umbilical arteries. Now, if it could be proved that the extremities of the umbilical vein took up the blood
from

from the maternal part of the placenta, a good reason might be assigned for the change of colour; but this has not been proved, and analogy goes against it. The change therefore, probably, either depends upon something which is taken up by the vessels, and combines with the blood contained in them; or, it may more probably take place in the same manner as in ordinary respiration; but with this difference, that the maternal blood itself (on a supposition that it has combined with oxygen in the lungs) imparts a portion of it to the blood in the foetal vessels, either at minute open mouths, or by passing currents, and consequently through the coats of the vessels and the membrane of the cells.

Some experiments, however, at which I assisted, some time ago, in some degree led me to suppose that oxygen does not combine with the blood in the act of respiration. Several animals were confined in a certain quantity of hydrogen gas (which is not immediately fatal to life) which had been tested with nitrous gas, and afterwards exposed, for some time, to a mixture of lime and lime water. The animals remained under exposure a sufficient time to shew whether carbonic acid gas had been expired; but there was not found a larger portion in the hydrogen gas after the experiment than could be accounted for from the action of the atmospherical air which remained in the lungs of the animals after the exposure. If a portion of the expired carbonic acid gas were formed in the course of circulation, in consequence of the oxydation of the blood in the lungs, we ought necessarily to have detected a larger quantity of it; for the blood, in this case, must have been highly charged with oxygen at the time of the exposure; and the hydrogen gas, so far as I know, could not have prevented the free exit of carbonic acid gas from the extremities of the pulmonary veins.

Although animal heat has of late been principally (if not altogether) attributed to the decomposition of venous blood in the lungs, as before stated; yet many phenomena which take place in the living body, certainly stagger opinion in this respect. It appears from many circumstances extremely probable, that caloric is received into the system, and separated from it in various other processes, more particularly perhaps during the digestion of our aliment. It is likewise very probable that heat is evolved during the different secretions from the blood; and that the constant combinations and productions of new fluids by the glands, constitute a grand source of animal heat.

Many of the phenomena of animal life have been lately attributed to the influence of the oxygen taken into the body in the act of respiration; that basis, according to many philosophers, effects

effects and explains many of those processes which will perhaps ever surpass the limits of human understanding. The laws of irritation, sensation, volition, &c. have been explained by the supposed influence of oxygen in the system. I cannot investigate a subject so abstruse; but no conclusion ought to be drawn which is not fully warranted by experiment. In the progress of investigation, we should proceed from known facts to what is still unknown; we should ever be cautious how we apply chemical theories to the living body. I cannot deny the wonderful effects which have been attributed to oxygen; but until the principle of life is better known, we shall perhaps fruitlessly attempt the solution of many phenomena by the prevailing theories of the day, and thus gradually add more and more to the already inexhaustible stock of speculations.

I have endeavoured to be as clear and concise as the limits of these Observations could admit, and have purposely avoided all calculations respecting the quantities of carbon and oxygen in carbonic acid gas, as well as a statement of the accurate differences in the capacities for heat of the gasses, the venous and the arterial blood. I have likewise intentionally waved the consideration of the oxydation of the blood out of the body, which does not appear to be strictly analogical, when it is compared with the perspiratory process.

Is the change which the blood undergoes in the lungs in the act of respiration referable to a chemical operation taking place in that viscus? If it be, many difficulties will arise when we shall attempt the explanation. The principle of life acts where this process is accomplished; and can any one positively assert, that chemical laws have dominion in the living body? If that revolution which Chemistry has lately undergone, had not been carried on and directed by men, who to the greatest science added a most profound knowledge of the animal economy, our schools would already have resounded with the extravagancies of a Paracelsus, which it is to be feared a wrong application of the beautiful science of Chemistry would very soon again revive.

All the truly useful and scientific knowledge we can ever hope to gain, can only be had by observation and experiment; many of very superior intellect have already been so prone to theoretical speculations as to materially injure the cause which they meant to improve: instead, therefore, of wholly giving up our time to indulging ingenious fancies, let a portion of it be devoted to the relation of simple facts; every thing else, being the fruit of speculation, must ever be liable to overthrow.

New Burlington-Street, Nov. 10, 1802.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IN common with many of your readers, I have felt myself much obliged to Mr. Ward for his valuable Communications on Opiate Frictions. I am inclined too to adopt his opinion of the sedative properties of opium: but cannot help thinking that in his investigation of its *modus operandi*, (a question in the highest degree recondite, and perhaps of very little practical utility) he has been led into many hasty assertions, and has drawn some unfounded conclusions. His censures of Dr. Crump's Treatise appear unwarrantably severe, and needed not the additional aid of *italics* and *capitals* to render them more pointed.

In his last letter, Mr. Ward has himself advanced an assertion, which appears, *prima facie*, most glaringly false and untenable: namely, that alcohol is a sedative. Now, the purport of this letter is, to request that Gentleman to state the arguments which he considers as corroborative of his opinion. But that we may not dispute about terms, I would likewise beg the favor of him to give his definition of the terms stimulant and sedative: For if the former term be applied, as it most commonly is, to certain substances which excite, for a time, the action of the heart and arteries, increase muscular power, and the sensorial functions, I do not perceive how he can possibly exclude alcohol from the list, unless, indeed, he consider the state of debility consequent on drunkenness as a proof of its possessing a direct sedative power; if so, his judgment is, I apprehend, widely different from that of other physiologists.

I am, &c.

Hatton Garden, Oct. 10, 1803.

C. C. W.

History of a Case, in which the Dura Mater was successfully punctured under the Fontanel; communicated by Mr. T. CHEVALIER, of South Audley Street.

SEPT. 22, 1802. The daughter of Mr. R. publican, in Oxford Street, a child of a year and an half old, fell out of the servant's arms, at ten o'clock in the forenoon, and struck its head violently against the edge of a door. It was taken up senseless, and Mr. Davis, an Apothecary in Duke Street, was sent

sent for. He immediately applied four leeches to the temples, and gave it a grain of calomel, and a dose of a cathartic mixture with senna, which was afterward repeated. The child, notwithstanding, continued in a comatose state for an hour and a half, and then went into convulsions, which had lasted near two hours without any intermission, when I was desired to see her. There was no external mark of injury whatever on the scalp; but on attentively examining the head, I thought the fontanel appeared somewhat rounded, and elevated above its natural plane; and from this circumstance, added to the manner in which the symptoms had advanced, I concluded some blood-vessel had ruptured underneath the dura mater, and was still continuing to bleed. I therefore proposed, as it appeared to be the only chance of saving the child, to expose the dura mater at the fontanel, and to puncture it, if my suspicion proved founded. The parents consented to whatever I thought necessary. While I went home for some instruments, I directed the child to be put into a warm bath, and two drops of tinct. opii to be given it. But finding on my return, that no relief had been gained, and the child appearing almost exhausted, I performed the operation immediately.

I raised the scalp from the whole of the fontanel by a crucial incision, and then made an angular incision through the fontanel itself; in the angle between the frontal and parietal bones on the right side, and as near to the parietal bone as could allow me to have sufficient room. I did this on the *right* side, from observing that the limbs on the *left* side were much more violently convulsed than those on the right; the contrary side of the body being usually most affected by diseases existing on one side of the brain. On carefully dissecting up the angular incision which I had made in the fontanel, I was pleased to see the blood very distinctly shining through the dura mater as far as it became exposed; I therefore cautiously punctured it with the point of a lancet, and the blood immediately issued out with considerable force, spouting at first to the distance of a foot. The continuance of the stream made me for an instant suspect I must have punctured the longitudinal sinus, although I was confident I had exposed too much of the dura mater to run any risk of that. However, I introduced a bent probe through the puncture, which passed laterally for some inches betwixt the dura mater and pia mater under the parietal bone, without the smallest resistance. The blood continued to flow, gradually abating in its force, till between three and four ounces at least were discharged. It appeared venal, but flowed *per saltum*, following the pulsations of the brain. The convulsions were now much less violent, and the fontanel was flat on both

both sides. The child becoming very faint; a little wine and water with one drop of tinct. opii was given to it, and as the bleeding had ceased, I dressed the wound, lying down as much of the scalp as was not immediately over the puncture in the dura mater, which I thought it best to keep easy of access for the present. She was now put to bed. Her pulse soon became distinct, and tolerably regular. The spasms continued in a very slight degree only, and were gradually abating; they ceased entirely in three quarters of an hour, when she fell asleep. The cathartic mixture was ordered to be repeated every three hours, and a purging glyster to be given early in the evening.

At ten o'clock in the evening, I found her asleep, but she opened her eyes when touched, and the pupil contracted on exposure to light. Her respiration was easy and natural; her pulse was gaining strength, and her skin was somewhat hot. Two stools had been procured. She moved both legs and the right arm perfectly well, but not the left arm. The wound therefore was not disturbed. A saline draught with some infusion of senna was ordered to be given every four hours.

She passed a good night, was perfectly sensible the following morning, and moved both her arms well. The wound was covered with white cerate on lint. In the course of the day she had seven stools. She complained much of thirst, and was sick twice from drinking too eagerly. The medicine was ordered to be continued without the senna.

On the third day, as things were going on in the most favourable manner, the sickness not having returned, the pupils contracting properly, and the child being perfectly sensible, I laid down the remaining part of the scalp, and dressed the wound only superficially. From this time nothing particular occurred. She continued lively and well, and on the 20th of October, the sore was entirely healed.

Calling to see her on the 5th of November, I found her going through the Small-pox, but with very little indisposition. The eruption was slight, and had not been preceded by any convulsion.

November 11, 1802.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

ABOUT two years ago, two brothers of the name of Lambert, were shown to me, who came from a distant part of Suffolk with a very extraordinary appearance, which came on in a few weeks after they were born, and had ever since remained extended over the skin, except on the face, palms of the hands, and soles of the feet, which were almost the only parts that were smooth and natural.

This deformity was a horny sort of covering, which seemed most nearly to resemble an innumerable body of warts of a brown colour and cylindrical figure, rising to a uniform height, of about half an inch, and growing as close as possible to each other, but so stiff and elastic, that when the hand was drawn over them they made a rustling noise. These young men said, that they had a brother in the same manner, and their father and grandfather had the same sort of skin; but, if I recollect rightly, that their sister or sisters were free from this deformity. These men were perfectly healthy and good looking; one was under twenty, and the other not much older; but their complexions were unusually florid. These were all the particulars that a few minutes conversation with them enabled me to notice; and I did not know till I afterwards read the second part of Dr. Willan's valuable work on the Diseases of the Skin, that the case of Lambert the grandfather, and Lambert the father of these young men, had been so accurately detailed by Mr. Machin in 1731, and by Henry Baker, Esq. in 1755, in the Philosophical Transactions, as quoted by Dr. Willan, Order II. iv. Ichthyosis; or I should have enquired more minutely how far all the circumstances which are related by these gentlemen corresponded with the deformity of this third generation of Lambert's. But perhaps some of your readers, who reside in the neighbourhood of these men, may be able to supply my defects on this curious race.

The following description of a deformity of the skin, with the enclosed drawing, was lately sent me by Mr. Magin, Surgeon of the Plymouth Division of Marines, with permission to have it published, should you think it worthy of a place in your very useful Journal. I am, &c.

Yarmouth, Oct. 25, 1802.

T. GIRDLESTONE, M. D.

WILLIAM BUDD, aged twenty-four, lately discharged from the Plymouth division of marines, of a pretty strong make and healthy constitution, has on his back several large pendulous
tumours

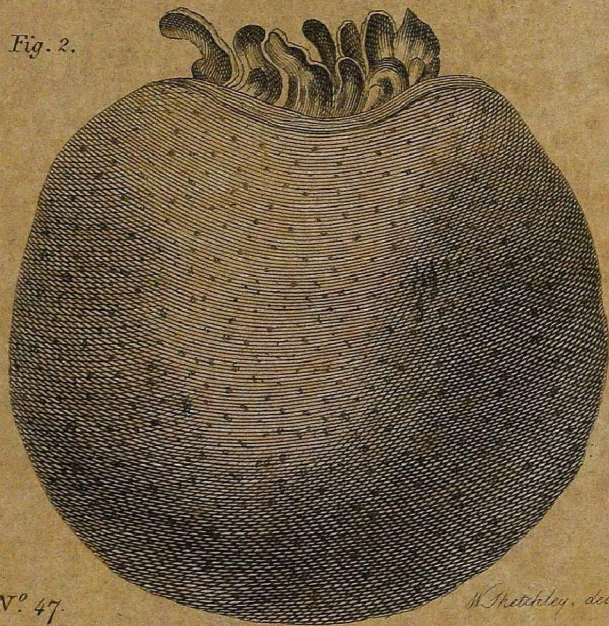
Case of Steatomatous Tumour.

Fig. 1.



The Tumour laid open.

Fig. 2.



Medical Journal N^o 47.

W. Heathley. del.

The natural appearance of the Tumour after its Removal.

tumours, the chief of which are sketched in the annexed plate. The first tumour on the nape of the neck is larger than an ordinary man's fist, those underneath are still larger. They are flaccid, pendulous, and containing (if we may judge by the feel) a fatty substance; and from the sensibility of their skin and their vascular appearance, they are well supplied with nerves and blood vessels, excepting at particular points, where white spots, and two or three knobs are observable. These spots, by his own account, have been the seat of small ulcers, from bruises, friction, or some kind of external injury. The tumours are of a chocolate colour and without hair. But the upper part of the nape of the neck, the back, the left buttock and loins, and the whole of the left arm to the elbow, together with the left side, are of the same colour, and covered over with a thick coat of strong black hair.

The top of the right shoulder, some way down the humerus, is discoloured, and covered with hair in the same manner; but the remaining part of the right side is of a natural colour, and the skin is fair and delicate. The lower extremities are also discoloured in a variety of points, each in extent of surface from the breadth of a shilling to a crown-piece, and thickly tufted with hair.

His parents are healthy, without any corporeal blemish, and his mother, he says, used to account for these appearances on his back, &c. by saying, that she longed for two hares while she was pregnant with him. The tumours do not appear to have injured his general health, and they have gradually increased with the body in size. The only inconveniency he suffers from them is in warm weather, when the perspiration is apt to fret the parts, and produce excoriations or small ulcers, which soon heal up. In the course of surveys of men here, in consequence of the reduction of troops, we have met with many cases of *lufus naturæ*, but none so striking as the above case. We have also met with several subjects in whom part of the hair of the head, eye-brows, &c. has been changed from the natural colour to a perfect white, producing a *pyebald* appearance, and generally in men who have served in the West Indies during the greater part of the late war, who attribute these changes to the yellow fever, under which most of them have laboured two or three times.

On the Puerperal Fever, and an Explanation of the Mode of treating it; by Dr. MICHAELIS, of Harbourg, in the Electorate of Hanover.

[Continued from pp. 433—443 of our last.]

I Generally prescribe in the following manner: *R. Radix Valerian, unc. j. infund. in aqua fervent. q. s. Colatur. unc. vj. adde Salis Tartar. acet. vin. q. s. saturat. extr. Valerian. aa. drach. ij. or iij. extr. opii aquos. gr. iv.* S. omni bihorio cochlear. duo, or half a tea-cup full; sometimes I order it to be taken every hour. This medicine I continue during the whole disorder; only sometimes I omit the opium, when I find it too stimulating or too astringent; sometimes I increase the dose accordingly as new symptoms or a more violent diarrhœa make their appearances. Besides these remedies, I foment the breasts with a decoction of camomile flowers and black henbane, together with warm milk, causing the child, at the same time, to be applied to the breast, which undoubtedly is the strongest attractive of the milk towards the breasts; or by other substitutes for sucking, creating a stimulus to that effect. By these fomentations, the spasms in the breasts, which prevent the secretion of the milk, are removed, and the operation of warmth and sucking induces the fluid towards its proper parts. If the lochiæ be stopped immediately, or at least too soon, by which the disease has become worse, having lost an equivalent for the former nutrition of the child, and for a moderate secretion of the milk; moreover, if little or no mucus discharges, and if the spasms have also affected those parts, I then cause injections to be made into the uterus, every two hours, of a similar decoction, mixed with linseed.

In order to act upon the uterus itself, and partly upon the breasts, since both are closely connected, and the deficiency of secretion in one part is often supplied by that of the other, I particularly insist upon those injections being made, when the genitals have suffered by a difficult birth or continued spasms, in which case I add oil and opium. But the principal remedy, either for adjusting any irregularity in the process of secretion and for removing the spasm, or for promoting the resorption of the milky fluid evacuated into the abdomen, the breast, and other parts, consists in repeated blistering, to which, conformably to my observations, I must ascribe the greatest effect in the successful treatment of this dangerous malady; I apply blisters as soon as any part is afflicted with pain, and bring them as near to the place affected as possible.

It

It is always advisable, for the purpose of ensuring success, not to delay the application of this remedy, though the symptoms should appear to indicate no danger.

The rubbing in of volatile camphorated liniment is not without its use, but I commonly found it insufficient, and consider it merely as a secondary remedy. I apply the blister of the size of an octavo page, and let it remain till it begins to draw a pustule; then I prescribe a fresh blister to be put on a place, as near to the former as possible, whenever I am induced to apprehend a return of pain, an increase of fever, and of milky evacuation through improper parts, or lacteal metastases, from the renewed swelling of the abdomen, the oppression of the chest, &c. It is often necessary to apply from six to eight blisters, one after another; they always produce the most speedy effect, and the patients themselves will demand this relief, as soon as they become acquainted with it by experience, disagreeable as it is to feel sore half over the body.

This, in general, is the method I adopt for the cure of a disease which seldom has yielded to common remedies, but rarely resisted my mode of treatment. Some particular symptoms, however, require some alterations in the treatment; in general, when the belly is chiefly affected, a violent diarrhoea, by which frequently a yellowish watery matter, mixed with flakes of milk, is evacuated, accompanies the disease. This diarrhoea is uncommonly debilitating; it promotes the deviation of the milk from the breasts, and is often excited or increased by too bold purgatives. It indeed procures a momentary relief, when the belly is very much distended, and the milky substance has been extravasated into the bowels, nor should it be entirely stopped: but when the milky substance has been thrown into the abdomen, it gives no ease whatever; on the contrary, the belly swells still more while it lasts.

In order to moderate this diarrhoea, yet not to obstruct evacuation altogether, the physician must exert himself to procure proper remedies. If, for instance, strong doses of opium be not adequate, or if it be attended with danger to give this medicine in strong doses, and the diarrhoea has continued for some time, recourse must be had, at the same time, to mucilaginous remedies, in which capacity I usually employ salop. A few cases may occur, in which costiveness takes place, greatly afflicting the patients, especially when the milky matter has found its way into the bowels. In such instances, a motion should be procured by some gentle aperient or a mild clyster; but care must be taken, not to excite any great diarrhoea; and should it have arisen, as often will happen even after very gentle purgings, care must be taken to treat it in the proper manner.

Should

Should a difficult delivery, attended with the bruising or laceration of the perineum have preceded, so that there may be reason to apprehend an inflammation, or should that inflammation already have taken place, injections into the vagina and uterus of lenient and oily ingredients must immediately be adopted after the delivery, in order to obviate that danger, or to remove it if it already exists. I then apply fomentations of camomile flowers, henbane, linseed, and opium to the belly, and frequently cause some volatile camphorated ointment to be rubbed in. Inwardly I give oil mixed with the other medicines, which manifestly prove efficacious. It seldom happens that a lying-in woman, in case of inflammation, either in the vagina or the uterus, escapes without an attack of the puerperal fever, which, under those circumstances, often brings on a quick death. I lost a patient some years ago, who, probably, by a gross blunder of the midwife, had suffered a laceration of the vagina towards the uterus. The child had been dead several days when I was called in, and the uterus was filled with putrid ichor; the back of the child was turned foremost, but the delivery, owing to the relaxed state of the uterus, and the putrid condition of the child, was quickly effected. However, when all was nearly done, one foot, after I had seized the leg with a hook, stuck fast, together with the hook, in a hole of the vagina. By this laceration, I touched the bowels and the great arteries of the pelvis. A violent inflammation of the bowels ensued, which I was fortunate enough to remove. Five days afterwards, all signs of inflammation subsided, under the most favourable circumstances. The belly became less, and free from pain, the cold extremities got warm, milk had begun to appear in the breasts, and there was reason to hope for a successful issue. The mode of treatment had been throughout of the stimulating kind; but all at once, things again grew worse, the belly again became painful and extended, the milk receded from the breasts, and a lacteal diarrhoea showed but too plainly the unfortunate turn which the disorder had taken. The woman died with signs of mortification, eight days after her delivery. In another case of a similar nature, which soon after occurred, I was fortunate enough to save the patient. A laceration of the vagina existed likewise, but the infant only died during its difficult birth; a violent inflammation arose in the uterus, and several attacks of lacteal metastases followed; but, after considerable time, the recovery was at last effected. The woman, however, has not been with child since.

If the breast particularly suffers, it will be necessary, besides the application of the blisters to the affected side, to promote expectoration by means of Kermes and syrup of senega, which,

which, in these instances, smells like sour milk, and is of a white colour. If the breath be sour like milk, oppressed and unequal, we may safely form the conclusion that the lungs are affected, although no milk is thrown up by coughing; and very great attention is then required. I have, in these cases, caused warm steam to be inhaled, but without benefit. In case of the throat and larynx being affected, blisters must be applied, and a gargle of vinegar and honey be made use of. When towards the end of the disorder, strength did not return, and the fever continued, I have given bark with the greatest success. The limbs, sometimes, swell all over, without its appearing that matter, or an abscess of milk, had any where collected. Under these circumstances, I have found dry discutient herbs with camphire, and also the volatile ointment with camphire, not always effectual in reducing the swelling, and the last patient of the kind I had, died under my hands. Should I again meet with a similar case, I shall apply a blister to the swelling. To judge from one subject I saw lately, it appears, that such a swelling of the legs may degenerate into obstinate and indolent hard tumours, and indurations of the tela cellulosa. The milky substance may gather in one place, and form into pus; then it is advisable to bring this tumour to maturity by fomentations, and to open it as soon as possible.

It is objected by some, that by opening this sore too early, the deposition of milk towards this part would be prevented, and conducted to other parts; but it is surely more safe to endeavour to check the propensity of Nature towards such anomalous motion, and to obviate it by inward remedies. It often requires a long time before abscesses of milk are healed. It is not to be denied, that lacteal metastases upon the cellular texture of the breasts may likewise arise; but whether every accumulation upon the breast be of this kind, I will not undertake to determine, since the diagnosis is not always easy. Perhaps some fixed pain in one part or other of the belly may remain after the disease, and the belly be, in some particular spot, hard and extended: it is then to be expected, that the milk which has been cast into the abdomen, has occasioned concretions of the intestines, and other viscera. In a case of that description, I ordered arnica to be taken inwardly, and gave relief by the rubbing in of camphorated ointment. Yet it is not to be expected, that the complaint will thoroughly be cured and the body restored to its former state. These concretions are by no means unfrequent, as likewise those which are the effect of inflamed lungs, and which, at first, may cause some sensation in case of any strong motion, but by degrees become imperceptible. At the same time no one will wonder that

barrenness should be the consequence. I have frequently, when the belly was swelled, made use of warm fomentations, and thus sometimes afforded relief. But not to mention the difficulty of applying them when the belly is covered with vesicatories, I have often noticed an unfavourable effect; in consequence of which I now omit them entirely, except in case of inflammation. They certainly appear to conduct the milk towards the belly, and often increase the tension and pain.

As to the diet to be followed in this malady, it should be thin and easy to digest, but, at the same time, nutritive. I allow my patients broth, milk and water, gruel, and sago; wine and coffee I forbid as being too stimulant; the former, however, I sometimes admitted, when diluted with water. Meat and all solid food, I judge would not agree, as the power of digestion is commonly deranged. If the patients should desire an acid drink, it may, without prejudice, be granted; at least, I never observed any bad effect from it. Beer and fermented liquors, and flatulent eatables, ought to be carefully avoided. Such is my manner of proceeding in a disorder generally attended with much danger. I have seldom failed of success, whenever I was called soon enough, and under circumstances sufficiently favourable, when I had it in my power to see the patients daily, and had not neglected the vesicatories on account of symptoms appearing at first to be slight.

Dr. Brandes, a Physician of eminence, maintains, that the puerperal fever is a lacteal metastasis connected with a typhus, from which opinion my own does not very materially differ, though he supposes a metastasis without an asthenic fever; whereas I am convinced, that even with the slightest lacteal metastasis an asthenic fever is connected, which when preceded by some degree of debility in consequence of a strong stimulus from the milky substance accumulated in the blood, may have a sthenic appearance, but will certainly pass over into an asthenic fever. Let this, however, be as it may, the treatment differs but little, and is only in the lighter cases less stimulant. Blisters are indubitably very proper in every instance.

CASE I. A woman, 19 years of age, who had been married three years, of a pale appearance, and who had frequently been afflicted with a cough, but had, in other respects, a good strong constitution, was, for the first time, delivered of a healthy child, and seemed, during the first days, perfectly well. About the ninth day after her lying-in, when her breasts were filled with milk, she was seized with shivering fits, without any obvious cause, which were followed by frequent sweats and chilliness; yet the state of her health in general was tolerably good,

good, nor had the milk suffered any diminution. Not having had any motion of her bowels during the last three days of the second week, a surgeon ordered her a laxative, from *infus. laxativ. Viennens.* which was not remarkably strong, nor was the whole of it taken; but she began in consequence of it to purge considerably, and had more than five stools a day; she unfortunately however met about this time with some fright. Upon this the milk diminished, a reiterated chilliness and violent heat followed, which was succeeded by a strong sweat. I was then called in to see her. I found the patient low in perspiration with a pretty quick and spasmodic pulse; the belly was rather extended, and somewhat painful in the vicinity of the uterus when touched. In the preceding night she had had five thin stools, destitute of smell; had suffered much from heat and sweat, and been in some degree delirious; her throat was a little inflamed, the breasts were flaccid, and the milk not sufficient to satisfy the child. The lochia flowed, mixed with mucus, as might be expected, yet not to a very great degree. It was but too plain, that lacteal metastases towards different parts were to be apprehended, and that the disease upon the whole was a true Puerperal Fever. I prescribed as follows, *R. Pulver. rad. valer. sylvest. unc. j. infund. aq. fervent. q. s. ebull. paulisper, stet in vas. claus. ad refrigerat. colat. c. expres. unc. v. add. sal. tart. pur. dr. j. acet. vin. q. s. ad saturat. extr. opii aquos. gr. iij. syrup. emulsiv. unc. j. M. D. S.* Every two hours, half a tea cup full to be taken. *R. Spir. sal. ammon. caustic. dr. ij. camphor. dr. j. ol. olivar. unc. j. M. f. liniment. D. S.* to be applied to the belly and throat by rubbing in, to which was added a gargle from figs and honey, as I could not readily believe that a lacteal metastasis had been carried to the throat, but was inclined to think it a common catarrhal complaint. These remedies were continued the following day with apparent benefit. The diarrhoea had ceased, the milk was augmented, the fever lessened, and no signs of delirium were observed in the night. But on the day following, which was October 9, I found the fever again increased, and the oppression of the breast more considerable. At the same time a cough had made its appearance, in which a white sourish matter was thrown out, having the smell of sour milk. The breath likewise of the patient and the sweat were attended with the same sort of smell. The throat was again become more painful, and the milk and lochia were diminished. I ordered a blister to be applied to the upper part of the chest, the breasts to be fomented with a decoction of chamomile flowers and milk, a gargle of vinegar and chamomile tea, a strong infusion of valerian with the extract of the same, together with opium and Huxham's wine; and lastly, as no stool followed,

followed, a clyster, which however produced no effect. After this mode of treatment, the milky expectoration, and the oppression of the breast ceased, and only a little pain was felt near the stomach. The fever itself was more moderate, but as the bowels continued unmoved, and the patient complained of fullness and anxiety, I ordered the following prescription: *R. Magnes. alb. dr. j. cremor. tartar. dr. ij. sacchar. alb. dr. j. pulver. sem foenicul. dr. semis. M. D. S. every three hours two tea spoons full to be taken; and should the anxiety increase, some powders composed of valerian and extr. hyosciam. were to be given.*

Oct. 10. The powders were continued, and a clyster given, but without producing an opening. The patient found herself pretty well, had little fever, no pains in her chest, no expectoration, and somewhat more of milk in the breasts. The four taste however still existed, and the pulse was as yet spasmodic; but as the pain about the stomach increased towards the evening, a blister was applied there.

Oct. 11. The patient was pretty well, but had not much milk. No motion of the bowels having taken place, and the belly being rather full and extended, I prescribed, *R. Pulver. rad. valerian. sylvest. unc. j. infund. aq. fervent. &c. col. unc. vj. add. infus. laxativ. Vienn. unc. ij. extr. valer. frigide parat. dr. ij. liquor. antispasmod. lent. dr. j. M. D. S. every two hours half a tea cup full to be taken.*

Oct. 12. Towards morning several stools had taken place, which contained caseous milk; only about half the medicine had been taken; the belly was painful and much extended; fever and sweat increased, and the milk in the breast still more diminished. A blister was now immediately put upon the left side of the abdomen as being the most painful, the other part of the belly was rubbed with volatile camphorated ointment, and the breasts were frequently fomented. Inwardly the following was given, *R. Infus. rad. valer. unc. vj. extr. opii aq. gr. ij. extr. valerian. frig. parat. dr. ij. spir. nitr. dulc. dr. j. M. D. S. every hour a table spoon full to be taken.* Besides this the child was applied to the breasts, and the milk drawn by other means; the patient was ordered not to be kept too hot. The vehement heat not having yet subsided, towards the evening I prescribed alkali saturated with vinegar, together with syrup. acetos. citri, and ordered a tea spoon full to be taken of this every hour or oftener. The other medicine was reserved till the pain or diarrhoea should increase; the latter was somewhat less, but still milky. Upon this the heat considerably decreased, but the pains and oppression in the belly continued. For this reason, I applied a blister to the right side of the abdomen, late in the evening.

In the night preceding the 13th, much anxiety and disquietude were experienced; there had been some stools of the same kind, and the patient complained again of an oppressed chest, but there was no milky expectoration. Some milk appeared in the breast, especially towards the afternoon and evening. Sal tartari saturated with vinegar was added to the infusion of valerian, and taken every hour. Towards the evening the fever was lessened and the patient felt more comfortable. Still however the belly was extended, though apparently less painful; I say, apparently, because it could not be exactly ascertained, as it was already covered with three blisters. The stools this day were of the former description. The medicine was continued as before; but in case of obstruction and anxiety during the night, some doses of the medicine of October 11, together with the infus. laxativ. Vienn. were ordered. The smell proceeding from the mouth was still sour, but the sour sweat had very much subsided.

The night preceding the 14th of October was passed in a quiet sleep without great heat. In the morning a feculent yellow stool mixed with a little milk followed; the belly was less painful and less extended, the milk plentifully in the breast, and the pulse almost of a natural quickness, and not very spasmodic. The heat was moderate, and the sweat entirely gone; there only remained a degree of anxiety, but without a cough. The medicine was taken every two hours, fomentations and drawings continued, and the patient ordered to be kept cool and frequently exposed to fresh air. Milk and water, or toast and water with lemon-juice, was recommended for her drink. In the evening she found herself pretty well, without fever, with little pain in the abdomen, and more milk in the breasts; she had had no motion to stool. The success was very evident, and I think myself justified in ascribing it to the mode of treatment I had adopted, and especially to the liberal use of blisters; but favourable as symptoms now appeared to be, there was yet little ground for reckoning on a continued progress of recovery, as will appear from the following.

Oct. 15. The night passed away without heat, thirst, or anxiety; the pulse in the morning was almost natural, but rather quick, and somewhat spasmodic. Two stools of a pretty regular consistency had been evacuated; the belly was but little painful; the taste still sour and slimy, and a slight cough remained, but without adding to the anxiety; the lochia reappeared. The milk in the breasts was not so plentiful as before, but almost enough to satisfy the child. Towards the evening, the pulse seemed to be more irritated and feverish; otherwise the patient was well enough to quit the bed.

Oct. 16. The recovery seemed to proceed, the appetite was increased, only the pulse was unequal. As this was still more the case in the evening, and the pulse feverish and spasmodic, one of Dover's powders was taken.

In the night of the 17th, a great degree of fever, which had been preceded by chilliness, took place with much heat, anxiety, stitches in the side, and pains in the belly; the taste had become slimy, and of a putrid sourness. In the morning therefore, early, a blister was clapped to the painful side and the medicine continued. About noon the pulse was still very feverish, quick, tense and full, but the stitches had subsided. The belly on the other hand was more extended and disturbed by a great deal of rumbling. I prescribed an infusion of valerian, with the extract of valerian, opium, and mixtura Riverii. In the evening I found the patient better, less feverish, and the pain diminished. Notwithstanding the pulse was more than 100, she had had some stools of a good quality. A quiet night followed, though the patient talked much in her sleep; and in the morning the pain in the side had entirely disappeared, though the belly when touched was not free from pain, and still entertained a sensation of heaviness. The evacuation was brown, and rather loose; the pulse still feverish and spasmodic, but less so than the day before. The milk increased in the breasts; the appetite was good, and the taste improved. In the evening very little heat remaining, the pulse 80, and small, little inconvenience in the belly except the heaviness, nor was it much extended.

The night preceding the 19th, was quiet and comfortable, and the patient had milk enough to suckle the child; but suddenly the pains in the sides returned more violently than before, shifted from the side to the belly, then to the breast, the shoulders, the back, then to the abdomen and the regio lumborum, with sensation of costiveness, and as if the menstrua were coming on. Some blood mixed with mucus really passed off, as the lochia had entirely ceased the day before; the evacuation by stool was brown, and frequent eructation was experienced. About nine o'clock a chilliness arose, and it was not till then that the deteriorated state of the patient was communicated to me.

I found the patient pale, with cold extremities, and a small spasmodic and very tense pulse of a 120, which as the pain increased, resembled the vibration of a musical string. The belly was extended and all over painful; I immediately gave two powders, one after another, of valerian and extr. hyosciam. together with some camomile tea. These produced a vomiting, by which some relief was afforded. I then applied a blister to the

the side, which was still free from pain, and gave, as the spasm did not immediately subside, a dose of Dover's powders. The spasmodic motion of the pulse then seemed to abate, and in a few minutes after, a fit of heat came on; the pain, which continued shifting about, decreased without entirely ceasing; another vomiting ensued, by which a great deal of brownish water, together with phlegm, was thrown up. About noon, the patient was overwhelmed with heat, yet able to suckle her child. She now complained of a pain in her stomach and the belly. I caused pieces of woollen cloth, dipped in camomile tea, to be laid upon those parts, and a clyster from camomile infusion and oil to be given. The medicine was continued. Towards the evening, the moveable pain had somewhat subsided, but the stomach and side still suffered, and the fever was strong. As the patient found it impossible, on account of the pain, to turn about, the clyster could not be applied. To obviate the violent pains about the stomach, which perhaps were a consequence of the exertion of vomiting, a fomentation of camomile flowers, of the leaves of hyosciamus, of linseed, and of opium, was prepared. The following night was restless and interrupted by talking and raving, the pain in the side had in the mean time disappeared, and the fever was less violent. There was much sweat, but no evacuation by stool. The place about the stomach and the belly were, when touched, still painful and extended; the latter was very heavy, so as to fall to the side to which the patient turned. There was a tolerable quantity of milk, but the lochia were quite stopped. As the patient had no motion to stool, she suffered much oppression and anxiety; it was also to be apprehended, that milk had again been thrown to the bowels, in consequence of which the medicine of opium was suspended, and, in the mean time, an ounce *infus. laxat. Vienn.* with half a scruple *extr. valer.* was given. The taste was of a putrid sourness, as well as the breath, and the tongue quite white. In the afternoon, a thin brownish evacuation took place, without any milk mixed with it. The fever was more moderate towards the evening, the pains lessened, and the breasts pretty well filled with milk; the bad taste, however, still continued, and the patient again brought up, by means of a little cough, some sour milky matter. All parts of the body in the vicinity of the painful spots being already covered with blisters, it seemed of no use to add to the number of them. The medicine was continued.

The night preceding the 21st was again restless, the fever violent, the pain in the belly, and more particularly about the stomach and the navel considerable, and that in the right side, the shoulder and the back, returned occasionally. The taste

retained that putrid sourness, which it had before: the tongue was very foul. The chest was still very uneasy, and a milky expectoration now and then took place. Though the lochiaë did not flow, the milk was not diminished. As no evacuation followed, I again prescribed the former purge; and as the smell was extremely putrid, I gave vitriolic acid with raspberry juice by itself, and partly in water. The body being every where sore, it was out of my power to add a new blister, however profitable it might have been, by abridging the progress of the disorder. About the evening, some ease was obtained, and a diminution of the pain in the belly, by a stool. The fever was more moderate, though still of sufficient strength; and frequently an exhausting sweat broke out. An infusion of valerian with saturated vegetable alkali, but without the addition of opium, was taken: To relieve the breast, I tried the steam of camomile tea; but this the patient could not endure.

In the following night little sleep and great restlessness, but not so much fever. Three offensive stools had been discharged. The belly ached a little in the vicinity of the stomach, and towards the right side; the stitches in the right side were gone, but re-appeared in the left, and the breath was fetched deeply. Taste and the smell from the mouth were putrid, the tongue more clean. The usual remedies were continued; the left side, which was still painful, rubbed with volatile camphorated ointment, and the stomach fomented. The appetite was tolerable, the looks improved, and the milk almost sufficient. In the evening, little heat, the pulse quick and tremulous. The belly less painful and less tumid. Some stools. The breath more pure, the taste and tongue improved. Two drachms of spirit vitrioli had been consumed, and to them I am inclined to ascribe a part of the effect produced. A quantity of phlegm, not very milky, was thrown up.

October 23d. In the course of the preceding evening till the noon of this day, seven stools, not copious, but very offensive, some of which contained a little coagulated milk. Every evacuation was preceded by some pain. The night had been uneasy, but some rest was enjoyed about the morning; pulse more soft and less quick, breast more easy, and the pain in the left side gone; milk almost sufficient for the nourishment of a pretty stout child. To counteract the looseness of the bowels, some opium was again added, the fomentations were omitted, and some blister ointment frequently applied to the place about the stomach, which had again healed. Till evening, four more stools, containing some indigested food. The night following, more quiet, but a great deal of thirst; the belly obstructed. Towards noon, a pulse of 80, free from all symptoms of spasm.

The

The tongue moist and clean, the breath foul. The belly being very tense, and no opening having taken place, the medicine was for a while suspended. The pulse irregular, though not quicker. The night preceding the 25th of October, quiet; no stools; the belly tense and painful; some eruptions and an appearance of purples upon the breast; heat increased, pulse quicker. I prescribed one ounce of a laxative mixture with extract of valerian, which produced little effect. Every thing assumed a more unfavourable appearance; the taste was more foul. In the night following, some evacuations took place, which gave no relief. The eruptions continued; the belly still painful, so as to render fomentations and even blistering necessary; a prescription of *infus. valer.* with *potio Riverii* was given, which by affording ease, prevented the application of the blister intended to be laid on. Taste unclean, smell putrid, and some stools.

October 27. The eruption began to disappear; the fever less; some milky stools. In order to prevent such frequent returns, which were chiefly to be attributed to weakness, that apparently required an inciting remedy, I tried the extract of the bark, of which I desired one dr. and a half to be diluted in some ounces of peppermint water, after being mixed with the same quantity of *extr. valer.* This was added to the former medicine, of which about three ounces remained, and the patient took every hour a table spoon full of it; the heat after this did not increase; the belly was less painful. I now ordered *extract. cort. Peruv.* to be taken by itself; but as some degree of pain still remained in the left side of the abdomen, especially when the patient lay on that side, and as there was a strong tenesmus, I added oil of almonds and gum arabic, but no perceptible advantage was derived from it. The pain probably arose from milk being poured into the abdomen, and being constipated there: this seemed to be the case, on account of the heaviness of the belly, besides which there were no particular indications.

From the first of November, I suspended the use of medicine; the milk was pretty abundant. The fixed pains still remaining, I prescribed, on the 6th of November, an *infus. summitat. arnicæ*, to promote the resorption of the condensed milky matter: this remedy, however, was obliged to be interrupted by reason of a catarrh, which was the consequence of an epidemic, prevalent at that time. The patient, after this, continued to suckle her child. She suffered still from pain in the belly for a considerable time, which now has disappeared, though it has left this part rather tumid. A new pregnancy has not yet taken place.

Experiments and Observations made on Animals with the Hydrogenous Sulphurated Gas ; by Cit. CHAUSSIER.

THE mineral waters into the composition of which sulphur enters, such as the waters of Baresges, of Cauterets, &c. are frequently employed by physicians with considerable success.

Those who estimate the power of remedies entirely by the nature of the substances which enter their composition, and which can be extracted by analysis, have attributed the advantages derived from these waters, entirely to the small quantity of hydrogenous sulphurated gas which they contain. This opinion, supported by some chemical facts, has added much to the supposed medical virtues of this gas, and has led to the inference, that in a pure or gaseous state its virtues must be much greater than when diluted largely in water; and it has been imagined, that introduced into the stomach, or applied to the surface, the same combinations should be formed as in the laboratory of the chemist, without any experiment whatever to prove its action on animal life, or without reflecting how much the effects of a substance are changed by the dose in which it is administered. The interior use of hydrogenous sulphurated gas has been recommended in affections of the stomach, and of the lungs; its efficacy as an antidote to arsenic has been highly spoken of, and its external use in diseases of the skin, &c. has been strongly recommended.

Berthollet has warned us against the frequent abuse of chemical reasoning on Medicine; analogies drawn from the cursory branches of Medical Science but too frequently lead us from the essential object of a Physician, namely, the contemplation of the vital powers, the energies, and the laws of animal life.

These considerations have led Cit. Chaussier to determine by experiment, the effects of the hydrogenous sulphurated gas, as well pure as diluted in water, on living animals. Although it had been already ascertained, that an animal died immediately on inspiring hydrogenous sulphurated gas, Citizen Chaussier thought it necessary to repeat the experiments, the better to observe the phenomena.

Different animals were submitted to the action of this gas, every one of whom expired after some seconds,* and every
means

* Frogs were found to be an exception, as they continued to live some minutes. This Cit. Chaussier accounts for; First, by the firm dense texture of the skin, covered with a mucous, preventing the action of the gas into which they were plunged. Secondly, by the peculiar disposition of the mouth, nostrils,

means of resuscitation proved ineffectual. On examining animals killed by this gas, it was observed, 1st. That the cavities of the nose and bronchiæ were covered by a brownish mucus. Secondly, That the blood had undergone a remarkable change, being black and thick, an effect extending to every part which received many blood-vessels; thus the lungs, liver, spleen, and even the encephalon were found changed. Thirdly, The muscles were not only changed in colour, but this contractile power was always diminished, and in some cases totally lost. Fourthly, All the soft parts had lost their consistence, quickly putrefied, and emitted an uncommonly bad smell;* and as a proof of the extensive influence of this gas when taken into the lungs by respiration, a plate of silver, or a piece of white oxyd of lead, which had been introduced under the skin, became black when the animal had inspired. The baneful effects of the hydrog. sulph. gas taken into the lungs being proved, *Cit. Chaus sier* thought it necessary to ascertain its effects on other organs of the body, and even when applied to different surfaces. Among a number of experiments made with this view, the following are most remarkable.

EXP. I. A bladder filled with hydrog. sulph. gas was attached to a small tube with a valve; the extremity of the tube was insinuated through a small opening under the skin in the thigh of a rabbit; a portion of the gas was pressed into the subcutaneous cellular substance, so as to form an artificial emphysema; as soon as the gas had ascended as high as the thorax (i. e. in about 30 seconds) the animal gave a shriek and dropped dead; a variety of stimuli were immediately applied, but the animal showed no signs of remaining life. The same experiment on frogs was followed by the same results. All the superficial cellular substance, and even the superficial muscles were changed to a dark brown.

In a second experiment it was found that water saturated with
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nostrils, glottis, and lungs, moderating and changing the order of respiration, and which may be remarked when the animal is immersed in any noxious fluid. He contracts his mouth and nostrils, throws into the cavity of the throat, which is very dilatable, the air which had been in the lungs and submitted to their action, and which he frequently draws in again to the lungs, by this means using every particle necessary to life. It is not until after some minutes that the animal is under a necessity of renewing the air; so that in fact the frog does not live longer in this air than other animals, if, before he is plunged into it, his trachea be opened, or his glottis destroyed.

* *Mr. Hunter* had already remarked the same want of consistence in the parts of animals that had been killed suddenly, as by lightning, &c. and we have observed it eminently in the muscles, &c. of people who had suffered capital punishment.

this gas produced the same violent effects ; and to prove that these consequences were peculiar to the hydrog. sulph. gas, different other fluids, such as atmospheric air, water, hydrogen gas, oxygen, carbonic acid gas, &c. were introduced with the same apparatus, and except some trifling mechanical inconvenience from the operation, the fluid was absorbed, and no remarkable consequence ensued. The hydrog. sulph. gas thrown into the rectum of a rabbit, killed it in a few seconds ; the intestines, liver, and adjoining viscera were changed in colour, but the contents of the thorax and head were not altered. This experiment was repeated on a horse, in the presence of a number of persons ; the animal first endeavoured to expel the gas, to prevent which care was taken ; he was seized with convulsion, and died in the space of a minute. The immediate opening of the animal shewed the same changes of colour as in the preceding experiments. Water impregnated with this air, was injected into the anus of different animals, and in different doses of the gas, all of whom died within the space of two minutes. Cit. Chauffier determined to ascertain the effects of this gas on the stomach, which he did by laying bare the œsophagus on the side of the neck, and introducing with the apparatus already described, the gas pure, and water impregnated with it ; the operation was almost instantaneously followed by death. The colour of the inner membrane of the stomach was much changed, the other viscera were not affected.

Paris, Nov. 12, 1802.

[To be continued.]

*Galvanic Experiments, applied to the Uses of Medicine ; by
Dr. QUENSEL, of Stockholm.*

THE Galvanic pile of Volta, of which I have made use, consisted of thirty pieces of silver, and as many of zinc, about the size of a Swedish dollar, (equal to half a crown English) with pieces of cloth that were dipped in a saturated solution of common salt. This pile was kept in its situation by two perpendicular tubes of glass, and insulated by a plate of glass laid under it. I have sometimes brought into connexion with the former another pile, composed of fifty pieces of copper, and as many of zinc, of a similar form. The manner of conducting the Galvanic stimulus to the affected parts, was by means of gilt and silver wires passing through glass tubes, and ending in knobs. The order in which I constructed the pile was
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as follows: Undermost zinc, then wet cloth, silver, zinc, and so on. In cases of deafness, I have always applied the zinc wire to the ear, while the silver wire was hanging down into a basin with salt water; if it was not likewise applied to the patient, viz. to the tuba Eustachii or to the other ear. I generally found, that it was less painful, if the Galvanic chain had been shut with the fingers in a basin of salt water, than if the opposite pole was touched by means of a piece of metal held in the hand, which was previously moistened with salt water. In affections of the organ of hearing, I have never employed above twenty pairs of plates; and, sometimes, if the patient was very sensible, I have been obliged to diminish them to fifteen and twelve. In more than two hundred persons, on whom I have made experiments, I observed that the action of Galvanism varies not only in different people, but in the same person at different times. On the whole it may be said to increase the animal heat, as almost all the persons on whom I tried the Galvanic experiments, felt themselves warmer, and their perspiration to be considerably increased. Those who had only perspired the first day in the face, felt a general sweat the following day, while the topical sweat in the face had diminished. In some, the sweat ensued the night after the application.

Galvanism, particularly at the zinc pole, attracts the blood to the place where it is applied, and I have often found blood in the ears of the patients some time after the experiments, and in one case it trickled down the cheeks. A young lady, who had a paralysis of the tongue, and a difficulty of speech, derived, from the application of Galvanism, blue suffigated spots on the skin. Another had the head ach, and his nose began to bleed, on having applied the zinc pole to the palate, while he held the chain of the other pole in his hand. Sometimes small wounds were occasioned in the ears by the application of Galvanism, and I remember, in one or two instances, of a slight delirium, with a head ach, and an inclination to sleep, which lasted for about 24 hours, and seemed to be removed by a foot bath. Some patients perceived, during the application, a particular sound, as from a shot, or sometimes the sound of trumpets, &c. but I never could take these phenomena for favourable symptoms; and in general, I have not been happy enough to observe such speedy and favourable effects in cases of deafness, as have been announced by other physicians in sundry German newspapers. Some persons perceived a particular sulphurous or metallic taste, whenever the positive wire was introduced into the ear, while the other was held in the moist hand. A patient of a strong constitution, having one day used the Galvanism longer
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than usual, had a diarrhoea soon after, and his bowels were always moved during the continued application of Galvanism. The same symptoms I observed in a man who had applied the experiments to his arms.

CASE I. In October, last year, I tried Galvanism on a girl, six years of age, who, in her second year, (in consequence of a scarlet fever) had lost the power of hearing and of speech to such a degree, that she could not hear the noise of a cannon shot, even if she stood close by. From the ears issued a thin pus of a bad quality, and the child was, on the whole, in a bad state of health, and seemed to have much disposition to rickets; she was extremely emaciated, and had frequent diarrhoeas, &c. On having applied Galvanism to the ears for a few days, the purulent matter ceased to run, and on the 6th of November the ears became sore and very sensible. Two days after she began to perceive strong sounds; the running of the ears appeared again, but the diarrhoea had diminished. On the 11th, I observed that ear-wax had been secreted in the ear which was galvanised, and the matter had received a greater consistency; the sensibility of the ear was, at the same time, considerably increased. As the left ear, which I had hitherto galvanised, began to bleed, I applied Galvanism to the right ear, and afterwards I galvanised both ears alternately. The hearing had so considerably increased, that she heard the ringing of the bells, the voice of the birds, and her own name, when called by it, which indeed was the only articulated sound she could understand. On the whole, her state of health had been much improved during the application of Galvanism, the diarrhoea had entirely ceased, her appetite was much better, &c. all which I considered as owing to the continued use of Galvanism, no other medicines having been given. It yet remains to be seen, whether the continued application of Galvanism will perform a radical cure of deafness in this patient, or only act as a palliative; at least, a decrease of hearing was perceived whenever she had discontinued the Galvanism only one day.

CASE II. A man, 36 years of age, who was deaf and dumb from his earliest infancy, used the Galvanic agents in the same manner as is related in the foregoing case; but though he daily continued its application for two months together, he perceives no alteration, except an increased perspiration, and some congestions of blood towards the head, in consequence of which he becomes giddy, but is as deaf as he was before he began the experiment, though he sometimes fancies he can hear a little better.

CASE III. A man, aged 23 years, who, in his third year, had become deaf and dumb in consequence of a sudden fright, was galvanised

galvanised on the 2d of November. On November 13, he gave signs that he could hear strong sounds; and some days after, I observed some ear wax which had been secreted in the ear; this we proceeded to galvanise; his hearing, however, is so very little improved, that he cannot hear the penetrating sound of a French horn, though, it should seem, that he hears the sound of two books when clapped together, or of single words very loudly announced; which last fact, however, cannot be strictly ascertained, as it is known that deaf people perceive the meaning of words from the change in the muscles of the face of the speaker, and not by their being heard.

In this manner, I have applied the Galvanic pile in a great number of cases of deafness; but on the whole, the patients relapsed into their former state, though they had fancied that the hearing was improved during the actual application. In several cases, however, the ear wax began to be secreted by means of the Galvanism, or to assume a better quality.

CASE IV. A man of middle age, having, during eight days, suffered a violent otalgia, attended with running of the ears, had recourse to the Galvanic chains three times within eight days. After it had been applied the first time for about ten minutes, the pains considerably diminished, and he slept tolerably well; the following night, after the second experiment, the pains decreased still more, and the third experiment made them entirely disappear.

In head-achs, particularly if they were produced by a rheumatic cause, Galvanism proved of the greatest service, and gave almost instant relief, when the pains had lasted for several months. In this case I applied the wire of the zinc pole to the temples, or the forehead; or I ordered it to be held in the mouth, while the other was taken in the hand.

CASE V. A married lady, thirty years of age, during a month, had a pain in the face, very much resembling the Rothergillian face-ach, (*Tic Douloureux*) which always arose from a spot at the processus orbitalis ossis zygomatici, thence spread itself like a line from a centre, in all directions of the face, and making but short remissions. The hæmicrania, and the pains in the teeth and jaws were at the same time almost insupportable. Concerning this painful complaint, she had consulted the most respectable physicians, and at last she was ordered to have a mercurial ointment rubbed in at the affected place, and to take pills of cicuta, by which she seemed to be somewhat relieved, but the pains recurred from time to time with increased violence. No other cause could be assigned for this affection but a retrograde gout, the patient having bathed her feet at the time when she was affected with the gout, after which

which a hæmicrania had instantly ensued; by proper remedies, however, the gout appeared again, and the head-ach ceased. The patient began now to drink mineral water, by which she likewise got rid of the gout; but having one day caught cold, the above-mentioned violent pain in the face returned. After having discontinued all other medicines, I prepared a pile of fifteen strata, and applied the wire of the zinc pole to the spot whence the pain arose, and sometimes to the forehead, the temples, and the lower jaw, while the Galvanic chain was shut by the hand, with which sparks were continually drawn. The natural heat of the patient increased, but no sweat ensued. After having, in this manner, made three experiments the first day, the pains abated in a considerable degree. Galvanism being thus continued, during eight days, twice a day, the painful affection ceased entirely, without having appeared again.

CASE VI. A girl of twelve years of age, had, in her third year, the small-pox, the eruption of which had not been quite perfect: since that time she had lost the power of speech, was disordered in her mind; and though she was sometimes better, she always remained in the state of an idiot; but particularly she seemed to be entirely deprived of memory. Although she could move the tongue and lips without any impediment, she only pronounced few words, and at the same time very unintelligible. After having applied Galvanism to the neck, and the inner parts of the mouth, the root of the tongue, &c. no other change was observed in the space of five weeks, but that the child had become more silly and fretful, and that a tooth-ach, which she frequently suffered, had entirely disappeared; blue saggilated spots were observed on the neck, where Galvanism had been applied.

CASE VII. A man, twenty-four years of age, had, several years ago, been cured of an hydrocele by means of cauterization, after which a tumour of the testicles remained. I applied the wire of the zinc pole to the spermatic vessels, at the upper end of one of the testicles, while the opposite side of the scrotum was touched with the wire of the silver pole. After having used Galvanism for about three days, the tumour seemed to have diminished and become softer; but the patient found it so troublesome as not to be able to continue the experiment.

The medical application of Galvanism is become quite fashionable among the practitioners of Germany; and all the public papers magnify the great advantages which have been observed to result from it in cases of deafness and blindness, and other complaints in which the nervous system is chiefly affected. We have some reason to fear that many of these reports are, in a great measure, exaggerated; a circumstance by which the powerful Galvanic agent

is likely to be discredited in the eyes of the public, and thus; to share the fate which the medical use of Electricity has of late experienced. As the medical art, however, may justly hope to reap much benefit from the medical application of that stimulus, it is our sincere wish, that it may be put to a fair trial by intelligent and impartial observers, on whose statements we can rely with security; and whatever may be published relative to the medical application of Galvanism, we shall faithfully lay before our readers, as a subject which seems to engage the attention of all ranks of people, and which has a particular claim to be recorded in this Journal. We add, that a Galvanic institution for curing diseases by the Galvanic stimulus has been announced by a practitioner in the dominions of the Duke of Brunswick.

On the Means of purifying the Atmosphere from contagious Matters, and of preventing the Progress of Infection; by Cit. GUYTON MORVEAU.

ATTEMPTS have repeatedly been made to purify the atmosphere when corrupted by putrid miasmata; but the researches and experiments hitherto made, and the different expedients generally adopted for that purpose, have, upon being impartially examined, proved useless, and on the whole, without the intended success; and the only prerogative they can boast of, is that of being established by the authority of custom and inveterate prejudice. It was reserved for the sagacity and genius of Cit. Guyton, to discover the most efficacious remedy against the fatal mixture of putrid miasmata with atmospherical air, and thus to save the lives of many who would formerly have fallen a sacrifice to the penetrating poison of contagious effluvia.

The vaults of the cathedral in Dijon being entirely filled up with dead bodies, it was ordered that they should be emptied, particularly with a view of making them the repository for the dead, who, in the hard winter of 1773, could not be buried in the ground, on account of its being so hardened by frost, as to render digging impossible. On this being opened, therefore, a stench immediately arose, which became so intolerable, that the church was necessarily shut, and the work discontinued. Recourse was instantly had to all the common modes of purifying the atmosphere; but though the stench of the putrid effluvia was for some time removed, it appeared again with renewed force, and spreading itself through the neighbouring houses, traces of its effect on the human constitution were soon perceived, and infective fevers began to make their appearance. Under these embarrassing circumstances, Cit. Guyton was consulted, to propose an expedient

dient by which the alarming progress of this infection could be checked, and the fatal consequences of these effluvia powerfully obviated. *Cit. Guyton*, prompted by an opinion that all putrid miasmata of an offensive smell are impregnated with ammonia, which in fact seems to form their vehicle, thought the muriatic acid might be employed with hopes of success, it being, on account of the great volatility of its fumes, best calculated for combining itself with the ammonia; and that the putrid miasmata, thus disengaged from their vehicle, would be readily precipitated and fall to the bottom.

In consequence of this idea, *Cit. Guyton* recommended fumigations with muriatic acid, with the view of neutralizing those effluvia; and the first trial was accordingly made with 6lb. of common salt, and 2lb. of concentrated sulphuric acid, which being properly mixed, were put into a glass bell, placed in a sand bath, and the whole was gradually heated, by which means muriatic fumes were disengaged. The experiment succeeded beyond the most sanguine expectations; the beneficial effects of those fumigations manifesting themselves in so short a time, that on the fourth day the church could be opened again for service. Another opportunity of trying these acid fumigations occurred soon after in the same place. The atmosphere in the jail of Dijon became so corrupted, that a sort of malignant jail fever broke out among the prisoners, by which many of them were carried off; but the apartments being fumigated with muriatic acid, only for one day, the atmosphere was so much purified, that a young surgeon slept the whole night in one of the most infected prisons without experiencing the least harm. Similar fumigations were likewise found of great efficacy in a distemper of the horned cattle, which in the year 1774 raged in the South of France; and though fumigations with aromatic substances, woods, herbs, and resins, were at the same time employed, the principal effect, however, was obtained from the fumes of the muriatic acid, by which the stench of the atmosphere was almost instantaneously removed, and the air rendered pure and salutary.

Induced by these facts, the Council of Health, (*Conseil de Santé*) issued orders that the fumigations with muriatic acid should be used in military hospitals, in ships, in distempers of cattle, &c.; but as, unluckily, some neglect took place in publishing the proper proceedings, and to bring this new method of purifying the atmosphere into more general notice, it seems not to have so much engaged the attention of the public in France as it really deserves. Similar fumigations have, since that time, been tried in other countries, particularly in England, the history of which we find recorded in a work published by

by Dr. Carmichael Smith. This gentleman, and Mr. Archibald Menzies, employed the nitrous fumes with the view of preventing contagion, and checking its progress; in which attempt they perfectly succeeded, as malignant infective fevers were successfully repressed on board of several ships of war, by repeated fumigations with nitric acid. But in this process great care must be taken, that there is no nitrous acid (*acide nitreux*) formed, which being inhaled, may occasion most disagreeable symptoms; whereas the nitric fumes are imbibed without the least inconvenience. Mr. Cruickshank has also employed acid fumigation for the same purpose; but he admits that all mineral acids are inferior to the oxydated muriatic gas, which is very easily disengaged by pouring concentrated sulphuric acid on a mixture of two parts of common salt and one part of manganese, which must previously be diluted with water. Thick fumes will almost instantly arise, which uniting with the putrid miasmata, purify the atmosphere in a short space of time. Muriatic fumigations have been likewise made in Spain, with the view of checking the progress of contagion among men and cattle. *Cit. Guyton* having thus far proposed the historical facts relative to the use of fumigations with mineral acids, proceeds to enumerate a series of experiments, in order to investigate the nature of putrid miasmata, and to ascertain the efficacy of different substances, particularly of the acid fumes, in correcting the atmosphere, and in repressing the fatal action of those miasmata on animal bodies. With this view he made several experiments on air, in which beef had for some time been suffered to rot, by which means it had acquired all the requisite properties of corrupted air. It makes lime-water, a solution of nitrat of silver or of mercury, immediately turbid, retaining, notwithstanding, its putrid smell, a circumstance which certainly proves, that, though it contains a greater proportion of carbonic acid than the atmospherical air, its properties are quite independent of this part of its mixture. Pieces of paper which were coloured with different vegetable substances and with a solution of copper, when placed in that air for some time, did not change their colour, but only became a little paler than they were before. Several oxyds of metals, viz. of zinc, manganese, and of lead, were for some days brought in contact with this air, without either changing their colour or disengaging any ammonia. From these experiments it appears, that putrid air contains no free ammonia, as had been formerly supposed by *Cit. Guyton*. At last he made some eudometrical experiments on this air, from which it was found to contain almost as much oxygen as the atmospherical air; whence its noxious qualities seem not to originate

in a want of oxygen. In order, therefore, to examine the nature of the effluvia which render the air putrid, recourse ought to be had to a chemical analysis; but all the expedients which the chemical art offers for that purpose, are insufficient, and we must content ourselves with supposing that these effluvia are compound substances, to which the atmospherical air serves as a vehicle; and that consequently they are to be decomposed and destroyed by proper reagents. With this view Citizen Guyton brought the putrid air in contact with such strong smelling fumes as are disengaged on burning benzoin and aromatic plants, and shook it with solutions of myrrh, benzoe, and balsamus Peruvianus in spirit of wine; but the putrid smell could not be removed in this manner. Gunpowder proved, likewise, without effect, which being set on fire in a balloon filled with putrid air, made it move, but without purifying it. It was then mixed with the anti-pestilential preparation, known under the name of thieves vinegar, (*vinaigre de quatre voleurs*) and with brown vinegar (*vinaigre rouge*); but the putrid smell was still to be perceived twenty-four hours after. Fumes of acetous acid, however, deprived the air of that smell in a short time. Sulphuric acid had not the least influence on the putrid air; but the stench was considerably diminished by sulphurous acid, without being entirely removed. Nitrous and muriatic fumes soon destroyed the putrid smell; but in employing the first, it was difficult to prevent the formation of nitrous acid. Oxydated muriatic gas, however, was most efficacious in taking away all the smell in a very short space of time, and exhibits, undoubtedly, the surest means of checking contagion. The muriatic acid deserves to be ranked next, as it requires too much trouble to prepare acetic acid in a sufficiently pure state, and as with the nitrous fumes a portion of nitrous acid is almost always disengaged.

After having thus stated the experiments, with different substances, proposed for the purification of the atmosphere, and the consequences which result therefrom, Cit. Guyton proceeds to examine the influence which the oxygen seems to exert in the process of removing infection; and he endeavours to determine whether all contagious miasmata are equally attacked by the same agents. Amongst the properties of oxygen which chemistry has revealed to us, it is observed, that this matter possesses a particular disposition to enter into a combination with a number of substances, chiefly with animal bodies; whence it was natural to conclude, that it might be used as a medicament, especially as it is capable of producing such changes in the animal body, by which any morbid matter is diminished and due order restored to the animal functions. With a medical view, however, it ought to be employed in a state of combination,

tion, when its action is not restrained; and it is on this account, that certain substances prove in proportion efficacious and medicinal, from the more oxygen they contain, and the more easily they yield it to the animal matter. The different medical agents offer undoubtedly a scale of action beginning from the slightest alterative, and rising to the most violent corrosive. The theory, in which the medicines are considered in this point of view, has been adopted by several celebrated physicians of England, in consequence of which some of them have even comprehended all remedies under two general heads, of suroxygenating and desoxygenating remedies, and they have compared their action with the process of combustion. Although the common phenomena of combustion are not to be observed in the combination of oxygen with several bodies, there exists a great analogy in the results of these two processes, as by means of the oxygen, the bodies to which it is conducted suffer several changes in their respective properties, according to the degree of affinity which they have to the oxygen. The changes which perpetually proceed in the animal matters of the living body are really effected by such a slow combustion, that they may be promoted by bringing a great portion of oxygen, or such substances which are endued with much oxygen, in contact with them. By a similar theory, modern physicians were led to employ, with a medical view, the oxygenated unguent, the nitric acid, oxygenated muriatic acid, oxygenated muriat of pot-ash, and several others, which enable us to cure some diseases that formerly resisted other remedies, and were but with difficulty cured.

When it is therefore ascertained, that oxygen has such a remarkable effect on animal substances, it is easily conceived how the putrid miasmata, which are exhaled from them, can likewise be subject to the action of this agent, which combining with them must necessarily change their properties. *Cit. Guyton* enlarges here, according to this idea, on the question, how the oxygenated substances can prove preservative against infectious diseases; and from which it seems to result that oxygen, and particularly substances which emit it in form of a gas, appear to act in a double way; first, by having an affinity to the contagious miasmata, which decomposes them; and secondly, by augmenting the vital powers and organic action, which enables them to resist the noxious effect of contagion, and particularly its great power of assimilation, which renders it so very dangerous. It is known, that nothing increases and promotes contagion so much as debility; oxygen gas, therefore, acting as a stimulant, by entering the body through the organs of respiration, and by touching its whole surface, resuscitates the activity and sensibility of organization, and thus checks the progress of infection.

Another question remains to be determined, whether the same remedies are applicable in the different species of contagion? All infectious diseases are not to be derived from the same matter, as the symptoms with which they are attended, prove their being of a different nature, and assign to each of them a particular character. The most general difference by which they are to be distinguished, is, that some infectious diseases originate from effluvia spread in the atmosphere; whereas others, of a more fixed nature, are only communicated by immediate contact. The first class of contagious diseases is that which must particularly engage our attention, it being more difficult to guard mankind against them, and in which the necessity of preservatives is chiefly required. To this class belong the hospital and gaol fever, fevers from marshy effluvia, and other malignant fevers arising from putrid exhalations.

With respect to the second class of contagious diseases, which are communicated by immediate contact, it is certain that they originate from a particular morbid matter, which is by no means a simple substance, but compound, and consequently incapable of resisting combustion when brought in contact with oxygen, to which, like other productions of animal organization, it has the greatest affinity. The nature of these terrible compositions, of which the contagious effluvia consist, has not as yet been penetrated; but as the infectious matters possess the property of multiplying and reproducing themselves, they cannot be simple bodies. It is however not improbable, that azote is the principal constituent of infectious matters, and that their specific difference arises from the different nature and proportion of those substances, which serve as a vehicle to it; in other words, their different degree of virulence depends on the different degree of *sur-azotation*. It may be thence suggested, that those morbid matters do likewise suffer great changes by oxygen and oxygenated substances; a conclusion which is proved by the evidence of facts and experience. The variolous poison is undoubtedly one of the most contagious and of a very specific nature; but from the experiments of Mr. Cruikshank it appears, that when previously mixed with oxygenated muriatic acid, and inoculated, it did not produce the least effect; while another portion of the same matter, which was inoculated without being mixed with the acid, communicated the small-pox. It is likewise known, that the venereal poison is destroyed by oxygenated mercurial remedies, without which it would have produced ulcers and other venereal symptoms. The hydrophobia, which has hitherto been thought incurable when advanced to a certain degree, may be successfully treated with oxygenated substances, applied on the wound, before the local irritation of the nerves has

has produced the rabid or hydrophobous. symptoms The exanthematous (psoric) matter has also been found to be destroyed by the action of oxygenated substances.

Although we have not yet received any observations of the efficacy of oxygenated substances against the infection of the plague, it is more than probable that it may likewise be decomposed by oxygen, and thus deprived of its malignity. *Cit. Guyton* recapitulates, in the fourth part of his work, the results of his experiments with all the means of purifying the atmosphere that have been to this present time employed, to each of which he assigns such a rank as it seems to deserve.

1. Cold and warm water may diminish and dilate the fetid smell of the infectious matter, but are not capable of decomposing it, and it makes but a new vehicle of the infectious matter.

2. Lime is very useful by decomposing the animal matters before the putrefaction begins, and by absorbing the carbonic acid; but air charged with putrid miasmata does not become freed from them by passing through lime water.

3. Resinous substances, even those from which a volatile acid may be obtained by distillation, have no other effect upon the infectious atmosphere but that of hiding, and as it were masking the infectious stench, without destroying the contagious corpuscles and purifying the air, in whatever manner they may be employed.

4. Fires, which are frequently kindled in infected places, may occasion a current of air, by which means the stagnating substances are dispersed; but they prove, in other respects, more noxious than salutary, and no putrid particle is decomposed by them, except those which are within reach of the heat, by which their combustion can be effected.

5. Substances, thrown on burning coals, pure or aromatic vinegars, nitre, and gunpowder, likewise never answer their intended purpose. This is the same case with sulphur, the combustion of which being never complete, and producing but a slight degree oxydation, occasions a sulphurous vapour, which though acting efficaciously on the infectious matters within its reach, does not spread itself to a great distance, and would be insupportable in places that are inhabited. It may however be successfully used for freeing from infection household wares and utensils, and even during the night time, inclosed and uncovered places, as the small courts of hospitals. To this end, powdered sulphur is placed on an earthen plate, with a small match in the middle, which is kindled.

6. Common vinegar or acetous acid having little expansibility, even when exposed to the action of heat, cannot be advantageously employed in fumigations; but it is of the

greatest service, if the infected bodies are plunged into or washed with it.

7. The liquid pyroligneous acid has an action analogous to that of vinegar, but in a still less degree; it is disengaged by the combustion of ligneous substances.

8. Pure acetic acid, or radical vinegar, has a very great and rapid action on contagious miasmata, its penetrating smell and exhalation changing not only the state of the surrounding atmosphere, but stimulating the vital powers to a degree of energy capable of resisting the impression of infection. The only inconvenience in employing fumigations of this acid consists in its being with much difficulty obtained in a pure state without great expense, a circumstance by which it is less calculated for being used on a large scale in hospitals, ships, &c.

9. It is generally acknowledged that the mineral acids are antiseptic, resisting vegetable as well as animal fermentation, and that they are capable of decomposing the contagious poison; in which property however they materially differ amongst each other, a circumstance which makes them more or less proper for being employed as preservatives against infection. The sulphuric acid, for instance, is not capable of purifying the atmosphere on account of its being too fixed. The sulphurous acid produces likewise very little effect, except in form of gas; as is the case with the combustion of sulphur. Nitrous acid acts only on the respirable part of the air, and its vapours are suffocating. Nitric acid, however, efficaciously destroys the putrid miasmata, but it extends itself inconsiderably and soon condensates again; it likewise emits nitrous gas, which is attended with great inconveniency to the persons who inspire it. The operation of fumigating with nitric acid must therefore be often repeated, if it is intended to answer its purpose. Of all mineral acids the muriatic acid is the most beneficial, particularly on account of its incredible expansibility, a property which comes every where in contact with the miasmata, which is very essential in this operation. The method of employing it is simple and not at all expensive. On adding to the mixture, which will be hereafter indicated, a small portion of oxyd of manganese, the oxygenated muriatic gas will be obtained, which undoubtedly deserves to be first ranked as the safest and surest anti-contagious remedy. A very powerful substance, which has been already proposed as a preservative by Vicq d' Azyr, is the oxygenated muriat of tin, (*liquor fumans* of Libavius): It emits very irritating vapours, and is consequently to be also recommended as a preservative, though the simple muriatic fumigations are procured with less trouble and inconvenience. *Cit. Guyton* terminates his work with a description of the anti-contagious

contagious and preservative process, which are briefly the following.

The fumigations with muriatic acid are performed in places not inhabited at the time in the following manner. Put in the middle of the place which is to be purified, a chaffing dish, on which a pan half filled with sand, or ashes, is to be laid, and place on this bath a glass or earthen bowl, containing muriat of soda, (common salt). Having heated the bath, pour on the salt, at once, sulphuric acid; which having done, retire immediately, and let the windows and doors be exactly shut.

The proportion for a high and spacious ward of twenty beds is, of common salt 9 ounces 6 drams, and of sulphuric acid 7 ounces 7 drams, which quantity is to be augmented or diminished according to the space that is to be purified.

The fumigations in places which are inhabited, and near the sick beds must be managed in a different manner. To this end, the apparatus from which the salutary vapours proceed, is made portable, and the sulphuric acid by degrees poured on the salt, by which means the gaseous acid is equally spread, and can be so managed as not to cause any inconvenience to the patients. A small chaffing dish with burning coals in it, and a Hessian crucible, will properly answer this purpose; into this a small quantity of common salt is put, on which, when it begins to be heated, the sulphuric acid is dropped by degrees. Cold fumigations may be likewise made when there is any danger of the fire, and for the greater convenience of private or family use. To this purpose you may apply a small glass bottle with a glass stopple, containing sulphuric acid, a large beer glass, and common salt. The glass being placed on the ground, put into it a good table spoon full of salt, and pour on it, at three or four different times, a small quantity of the acid, and at each time a great quantity of vapours will be disengaged.

The fumigations with oxygenated muriatic acid are made in the same manner, and nothing but a small quantity of oxyd of manganese is added. The most convenient proportion is the following.

	oz.	dr.	gr.
Common salt - - -	3	2	10
Black oxyd of manganese	0	5	17
Water - - -	1	2	33
Sulphuric acid - - -	1	7	50.

The salt and manganese being mixed by trituration, are put into a glass bowl, and the water being added, pour to it sulphuric acid. This portion is sufficient for a room with ten beds.

Such

538 *Plan adopted for the Prevention of Contagious Fever.*

Such are the proceedings for purifying the atmosphere by means of muriatic gasses, which, besides their great use, have the additional advantage of being attended with a very trifling expence.

*Plan adopted by the Institution for the Cure and Prevention of Contagious Fever in the Metropolis.**

1. **ALL** Subscribers of one guinea a year, or upwards; or of ten guineas or more, in one donation, shall be Governors of this Institution.
2. The Institution shall be under the direction of a Committee of 32, consisting of the President, six Vice-Presidents, the Treasurer, and 24 other members, who shall be elected by the Governors.
3. All poor persons, labouring under infectious fever, and residing within limits hereafter to be assigned, shall be considered as proper objects of this Charity.
4. Houses of Recovery shall be provided for the reception of those whom it may be thought necessary to remove from their own habitations. They shall be in airy situations; sufficiently detached from other buildings; and in the neighbourhood of a populous district of the town.
5. As far as may be practicable, the houses shall be divided into separate apartments, to be appropriated to patients in the different stages of fever.
6. Upon the recommendation of any one for relief by this Charity, notice shall be immediately given to the Physician, and the patient may be admitted into the House by an order for that purpose, signed by the Physician.
7. A chair, provided with a moveable lining, or some other means of conveyance, shall be kept at the House, in which all persons ordered by the Physician to be removed shall be carried thither at the expence of the Institution.
8. Regulations for the internal management of the House shall be prepared under the direction of the Committee, with the assistance of the medical officers of the Institution.
9. When

* As this subject has lately attracted a suitable degree of notice, both in London and in the country, the Editors conclude, that the details of the plan which has actually been adopted in the metropolis, cannot fail to be acceptable to their Readers.

9. When the Physician shall think the removal of a fever patient unnecessary, or when the fever shall have ceased in a dwelling-house, measures shall be adopted for the purpose of checking the progress of contagion, or preventing the renewal of its effects. The apartments shall be cleansed and white-washed, and infected bed-clothes and apparel shall be purified or destroyed.

10. A stock of bed-clothes and apparel shall be provided, to consist of such articles as the Committee may direct, from which the objects of this charity shall be supplied when it may be necessary.

11. A general meeting of the Subscribers shall take place twice every year, viz. on the first Friday in May, and on the first Friday in November. Special meetings of the Subscribers shall be called by the President, at the request of the Committee, or of any seven Governors, seven days previous notice being given thereof, and of the business to be transacted. At the general meeting in May, the President, Vice-Presidents, Treasurer, and other Members of the Committee, shall be annually elected; eight of the thirty-two Members of the Committee being to go out and to be replaced by eight other Governors of the Institution.

12. The Committee shall meet on the last Friday of every month, and at least three Members shall be necessary to constitute a meeting.

13. The Committee shall appoint all the officers and servants of the Charity. They shall form temporary regulations for the management of the House, which shall be in force until the succeeding general meeting, but no longer, unless then confirmed.

14. The Committee shall from time to time publish a report of the state of the Institution.

15. The Treasurer shall receive all sums of money paid for the use of the Institution, and shall give such security for the faithful discharge of his office as the Committee shall think sufficient. He shall make all payments sanctioned by the Committee, and shall lay before them at each meeting a statement of his accounts, and the same shall be audited and balanced, and submitted to the General Meeting in May.

16. The Treasurer shall appoint a Clerk for the purpose of collecting subscriptions, and shall be responsible for his conduct. The clerk shall receive such remuneration as the Committee shall think proper.

17. The Committee shall at each monthly or other meeting, appoint Directors of each House, who shall continue in office until the next meeting of the Committee,

18. The

18. The Directors shall give orders for the purifying of clothes and apartments where the Physician reports it to be necessary; and when application is made for a supply of clothes, they shall give an order in writing for such articles as they may deem requisite.

19. They shall order a reward to such amount (subject to the regulation of the Committee) as they may think proper, to be given after the cessation of fever, on condition that the rules prescribed for cleanliness, ventilation, and the prevention of infection, have been faithfully observed. The reward shall be proportioned to the degree of previous danger, and the success of the measures by which it shall have been counteracted.

20. The Directors, before every meeting of the Committee, shall cause the bed-clothes and apparel belonging to the Institution to be examined, and shall report thereon to the Committee.

21. The Directors shall be authorised in all respects to aid the execution, and enforce the observance of the regulations of the Institution; and they shall notice, and, if necessary, report to the Committee any irregularity or misconduct on the part of the servants or patients of the Charity.

22. The attending Physician shall, upon receiving an application in behalf of any object of this Charity, ascertain the state of the sick person either by personal inspection, or by obtaining a satisfactory statement of the case from a Physician or an Apothecary. If it be necessary, either on account of the extreme poverty of the patient, or of the crowded state of his habitation, that he be removed to the House, the Physician shall give an order to that effect.

23. The Physicians shall visit each House at such times as may be deemed necessary by the Committee; and shall attend at their own houses those patients whom they may not think it proper to remove.

24. The Physicians shall keep accurate registers of the cases of all in-patients admitted under their care, and of the remedies employed.

25. They shall also report the measures necessary to be adopted in places where the contagion subsists, or has appeared.

26. The Committee shall allot the portion of duty to be undertaken by the Physician.

27. An Apothecary shall be appointed for each House, and shall reside near the House, which he shall attend at least once every day, and at such other times as the Physician shall appoint, and on all cases of emergency.

28. He shall prepare the medicines for the patients, and shall attend

attend at a certain hour for the purpose of delivering those ordered for the out-patients.

29. The Apothecary shall receive such compensation for his attendance as shall be fixed by the Committee.

30. The Secretary shall issue summonses for, and attend all meetings of, the Committee and Governors. He shall enter in proper books an account of their proceedings, and shall do such other business as the Committee may direct.

31. He shall be entrusted generally with the care of the clothes and other things belonging to the Institution.

32. He shall be under the direction of the Committee and Directors, and shall superintend the execution of the measures enjoined by them for cleansing and purifying clothes and apartments.

33. He shall report to the Directors the Physician's opinion as to the articles of clothing required, and shall deliver none out of his custody but in consequence of an order signed by the Directors.

34. He shall deliver wine only to those who produce an order signed by the Physician, specifying the name of the patient for whom it is ordered, and the exact quantity required.

35. He shall from time to time visit the apartments of any person to whom it shall have been found necessary to entrust bed-clothes or apparel, and shall ascertain whether they are applied to the intended purpose; and in case of any misuse of them, he shall immediately report the same to the Directors.

36. He shall lay before the Committee at each meeting an account of the articles of clothing, &c. in his possession, and a list of those lent, or given, by order of the Directors, and of those returned since the preceding meeting of the Committee.

37. Before entering upon his office, he shall give security for his good conduct to such amount as the Committee shall determine.

38. The servants of each House shall consist of a Matron, who shall superintend the domestic concerns, and of so many ordinary nurses as may be absolutely necessary, together with a porter, and such extra attendants as from time to time the Committee shall think requisite.

39. The porter of each house shall assist in carrying those whom the Physician shall have ordered to be removed to the House, and shall be otherwise employed as the Committee and Directors shall appoint.

LIST OF THE GENERAL COMMITTEE.

PRESIDENT.

HIS GRACE THE DUKE OF SOMERSET.

VICE PRESIDENTS.

The Lord Bishop of Durham.	Wm. Wilberforce, Esq. M.P.
Lord Sheffield.	Langford Millington, Esq.
Sir Walter Farquhar, Bart.	Thomas Bernard, Esq.

TREASURER.

Mr. Richard Phillips.

COMMITTEE.

Thomas Baring, Esq.	John Pearson, Esq.
Henry Boase, Esq.	Mr. William Phillips.
Thomas Bonar, Esq.	Wm. Morton Pitt, Esq. M. P.
Anthony Clarke, Esq.	Thomas Pitt, Esq.
Patrick Colquhoun, Esq.	James Redit, Esq.
Edward Forster, jun. Esq.	Christopher Stanger, M. D.
William Garrow, Esq.	Samuel Thornton, Esq. M. P.
Maxwell Garthshore, M. D.	William Waddington, Esq.
John Hingeston, Esq.	John Walker, Esq.
Alexander Marcet, M. D.	John Warburton, Esq.
John Miller, Esq.	Robert Willan, M. D.
Jos. Allan Park, Esq.	John Yelloly, M. D.

PHYSICIANS EXTRAORDINARY.

Robert Willan, M. D. F. A. S. Bloomsbury Square.

Christopher Stanger, M. D. Gresham Professor, and Physician to the Foundling Hospital, Lamb's Conduit Street.

PHYSICIAN. William Pitts Dimsdale, M. D. Greville Street, Holborn.

APOTHECARY. Mr. Joseph Dymond, No. 146, Holborn Bars.

SECRETARY. Mr. Charles Murray, No. 19, Greville Street.

INSPECTOR. James Wiseman.

COLLECTOR. Mr. William Bond Copeland, No. 1, Devonshire Street, Red Lion Square.

The following Letters are extracted from the Independent Chronicle, published at Boston, on the 15th Day of July, 1802.

MESSRS. EDITORS,

THE public must have perceived, before this time, that I have never failed to examine every report which has appeared to militate against my early and uniform assertion, *that the kine-pock afforded a sure, safe, and permanent security against the small-pox*; and, that against every such report, I have invariably opposed a public contradiction. But the origin of these false reports has not been confined to our own country; some of them owe their origin to people in England, who have written them to their friends here. These I have, in like manner, traced to their source, and found them all turn out to the honour of my doctrine.

Of this nature is the one now offered to the public. It has been observed in England, as well as in this country, that elderly people, such as Mr. E. have been slow to believe in the efficacy of the Jennerian discovery. It is no wonder they are sceptical, having known, in the course of their lives, numberless whims that boast their existence to-day, and to-morrow are no more.

Some persons had written very discouraging accounts of the kine-pock inoculation in England, to their friends here, and had mentioned names and circumstances, and quoted Mr. E. as their authority. Coming through so respectable a channel, it could not but make a disagreeable impression on some, whose families had received the distemper from my hands. I therefore felt it a duty which I owed to them and to myself, to request further particulars from the gentleman quoted. My letter passed through the hands of Mr. Ring, a surgeon of the first rank in London; and who, next to Dr. Jenner, is the most celebrated Vaccine Inoculator in Europe. Mr. Erving merits the thanks of his countrymen for this candid, explicit, and I may add, patriotic letter.

Cambridge, July 13, 1802.

BENJ. WATERHOUSE.

A Letter from GEORGE ERVING, Esq. of London, to Dr. WATERHOUSE, at Cambridge, in America.

SIR,

I lately had the pleasure of receiving your letter of the 12th of February, through your friend, Mr. Ring. It gives me much

much concern to think, that any thing which might inadvertently have fallen from me, respecting the Vaccine Inoculation, should have created any alarm or apprehension in any amongst you, who have taken, or might be disposed to take, this disease; or in the least to have abated your happy progress in disseminating this disorder throughout the United States, and thereby exterminating that most inveterate enemy of mankind, the Small-pox. The Vaccine Inoculation, so lately brought into use, which is daily extending, and gaining fresh credit as it extends, has had the fate of all new discoveries, to contend with a variety of opposition. All innovations from our common habits of thinking and acting, must necessarily meet with opponents; and this opposition, or collision of opinions, acting according to the importance of the object, begets enquiry, investigation, and experiments, till at length truth is fairly brought out and established, or error detected and exploded. At the first introduction of the Vaccine Inoculation, there was a great deal to learn, which experiment and practice alone could teach; and there can be no wonder, in the early stages of the practice, where in many cases there were different appearances and results, if men of the most enlightened minds should differ in opinion as to its operation and effects; particularly that one effect of totally discharging the habit from all susceptibility of the variolous infection, in which consists its whole ultimate value; and this could be determined by time alone. Some Physicians, I understand, have supposed and acted upon this supposition, that this disease was only a different species of small-pox; and that the patient may receive them both together with the best effect. But this doctrine has been exploded: perseverance in the practice had led to new discoveries and improvements, which have produced the happy consequence of silencing opposition; and forcing conviction upon every candid mind. I am no Physician; nor has it fallen in my way to converse much with gentlemen of the profession on the subject; yet, as this is a discovery of such happy promise to mankind, I have felt myself more than commonly interested in its fate. I have therefore read books, made enquiries, and heard opinions; and on making up my judgment on the case, I confess myself to have been on the sceptical side of the question. But the evidences of facts have latterly become so strong and irresistible, as to have borne away all my objections; and I have no hesitation even to declare myself an entire convert, and to dismiss all my former doubts. I had often heard and believed, that this disorder left a foulness in the blood, especially in children and infants, which required a considerable time to eradicate; and this, I understand, has not
been

been without example in the early stages of the practice. I also thought that the time was much too short to pronounce decidedly on its permanent effects; but from some particular cases adduced in your friend, Mr. Ring's valuable book, I with great satisfaction renounce this opinion. I now can easily believe, if any ill humour should remain in the blood after the disease has passed, or any susceptibility in the habit to receive the variolous infection, it must be owing solely to the wrong sort, or the impure or vitiated state of the matter with which the patient was inoculated; and this seems to be pretty well ascertained by all the practitioners in this disease. As to what Dr. S—— said, it was, as well as I can recollect, that two young gentlemen of Oxford, (whether they were young men or young children is no way material as to the fact) had been inoculated for the Vaccine Pox by Dr. Jenner, which they got well through; and that a few months, or a considerable time after, they were both taken ill of the Small-pox in the natural way, of which one of them died. He mentioned no particulars, as I dare say he knew none, of the kind of matter, or the quality of it, with which they were inoculated. It is possible that the vaccine virus, by exposure to the air, or some other cause, had undergone a change, so as to have altered or wholly destroyed its effects; and that this may have been the case is pretty evident from later discoveries and improvements in the practice, as your ingenious friends, Dr. Jenner and Mr. Ring, may more clearly explain to you.

Great merit is due to Dr. Jenner, in the first instance, and to those able and worthy practitioners who have followed and supported him, in drawing from obscurity this long-neglected disease; and have, with such unremitted labour and ingenuity, struggled against every species of opposition, till they have brought conviction home to every candid mind. Much praise and gratitude are due to you, Sir, from your country, for the lead which you have taken in this infant science. May increased success attend you in your progress; and may ample rewards compensate you for all your labours.

I am, with much respect, SIR,

Your most obedient servant,

Hanover Square, London, April 20, 1802.

GEO. IRVING.

*** It is a duty we owe to Dr. JENNER, and to the cause of Truth, to assert, that Dr. Jenner has never inoculated any person at Oxford; consequently, the whole report which occasioned so much alarm in the minds of our Transatlantic brethren is totally destitute of foundation.

VACCINE INOCULATION.

THE following extract of a letter from Dr. Brandreth, of Liverpool, to Dr. Marshall, contains a respectable testimonial in favour of Vaccine Inoculation; such a testimonial, as it would be injustice to the public to withhold, while a vestige of that cruel pestilence, the small-pox, remains.

"No circumstance of importance relative to the cow-pox, has occurred in this neighbourhood. All the medical practitioners here, who stand high in character, recommend, and have adopted the Inoculation of it, with full confidence of its being an effectual security against the small-pox. In the adjacent towns of Ormskirk, Prescot, and St. Helens, it has been extensively employed; nor can there be any doubt that it will shortly become universal. The safety with which it may be performed at any age, and under every state of health, (its efficiency being once established, which indeed is, at present, indisputably the case) must overcome every obstacle, and silence the cavils of ignorance, prejudice, and malevolence. It must prevail, and cannot fail to be esteemed the most valuable blessing that ages and centuries have bestowed on the human race.

"But it is wholly unnecessary to repeat the advantages which must accrue from this discovery, since they have already been so ably illustrated by Mr. Ring, whose treatise on this subject is a master-piece, written with zeal, candour, and great knowledge of the subject.

"The mass of evidence he has produced in its favour, would convert an infidel. He has, in the most conspicuous and satisfactory manner, proved, that a person who has once had the real cow-pox, remains, for ever, insusceptible of the small-pox; and I peculiarly admire the ingenuity and success with which he has detected the sources of unfavourable reports, and laid before his readers, in the compass of a moderate volume, all the knowledge, and an analytical review of all the publications on this interesting subject.—I can add nothing useful.

"Dr. Jenner, to whom the world is infinitely indebted for the candid and expeditious manner in which he communicated his knowledge on this subject, has my most sincere thanks, and ardent wishes, that the public remuneration may be ample and honourable. You will oblige me greatly, by making my best regards acceptable to him. He has my best wishes for his happiness and success."

A Case where the Vaccine Inoculation was supposed to have failed; communicated by Mr. PEARS.

IN reply to the observations of Mr. Ring, which I have been prevented from noticing sooner (excepting in a private conversation with himself) I would beg leave to observe that the statement was there given as that of the mother, (whom Mr. R. "believes to be fully entitled to credit," though he says erroneous in the particular to which he alludes) a method which I have always observed, and so expressed, to prevent any imputation upon another person that might appear unjust. Moreover, upon my afterwards asking Mr. H. if he thought my statement in the Journal was correct, he said, "It was so."

It appears to me so important to bring forward all such cases as seem to be inimical to the *Cow-pock* inoculation, that I think it the only way to establish the truth. I am the more anxious on this subject, from the assurance that all the cases of supposed failures, of which I have heard, had in a degree produced effects injurious to the Vaccine Inoculation; and when they are suffered to remain in secret, or to die away, as it has been called, it affords a victory to the enemies of the vaccine practice, while the abettors of it have such cases constantly treasured up, and opposed to them as unanswerable, because uninvestigated, and therefore unrefuted.

On this account I shall trouble you with another case of the same kind, the result of which I am happy to find upon enquiry, proves equally favorable to the *Cow-pock* with the rest; and as such, shall be detailed for the information of those who either had not, or did not, improve the opportunity for its examination, if you think proper to give it a place.

Henry Moggeridge, near five years old, was inoculated for *Cow-pock*, at the Small-pox Hospital, about twelve months since, and underwent its several stages in the usual way. About five months since, he was permitted to be with a child labouring under Small-pox, of which it died, and with whom he slept every night for two weeks previous to its death, without receiving any infection. In the beginning of August, an eruption appeared upon the above child (Henry), which upon the inspection of a surgeon was pronounced to be Small-pox, and as such it was reported throughout the neighbourhood of the child, and produced considerable influence upon the minds of many persons, injurious to the *Cow-pock* Inoculation. The same report and influence was extended also for some miles, in which way it came to my knowledge. The spots of this eruption were large, equalling the size of a sixpence, and some of them that of a

shilling; they filled with a limpid fluid, which afterwards matured, and in about three weeks went off, the crusts or heads remaining two weeks afterwards; the scars when I saw them being left, and having the appearance of large and irregular spots, from their union with each other, especially upon the back, where were the greatest number of them, although they existed in all other parts of the body, and on the scalp. They gave me the idea of its having been what is called "*Swine Pock*."

The child is perfectly well, and his parents entirely convinced that the Cow-pock is not at all influenced by this circumstance, more especially, as it was so strongly confirmed by that of the child *sleeping for a fortnight with another child who died of Small-pox, without receiving the infection.*

Rockingham Row, Newington Butts, Oct. 20, 1802.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

IN your Journal for May, I observed an account of a case of Cataract, in which the accidental occurrence of inflammation had removed the disease. From which, together with some observations of Mr. Ware's, the ingenious narrator, Mr. Crowfoot, seems to think, that it might be sometimes expedient to excite artificial inflammation in the tunica conjunctiva or cornea, for the removal of that disease. The two following cases may probably give some idea of the success to be expected from such practice; and are therefore much at your service, if you esteem them worth inserting in your very useful publication.

I am, &c.

Grantham,
Oct. 17, 1802.

B. LEESON, Jun.
Member of the Royal College of Surgeons.

ROBERT SMITH has been blind of his left eye from his infancy, which defect evidently arose from a collection of opaque, milky fluid, within the capsule of the crystalline lens, occasioning an unusual prominence of that eye. He is a very stout, athletic man, about three and twenty years of age, constantly employed in the occupations of husbandry, and very regular in his mode of life. On the eleventh of March, he applied to me in consequence of violent inflammation, which had attacked the diseased

diseased eye, attended with very severe pain in his head, and very general increased action in the system. The usual antiphlogistic method of treatment was pursued; together with scarifications of the tunica conjunctiva, bleeding from the temporal artery, and the application of the vinum thebaicum to the eye. In about ten days the inflammation was subdued. It now became desirable to ascertain what effect the inflammation would produce on the previous disease, and the eye has since been inspected at different times for that purpose. When a month had elapsed from the cessation of the inflammation, the crystalline lens was observed to have become perfectly clear, and has ever since remained so; the globe of the eye is also lessened, but still the vision is equally imperfect, as before this attack of inflammation; although no other appearance of disease is evident, than a lessened sensibility in the iris to the stimulus of light.

Elizabeth Rimington, aged twenty-one, is perfectly well in health, of a firm, muscular habit; has cataracts in both eyes, which have been there since her infancy. She has sufficient vision to distinguish light from darkness, and to guide herself in places to which she is accustomed. The cataracts have the appearance of being in a soft state, giving the idea of a milky fluid being enclosed within the capsule. As the left eye was possessed of most vision, it was proposed to operate first on the right eye, and should that succeed, to proceed to the other at some future period.

On the 20th of December, 1801, having prepared for the operation, a knife was passed through the cornea in the usual manner, and the capsule of the crystalline being wounded, a milky fluid was immediately evacuated with some force, part being expelled through the incision, and part effused through the globe of the eye. Under these circumstances, it was unnecessary to complete the incision, and I therefore withdrew the knife. The patient was put to bed in a dark room, and treated in the usual manner; for several days I had the satisfaction to believe, that she would recover the sight of that eye with little pain. The inflammation and fever succeeding the operation being trifling, at the end of a week she was released from her confinement. At this time, the effused liquor was perfectly absorbed, and the eye was, in every appearance, free from disease, the iris contracting and dilating very rapidly on the admission or expulsion of light; still her vision was less perfect than immediately after the operation. Apprehending this to arise from the capsule remaining unabsorbed, I recommended nothing to be applied for a short time, hoping absorption would come on, as the office of the part was now no longer necessary. This not taking place in a month, some stimulating applications, with a view to promote absorption, were used, but without any

better effect; and I am sorry to add, that at this time, October the 14th, the patient remains with the same imperfect vision as before the operation, notwithstanding the eye is free from any visible imperfection. In the first of these cases, the diminished sensibility of the iris may shew some deficiency in the optic nerve, probably co-existent with the formation of the original disease. But in the second, the eye exhibits every appearance of health, and it is only upon the opinion of the non-absorption of the crystalline capsule, that the present blindness is to be accounted for, and even this might be supposed to occasion some visible defect in the eye. This supposition contradicts the opinion of the best modern surgeons, who maintain that parts will continue no longer than their functions are necessary, on which opinion, the operation for the extraction of the cataract is supported. As far therefore as this case goes, it will lead to a very guarded prognosis in every operation, even in the usual mode, for cataract; and to a much more guarded one, should the mode of treatment suggested by Mr. Crowfoot be adopted.

On the New Chemical Nomenclature.

THE nomenclature of the metallic salts is very defective in not expressing any distinction between the salts formed by the different oxydes of any metal combined with the same acid. The sulphat of iron, for instance, signifies indifferently a compound of sulphuric acid, and either of the oxydes of iron. It has been proposed to distinguish them by terming that salt which contains the metal more highly oxydated, an oxysulphat. This mode is, however, very objectionable. By it we can only distinguish salts formed by two different oxydes, whereas several of the metals are capable of several degrees of oxydation. It is particularly objectionable with respect to metallic muriats, for an oxymuriat properly signifies a salt containing oxymuriatic acid. We are by no means authorized to suppose it an indifferant matter, whether the super dose of oxygen be combined with acid or with the metal.* I should propose to distinguish the salts of different oxydes of the same metal, in the manner

* In which state of combination it exists in any salt, may be known if the exact proportion of the ingredients be accurately ascertained. For the quantity of oxygen must be exactly sufficient either to form one of the oxydes of the metal and no more, or it is in that state of combination for which the quantity exactly corresponds with what would be required.

that the oxydes are themselves distinguished, that is, generally by either their order, (as 1st. 2d. 3d. oxyde) or by their colour, (as black, red oxyde.) The word oxyde may, in all cases, be omitted without ambiguity, by which means the expression may be shortened; and, in order to avoid the error that may be easily occasioned by the great similarity of the words sulphat and sulphite, &c. I should propose to render these terms into the adjectives sulphated and sulphitous; in the same manner, phosphat and phosphite will form phosphated and phosphitous, &c.

The sulphats of iron then may be expressed thus:

Sulphated black iron, — or sulphat of black iron,

Sulphated red iron, — or sulphat of red iron,

Signifying the sulphats formed by the black and red oxydes of iron.

The sulphites of iron will be

Sulphitous black iron, — or sulphite of black iron,

Sulphitous red iron, — or sulphite of red iron.

Super and sub sulphats, &c. evidently may follow the same rule.

Mercury forms three different oxydes, the black, grey, and red. Whether any one acid will combine with all these oxydes, is, perhaps, not yet ascertained. A nomenclature, however, upon general principles, must provide names for every possible combination. Muriats of this metal are an important class of salts, and supposing they may be formed with all the different oxydes, we shall have muriated black mercury, muriated grey mercury, and muriated red mercury.

The oxymuriats would be oxymuriated black, grey, and red mercury.

Oxydes distinguished otherwise than by their colour, may be distinguished in the same manner in their salts. Thus the 6th oxyde of antimony is called the acidulous oxyde, to distinguish it from the 5th, both being white. In the same manner, we may distinguish a salt formed by that oxyde; as,

Phosphate of lime and acidulous antimony (James's powders.)

There is another set of substances, to which the same rule may be advantageously applied as in the salts. The sulphurets, phosphorets, and carburets of metals contain the bases either combined with oxygen in different quantities, or in their pure metallic state. The nomenclature has provided no distinction for these different compounds. I should propose to distinguish them thus:

Sulphurets of Iron.

Sulphuret of bright iron (iron in the metallic state)

————— black iron } black and red oxydes of iron.

————— red iron }

N n 4

Sulphurets

Sulphurets of Mercury.

Sulphuret of bright mercury.

———— black mercury.

———— grey mercury.

———— red mercury.

Hydrofulphurets and hydrogenated sulphurets would follow the same law. This last term, hydrogenated, badly expresses a combination of sulphurated hydrogen. It would properly signify a combination of hydrogen only. Hydrofulphurated sulphuret would accurately express a combination of sulphurated hydrogen and a sulphuret.

O \mathcal{A} . 13, 1802.*To the Editors of the Medical and Physical Journal.*

GENTLEMEN,

IN the month of March last, I communicated to the public, through the medium of the Philosophical Magazine, the result of an experiment made with a belt or chain on the principle of a Galvanic pile, and applied with singular success in a case of rheumatism, with which I had been troubled for near a year, and which had, until I used the belt, increased to an alarming degree. I have the pleasure to inform your readers, who might have similar complaints in the back and loins, and who may be inclined to make trial of the belt, which is composed of plates of zinc, united by links of plated copper wire*; as also for the satisfaction of those who have made enquiries, that I still wear it; nor do I mean to leave it off, being well convinced from the experiment alluded to above, and having now worn it a year, that it has so far accomplished my wishes in the removal of my complaint, as enables me to assure others, that I have not felt the least return for five minutes since I have applied the belt a second time. In making this known, I have no other motive but to lessen in a small degree, or relieve the sufferings of mankind: and although the same success may not attend others with complaints somewhat resembling mine; as, for instance, the gravel, where I have known it has failed, I am nevertheless persuaded, this newly discovered Galvanic fluid will only require to be differently modified in its application to the human

* See Philosophical Magazine, March 1802.

human, and perhaps the brutal frame, in order to restore that equilibrium of the electric fluid so necessary to health, without which neither the animal nor vegetable world could long subsist. I believe it is now pretty well understood, that this is only another branch of electricity, and we know that electricity has been of considerable benefit when properly applied in certain disorders, but not so in all; this might be the case with the Galvanic fluid; and we have every reason to hope at least, that it might, by enlarging or multiplying the zinc plates, effect a removal of the complaint, where the old or common electricity has failed. In the new electricity there is most certainly this considerable advantage, that the Galvanic belt is an electrical apparatus, constantly in action as long as it is worn, and I believe more powerful when perspiration is promoted; I therefore could wish scientific men would treat the subject like philosophers, and not be influenced by *prejudice*, that great obstacle to very important discoveries.

I am, &c.

Lancaster Court, Strand,
17 Sept. 1802.

RICHARD TEED.

To Dr. BRADLEY.

DEAR SIR,

THE prevalence of the Dysentery, in its most virulent state, and among all ranks of people in St. Lucea, affords me an opportunity of doing justice to the laudable and benevolent intentions of Sir S. Clarke, by communicating the few observations I have been able to make respecting the utility of a plant, of which he sent the seed to this island, and which is said to possess the virtues requisite to cure the disease, and to call the attention of the Faculty to such experiments as may ascertain its real virtues and uses in practice.

An account of this plant, called Zeezegery, was lately published in a Letter from Captain Huxley to Sir Simon Clarke.

There is no doubt of its being the plant described by Brown, in his natural History of Jamaica, p. 270, under the article *SESAMUM*. *Foliis inferioribus trifidis dentatis, superioribus oblongis serratis*, commonly called Vanglo, or Oil Plant. It was introduced into the island by the Jews from Carolina; they valued it on account of the delicate oil contained in the seeds, which are said to yield near one third of their weight in pure oil, by pressure. The leaves being slightly bruised and immersed in simple cold water, impart with surprising facility the mucilage, and
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in great quantity; it appears perfectly limpid, without either smell or taste. In this state it was fit for use, it being made as thick as is agreeable to the patient.

Another species is described by the same author: *Foliis omnibus oblongis serratis*, which I have also seen; it possesses the mucilaginous quality of the leaves also.

Fortunately, the plant has been cultivated with considerable care by some Gentlemen here in their gardens, which afforded me an ample supply when the disease attacked the soldiers of the 55th regiment stationed at the Barracks.

The symptoms were acute, and I did not omit the remedies in general resorted to in this dangerous malady, but used the infusion of the *Sesamum* as common drink, and I thought with marked good effect. To be convinced whether its effects really assisted the cure, I omitted its use for a time, when the patients eagerly requested its renewal, and with declared advantage. The number of patients among the soldiers exceeds thirty, and we have met with no loss.

I requested the attention of some of the most respectable inhabitants, who were attacked with the disease, to its effects, whose reports are equally favourable; and what observations I have made in the negro practice, corroborate the idea of its being at least a most useful auxiliary. It certainly is one of the most bland and delicate mucilages I have met with; but, as was before hinted, I have not ventured to rely on its effect more than an auxiliary. This must be left to time, and probably necessity, when no other remedy may be at hand.

I am, &c.

Lucea, Aug. 20, 1802.

GEORGE SPENCE.

An inveterate Case of Tinea Capitis; communicated by Mr. JOHN BADGER, of Little Scotland Yard, Whitehall.

[With an Engraving.]

SUSANNAH TAYLOR, aged 60, about four years since, was received into St. Bartholomew's Hospital, with several tumours upon her head the size of a hen's egg, which were removed, and she was discharged soon after perfectly well. However, in a few weeks after this period, she felt a troublesome itching upon her head, which was succeeded by several small pustules; but finding no considerable inconvenience from them, she suffered them to remain without any other application than that of keeping the head clean with soap and warm water, which she

An Inveterate Case of Tinea Capitis.



she found allayed the itching. In this state, it remained without any appearance of amendment, till about four or five months ago, when she was attacked with a violent fever; but after her recovery, her head becoming gradually worse, she was again obliged to apply to the Hospital for relief, and upon her admission, about two months since, the disease exhibited the extraordinary appearance as shewn in the plate. Poultices of linseed meal were applied for the purpose of removing the scabs, since which she has been using the ung. picis. c. sulphure, but hitherto with very little success.

Aug. 7, 1802.

CRITICAL ANALYSIS

OF THE

RECENT PUBLICATIONS

ON THE DIFFERENT BRANCHES OF

PHYSIC, SURGERY, & MEDICAL PHILOSOPHY.

A Description of the Egyptian Ophthalmia, and the Method of Treatment. By Cit. SAVARESI, Physician in Ordinary to the (French) Army of the East. (Translated from the Memoires sur l'Egypte, Tom. 2.)

THE Egyptian Ophthalmia attacks persons in perfect health; it is therefore difficult to be guarded against, but in general the disease is entirely local; when however it assumes an unfavourable character, the pulse is affected, and it may then be considered as an internal inflammation. The progress of this disorder is rapid, and the termination often protracted to a great length of time; if a period is not put to it in seven or eight days, it frequently lasts one or two months. From attentive observation, I have found that the left eye is more frequently affected than the right, and the severest symptoms appear to be periodical. Sometimes when diarrhoeas, dysenteries, or tertian fevers supervene, they carry off all traces of the ophthalmia. When a cure is not effected, the disease, after resisting the most active and potent remedies, terminates in amaurosis, in dimness of sight, or even in an entire loss of the globe of the eye.

Causes.—I believe the Egyptian Ophthalmia to be endemic, and the following are my reasons for holding this opinion.

The champaign country of Egypt consists of immense plains, over which the day-light is very bright and intense, the soil is dry, friable, and burning, particularly in summer, it is argillaceous and chalky,

chalky, and contains perfect nitre, soda, and sea salt; the days are serene and sultry, and the nights cool, damp, and cloudy. It is evident that an union of these circumstances forms a sufficient physical cause of injury to the eyes of animals exposed to them, by stimulating in an excessive degree; hence arises a defluxion of humours to the part, whereby the equilibrium of its natural tone is broken, and thus either by an increase or diminution of tone, the *sthenic* or the *asthenic* ophthalmia is produced.

Nothing indeed more strikes the traveller into Egypt, than the prodigious number of blind, or persons affected with diseases of the eyes, which he every where meets with; for both rich and poor, the inhabitants of towns and of the country, are all equally exposed to this calamity. History likewise informs us, that even several of the Pharaohs were blind at their death. The other animals are not less subject to diseases of the eyes than the inhabitants themselves; the greater number of the dogs are either entirely blind or at least dim-sighted, and many of the asses, oxen, horses, and camels have spots or other slight affections on the eye.

From all these facts I am led to conclude, that the ophthalmia is endemic in the countries watered by the Nile, and is particularly virulent in the hot season, that is, from the beginning of summer to the end of autumn.

Some persons have pretended that those people, who, like the Egyptians, feed principally or very largely on rice, were subject to this malady. Were this the case, the Italians, and especially the inhabitants of Lombardy, should be infested with the complaint; but as this does not happen with them, nor with many other nations who employ rice as their chief food, no other refutation of this opinion is required.

Among the causes of ophthalmia in Egypt, the nitrous dust or earth which so much abounds there is usually adduced. By this term must be understood those neutral salts arising from the combination of the nitric acid with a fixed alkali or a simple earth. But as all these, except nitrat of potash, absorb the humidity of the atmosphere, they cannot remain in their neutral state under the form of dust. Besides, as the nitrous acid has a stronger affinity with potash than with soda or the primitive earths (except barytes) the term nitrous dust can here only apply to nitrat of potash; and this salt, as I shall shew, does not injure the organs of sight.

Clay and chalk are earths which are very extensively spread over the whole of Egypt, and experience shews that these will very certainly produce ophthalmia. To prove it, I introduced them in fine powder within the eyelids of several dogs, who all became almost blind the day after. On the other hand I found that nitrat of potash employed in the same manner produced no inconvenience.

Almost all the masons of Egypt have complaints in their eyes, because, as their mode of working is unskilful and inconvenient, they are constantly handling lime, and breathing an atmosphere full of particles of chalk, clay, or calcareous earth.

Nosology.—This ophthalmia is either *sthenic* or *asthenic*, that is to say, arising from excess or deficiency of tone. Of the *sthenic*, there is

is only one species, namely, the inflammation of the bulb of the eye; the asthenic includes two species, the inflammation of the tarsus, and of the conjunctiva. Each of these three species is marked by very characteristic symptoms.

In the inflammation of the bulb of the eye the following are the most prominent symptoms; the eyelids are red and inflamed, and open with much difficulty, and at the same time the globe of the eye is insupportably painful within; the small vessels of the conjunctiva are so overloaded with blood as to form a membranous pellicle which surrounds the eye.

The sight is dim, cloudy, and sometimes altogether lost, light is insupportable, a purulent discharge supplies the place of tears, and the patients often complain of the feeling of small stones pricking the eyes, and a piece of cloth covering them.

The inflammation of the tarsi is attended with swelling of the upper eyelids, which grow pale and relaxed, and open with difficulty; light produces a disagreeable sensation, the tarsi are painful, inflamed, and watery.

In the inflammation of the conjunctiva the light is insupportable, the pain acute, the sight obscured, and the eye watery.

Treatment.—In all the varieties of this ophthalmia I began by purging the patients indiscriminately with an ounce of sulphat of magnesia, after which I directed my attention to the peculiar indications of the case.

The sthenic ophthalmia requires the attention of a careful and experienced physician, because the cure depends on the activity of the remedies first employed. In this case much advantage is derived from a blister to the nape of the neck, and local bleeding from the temporal artery or jugular vein; these should never be omitted, and in an hour after the bleeding, the disease generally abates in a remarkable degree, the spasm and acute pain diminish, and are scarcely perceptible on the succeeding day. Sometimes however the relief is not quite so speedy, and the disorder remains attended with a slight febrile agitation, which requires for its removal general bleeding and purgatives. The regimen should be moderate; for drink, the patient is prescribed barley-water acidulated with cream of tartar; and an anodyne resolvent collyrium is used, composed of laudanum and a decoction of saffron. This mode of treatment should be pursued till the swelling diminishes and the eyelids become inverted, with a certain increase of bulk, an appearance which constantly takes place, and is owing to the debility and relaxation of the vessels. When this happens, a saponaceous collyrium, composed of soap dissolved in spirit of wine, is prescribed, and under its use the eyelids regain their natural position and open freely, exhibiting the cornea beneath them, which is now either slightly red, or else spotted; in the former case, the topical application of cold water and vinegar is highly useful; in the latter, a dry collyrium, composed of sugar candy, alum, and nitre is applied, which removes the spots in a few days. Under the use of these topical and general remedies, a cure is generally performed in one or two months.

month's time; but if this does not take place within this period, there is reason to despair of ever restoring the parts to their natural use.

With regard to the treatment of the second species of ophthalmia, I have only employed a collyrium of vitriolated zinc dissolved in water, and mixed with vinegar and brandy; this has proved a very useful remedy, and has radically cured the patients in twenty or thirty days.

The third species, the inflammation of the conjunctiva, which is the simplest, but not less obstinate than the former, has generally yielded to a solution of common salt in water and vinegar. I have often seen this disorder cured on the coast of Italy, with the simple application of sea-water.

Many persons speak highly of emollient and resolving cataplasms in all the above species of ophthalmia; but observation shews the contrary, for these applications relax the parts, increase the pain, and produce other mischievous effects.

This is the treatment which I have employed in the military hospitals; and out of a thousand patients which I have had under my care for ophthalmia, I have only to lament the total loss of sight in two, and of a single eye each in two other patients.

Preservative means.—The means of preventing ophthalmia which I have to propose can hardly be employed by soldiers, whose constant exercise of their profession prevents them from taking care of their health, but they may be serviceable to others who have more leisure and a less fatiguing occupation.

First, a person should avoid exposing himself to the brightness of the sun's light in mid-day and to the dampness of the night, with his head uncovered. Secondly, he should bathe his eyes twice or thrice a day with cold water mixed with vinegar or lemon-juice, and this should also be repeated whenever the eye has been irritated by dust, smoke, or any slight blow or rubbing; and when it has been weakened by too much light, or by the evening damps, he should wash it with spirituous or tonic lotions. Lastly, he should avoid carefully all salted food, and at the same time keep his skin perspirable, his body open, his hair rather long, and avoid sudden cooling when he has been heated.

These preservatives are found by observation and experience to be very efficacious, and if employed in time they generally prevent the disease, and preserve the eye-sight.

An Essay on the Structure and Formation of the Teeth in Man and various Animals, illustrated with copper-plates; by ROBERT BLAKE, M. D. Dublin, 1801. 8vo. pp. 240.

THE ground work of this elaborate publication was the Author's Inaugural Dissertation, published at Edinburgh in 1798; an occasion which has given rise to many of our most valuable Treatises on various branches of medical and anatomical learning.

The present work we consider as containing so much valuable matter,

matter, that a short abstract of its principal contents may not be unacceptable to our Readers. We may premise, that the principal object is to explain the formation, growth, and evolution of the teeth, and the changes which take place in their structure, from their earliest rudiments in the fœtus to their perfect completion in the adult.

The first teeth, or those of childhood, the author calls *temporary*, the set which succeeds them he terms *permanent*; he likewise substitutes to the term *enamel* that of *cortex striatus*, which he considers as more appropriate.

The first three chapters are employed in tracing the gradual formation of the temporary teeth from their origin to their present state. As early as the fourth month after conception, he observes, the rudiments or vascular membranes of all the temporary teeth, and of the two anterior grinders, may be traced in each jaw. These membranes, or sacs, receive at their lower part, vessels that deposit within them a gelatinous substance or pulp, which soon becomes very vascular, and upon which the bony part of the tooth is afterwards formed, as on a mould. The ossification on this pulp begins a little before birth, and always on the upper part of the future tooth or the grinding surfaces, and thus forms elastic bony shells, which are easily observed on examining the jaw of a newborn child. Besides this, the sac that invests the pulp secretes from its inner surface a soft earthy matter, which attaches itself to the newly-formed ossifications, and becomes afterwards the *cortex striatus* or *enamel*. The bony part of the tooth is formed from without inwards, so that its external shell or lamina is fitted to receive the fibres of the enamel, whilst the inner part is still pulpy and not yet ossified. During the whole time that the bony shell is increasing in thickness, and consequently the pulp diminishing in equal proportion, the connection between the two is so slight, that the shell may be removed from off the pulp without apparent violence, exhibiting the latter covered with a very delicate and vascular membrane.

The pulp has originally no process corresponding with the root of the future tooth; but as the ossification advances, the pulp extends downwards, assuming the shape of these processes, and therefore always preceding the formation of bone, to which it appears absolutely essential. When the tooth is perfect, a small portion of pulp remains in the centre, forming a soft bed for the reception of the blood vessels and nerves which supply this organ.

The membrane which deposits the earthy matter of the enamel, surrounds loosely the body of the tooth, but is closely attached round the neck, where also it becomes thinner than the other part. When the enamel is perfected, this membrane, having fulfilled the purpose for which it was formed, is gradually absorbed and lost. The upper part of the gum also is now removed by the same means, and thus allows of the passage of the tooth up into the mouth during the process of dentition, sometimes however with considerable pain and difficulty to the child. Several forcible arguments prove that
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this is owing to *absorption* of the resisting parts, (as Mr. Hunter well remarked) and not to the protrusive effort of the rising tooth; and the author adds, that no resistance to the tooth can be made by the membrane which secretes the enamel, since it is strongly attached to the neck of the tooth, and to no other part, and therefore must partake of its motion instead of opposing it.

The Author observes, that writers have made out a curious jumble in their description of the order in which the teeth appear during dentition; but the fact is, that there are so many exceptions and anomalies, that no very precise general rule for expecting them can be laid down. The following, however, is here given.

“The teeth, for the most part, appear in pairs, or the two corresponding with each other, nearly at the same time. The first are the middle incisores of the under jaw; in a few weeks after, the middle incisores of the upper; in a month or six weeks after we have reason to expect the lateral incisores of the under jaw; and in a short time those of the upper; about the twelfth or fourteenth month the anterior or small grinders of the under jaw appear, and frequently about the same time those of the upper; about the sixteenth or twentieth month the cuspidati appear, first in the lower jaw; and from the twentieth to the thirtieth month, the posterior or large grinders appear in the same order: so that, in general, about the second year the twenty temporary teeth are complete.”

The Author then proceeds, in the three following chapters, to describe the formation of the permanent teeth, the gradual enlargement of the jaw, and the appearances which attend the shedding of the first or temporary set. Eustachius, Albinus, and other eminent Anatomists, have discovered the rudiments of several of the permanent teeth even in the later period of the foetal state and at birth. The connexion of these rudiments with those of the temporary teeth next engages the attention of our Author, and has been the subject of his anatomical investigations. The following is the result: When the rudiments of the temporary teeth are tolerably advanced, the membrane destined to form (in the manner before described) one of the temporary teeth, sends off a new sac, which remains for some time closely connected with the membrane from which it took its origin, and is contained in the same socket. This sac was observed and described by Mr. Hunter, but not its use; which, as the Author here observes, and claims as his own discovery, is to form the rudiments of the permanent tooth that is to succeed the temporary one to which it is attached.

The gradual and synchronous growth of each tooth is then described, and the beautiful manner in which the temporary set is made to rise into the mouth and entirely to surmount the permanent teeth, which remain deep seated till their destined time comes on for rising into action.

During the first years of life, the alveolar arches continue regularly to increase, in order to afford room for the permanent teeth; about the fourth year the two sets appear to be the most perfect, as they are then each contained in their respective sockets, and also
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are separated from each other by a bony partition. The subsequent absorption of the neck and roots of the first set, and the method in which the permanent teeth advance partly into the sockets of the preceding, and partly bringing their own socket along with them, are described with much anatomical minuteness.

The Author then proceeds to Comparative Anatomy, and introduces many valuable anatomical and physiological facts, which, however, require a constant reference to the plates to be well understood. We may just remark, that as the wants and habitudes of graminivorous animals differ from those of the carnivorous, and as the food of the former requires much more comminution than that of the latter, a very great and important difference is observable in the structure of the teeth of animals that feed on hard vegetable food. This consists principally in the circumstance that the enamel (or cortex striatus, as the author terms it) not only invests the body of the tooth, but descends through its substance, forming therein a variety of convolutions, and therefore dividing the tooth into alternate portions or laminae of bone and enamel. Hence, the upper or grinding surface is composed of alternate portions of unequal hardness; and thus, as the tooth wears away, the bony part, which is the softest, is ground down first, and leaves the layers of enamel always projecting above them,—a beautiful contrivance for ensuring that constant inequality of surface which is requisite to comminute and divide hard bodies, a contrivance similar to the notching of mill-stones.

The Author remarks however in the graminivorous teeth, another substance, of a hardness intermediate between bone and enamel, which is external to both, and therefore immediately adheres to the outer coat of enamel. This substance he terms *crusta petrosa*, and it fills up all the convolutions of the external plate of the enamel, extending so high as to form a considerable portion of the grinding substance. It appears to be of use, in filling up the mouth, giving compactness to the teeth, and still further ensuring the inequality of the grinding surface, as it will naturally wear away faster than the enamel, but less so than the bone. It is very easily distinguished in the horse, the cow, and large graminivorous quadrupeds.

Several practical observations are added concerning the treatment of the teeth and gums during dentition, and particularly on the propriety of the common operation of lancing the gums of children to relieve the irritation so often attending the passage of the teeth into the mouth. The author objects to the frequent use of the lancet in this case, from the injury that it may often occasion to the sockets even of the permanent set. We must own however that the ideas which he throws out in this place are desultory, without precision, and altogether unsatisfactory.

The opinions and observations of Mr. Hunter are canvassed with great freedom in the course of this interesting work, and a variety of the assertions advanced by this late eminent anatomist are absolutely contradicted.

Nine very clear and well executed plates are added, which illustrate the anatomical description that forms the greater part of the volume, and exhibit in a very satisfactory manner the structure of the teeth in man and various other animals.

A Supplement is added, which the reader will peruse with regret, as it directly impeaches the liberality and good faith of two gentlemen, (Mr. Corse and Mr. Home) whose valuable and interesting papers concerning the structure of the elephant's teeth, published in the Philosophical Transactions for 1799, have made an important addition to a very curious branch of Comparative Anatomy.

Our readers, we are persuaded, will readily excuse us from entering into the particulars of a personal dispute, and we shall therefore conclude with expressing our satisfaction at the variety of curious research which appears on a perusal of this interesting volume.

A Collection of Papers intended to promote an Institution for the Cure and Prevention of infectious Fevers in Newcastle and other populous Towns, &c. &c. By JOHN CLARK, M. D. Newcastle upon Tyne, p. 239, 8vo. 1802.

THE subject which has given rise to this publication appears to be the following: The Infirmary at Newcastle, which was originally constructed on a plan similar to most of the older institutions of this kind, and therefore not equal in convenience and eligibility to the modern hospitals, underwent, a year ago, a number of important improvements, and amongst others, the addition of fever-wards sufficient for the accommodation of twenty patients. When completed, it was proposed by the editor of this publication, Dr. Clark, (a physician of high eminence in the town) to extend the original object of the institution, by converting these fever-wards of the Infirmary to the purpose of a general house of recovery for all infectious fever which might occur in the town. This proposal it seems has met with warm opposition, and has divided the sentiments of the inhabitants on a question similar to that which was so warmly agitated at Manchester, namely, How far, consistently with general safety, can Fever Houses be established in the midst of a populous city? or, in the present case, What risk is there of the ordinary patients of the Infirmary catching the infection of fever from dedicating a detached part of the house to the reception of fever patients?

As the question of the limit to which active contagion can extend has been so thoroughly agitated, especially within this last year or two, we shall forbear to enter particularly into the contents of this Collection of Papers. A very large part of them refers to matters purely local, the rest is made up of original correspondence on this subject between the Editor and several of our most eminent medical practitioners who have particularly attended to the subject of infection; among whom we notice the names of Haygarth, Currie, Ferrar, Willan, Gregory, Rutherford, &c. &c. In looking over this confused heap of letters, memorials, resolutions of committees, and

memoires justificatives, we cannot help remarking that all the correspondence from the above mentioned physicians most strongly and pointedly enforces the perfect safety of the plan proposed by Dr. Clark, of appropriating a part of the Infirmary to a Fever House for general reception; the committee however, with whom rested the determination, appeared to be of a different opinion, and the plan seems to have been negatived, or so much modified as to be totally altered from the intention proposed. The opinions and reasoning of the medical gentlemen who opposed Dr. Clark's plan are also stated at full length, so that the reader may have a very full view of the controversy. The weight of opinion at least, if not of evidence, appears in this instance to have been so equally balanced, that we see no other reason for doubting that those (out of the profession) who were to decide the point in dispute, were enabled to make a fair estimate of it, than a symptom of the bitterness of political rancour which in one place breaks out, and interferes most unworthily (if it has interfered) with the temperate discussion of a very momentous question of general utility.

A Treatise on Brown's System of Medicine, translated from the German of H. C. PFAFF, M. D. Professor in the University of Keil, by JOHN RICHARDSON. London, 1802, p. 80. 8vo.

THE system of the celebrated John Brown, considered merely as a system, now excites but little attention in this and in its native country; our schools for medical disputation seldom resound with the controversies on sthenic and asthenic diseases, excitement and debility, which some years ago violently, but partially, agitated the medical world: the slow and silent progress of improvement has not however been at a stand; the good sense which certainly characterises our medical practice, has led us to employ, somewhat more liberally than formerly, the stimuli of Sydenham, and to engraft into our technical language the phraseology and reasoning of Brown. Now, however, the zeal for the Brunonian hypothesis has spread through Italy and Germany; and those controversies are in full vigour there, which have fallen into partial neglect here.

The Author of the Treatise before us has made known the system of Brown to his countrymen by the medium of a German translation, and the present remarks are intended as a summary view of the leading features of the Brunonian hypothesis, pointing out the force of the excellent parts of the system, and the weakness of its errors and deficiencies.

We shall not enter into the particular points which the learned Author argues; the objections which he urges are not new (in this country at least) but are well and forcibly applied; the acknowledged defects of this system are, its excessive simplicity, which in many instances degenerates into nakedness and barrenness, the want of just discrimination in cases of infinite practical importance, and a systematical poverty in the selection and use of the articles of the materia medica, whereby many highly valuable substances are rejected.

The reader who is attached to the theoretical part of medical learning will find this an interesting essay to peruse. The translation is inelegant and full of *Germanisms*, but apparently accurate.

A Series of Engravings, accompanied with Explanations which are intended to illustrate the Morbid Anatomy of some of the most important Parts of the Human Body; by MATTHEW BAILLIE, M. D. F. R. S. The ninth Fasciculus.

THE ninth number of this highly valuable work contains eight plates, illustrative of the most important changes to which the female organs are subject.

The subject of the first plate is ulcer of the uterus, which has generally been considered as cancerous, and is certainly as formidable; but Dr. B. does not regard it as a genuine cancer, as the uterus does not undergo the same changes of structure; it neither enlarges, nor forms any of those cysts, and that kind of fungus, by which cancer is characterised.

The disease begins from the cervix, and spreads to all the neighbouring parts, and even sometimes affects the rectum and bladder.

In the second plate a schirrous enlargement of the uterus is represented, and the nature of this singular increase is also exhibited by a transverse section.

The third plate exhibits the tubercles which sometimes form on the outer surface of the uterus, and adhere to it loosely by cellular membrane.

The important disease of polypus of the uterus forms the subject of the fourth plate. It is exhibited as hanging down from the neck of the uterus, to which it is attached by a small peduncle, and occupying the cavity of the vagina; and the mode of operation by ligature is thus readily understood.

Two diseases, or accidents, of great importance to the practitioner, the prolapsus uteri, and the inversio uteri, are represented in the fifth plate. In the complete prolapsus, the uterus hangs considerably below the external labia.

A beautiful drawing of the dropical ovarium is given in the sixth plate.

The seventh plate exhibits that rare change of structure in the ovarium in which it is found to contain masses of fleshy matter, hair, rudiments of teeth or bones, and other imperfectly organized substances. Dr. B. having met with this in subjects before the age of puberty, is disposed to consider it as independant of impregnation.

The eighth and last plate of this very important Fasciculus represents the very uncommon disease of dropsy of the Fallopian tube. In such cases both the apertures are obliterated.

Observations sur la Phthisie Pulmonaire, ou Essai sur la Mousse d'Islande, &c. Par J. B. REGNAULT, M. D. 8vo. London, 1802, pp. 101.

THIS is the same work that we recommended in our last Number, (p. 463)

(p. 463) translated into French by the author, with some additional notes and observations, and the same coloured plate. Our reason for mentioning it again is for the purpose of answering a question which has been frequently asked since the publication of our account of the English edition, viz. "Where can the genuine plant be bought?" Dr. Regnault informs us, that he has imported a quantity, and ordered more, for the purpose of supplying practitioners with the real *Lichen Islandicus*.

Practical Observations on Vaccination, or Inoculation for the Cow-Pock.

By J. R. COXE, M. D. &c. Illustrated by a coloured plate, representing a Comparative View of the various Stages of Vaccine and Small Pox. 8vo. pp. 152. Philadelphia, 1802.

THIS correct and systematic work is dedicated to Dr. Jenner. The Author does not confine himself to practical directions only for conducting Vaccination, but enters into the history of the Cow-pox, and of Dr. Jenner's discovery of its application. He appears to be familiar with all the best works which have been published in Europe on the subject; and whenever his own experience is defective, he supplies it by apposite references to these authors.

MEDICAL AND PHYSICAL INTELLIGENCE.

[FOREIGN AND DOMESTIC.]

THE Managers of the Vaccine Pock Institution for inoculating the poor, at No. 5, Golden Square, have circulated an Address on the subject of the new Inoculation; from which, on account of its perspicuity and peculiar force, we have selected some passages.

"THOSE who are acquainted with only a part of the history of the Small-Pox, scarcely take into their contemplation more than the advantages of the *inoculated* over the *natural Small-Pox*, in the points of preservation of the lives of individuals, and the substitution of a disease generally slight, for a disease generally severe: and such persons imagine, that the practice of Inoculation neither requires, nor is, perhaps, capable of farther improvement. But those who are more extensively acquainted with the history of the Small-Pox, know, that it is productive of a great deal of mischief, notwithstanding the advantages of Inoculation—For,

“ Under the best treatment, a certain proportion of persons die in the inoculated Small-Pox; and although the proportion of deaths to the recoveries may not exceed Five out of a Thousand Patients, the distress occasioned by these fatal cases is more severely felt than when such cases occur in the casual disease: therefore the substitution of a milder disease will contribute to lessen the distress which would thereby be occasioned.

“ It seems fair to calculate, that, in the inoculated Small-Pox, one in twenty-five patients undergoes a severe illness.

“ The numerous sources of the Small Pox infection now preclude every prospect of extinguishing this malady; and unless Inoculation were universally practised, it is most probable that the proportional mortality by the natural Small-Pox is rather increased than diminished, in consequence of the more extensive dissemination of the infection by Inoculation.

“ In a certain proportion of inoculated cases of Small-Pox, deformities of the skin are produced by the eruptions, which no practitioner can be answerable for preventing in any instance. Diseases also are sometimes excited by inoculation, to which a disposition pre-existed in the constitution.

“ In particular families, and in particular states of the constitution, as in pregnancy, &c. the Small-Pox are an exceedingly dangerous disease, even by inoculation. Now it is manifest, from the accounts which have been collected of the disorder called by the name of the Cow-Pock, and particularly from the experience by inoculation of it since January, 1799, that the hurtful effects of the Small-Pox above stated may be prevented, by substituting for it the inoculation of the Cow-Pock — Because,

“ 1. Of above one hundred thousand persons in Europe who have had the inoculated Cow-Pock, it is very doubtful whether any one has died of the inoculation. There is, however, good ground for believing, that the fatal cases reported by inoculation, in some instances, were from the interference or supervention of other diseases; and in other instances, the reports, on enquiry, were found to be groundless, no one having died.

“ 2. Not a single well-attested instance has been produced, among more than 50,000 of the above persons known to have been constitutionally affected with the inoculated Vaccine Pock, and who were subsequently inoculated for the Small-Pox, of this disease being taken, and in those few instances which have been supposed cases to the contrary, there was every reason to believe the inoculated Disease was local, or not the real disorder; and traditionally, this fact has been established time immemorial, with regard to the casual Cow-Pock.

“ 3. It may safely be affirmed, that the inoculated Cow-Pock is generally a much slighter disease than the inoculated Small-Pox; and that the proportion of severe cases in the latter, is to the former as at least a hundred to one

“ 4. It does not appear that the genuine Vaccine Pock can be propagated like the Small-Pox, by effluvia from persons labouring under it.

it. Hence, if the Vaccine Inoculation should be universally instituted in place of the Small-Pox, it is reasonable to conclude, that this most loathsome and fatal malady will be extinguished; and like the Sweating Sickness, Plague, certain kinds of Leprosy, &c. be known in this country only by name.

" 5. It does not appear that the Vaccine effluvia, like the Small-Pox, can be conveyed so as to produce the disease indirectly from diseased persons, by adhering to clothes, furniture, bedding, letters, &c. Hence no danger of its propagation in these channels is to be apprehended from the universal practice of implantation of the Cow-Pock. Further, it is highly important to consider other very great advantages of the Vaccine Inoculation over that of the Small-Pox, which are, besides those already mentioned, that it may be practised in the state of pregnancy, in infancy, and in all ages, generally with little or no inconvenience, being almost always a perfectly mild disease. It may be practised on a part of a family, without any danger of infecting the rest; and of course it may be introduced into places and towns to any extent, not only without endangering those undergoing the disease, but, from its not being infectious by effluvia, without any danger of communicating it to others who have not had the Small-Pox. And, even at this day, in some places, the Small-Pox being looked upon as a plague, the Inoculation is prohibited under the strictest regulations; but if the advantages of the new Inoculation should be understood by people so circumstanced, it is hardly to be doubted that the Vaccine Inoculation will, on the first breaking out of the Small-Pox, be adopted.

" 6. No danger is to be apprehended from the interference of the Small-Pox; for it has been abundantly proved, that if a person is infected with Small-Pox effluvia previous to the Cow-Pock Inoculation, and the Small-Pox takes place at the same time with the Cow-Pock, that the former disease is commonly mitigated by the latter. And there is now good evidence to shew, that variolous like eruptions never appear, except on those subjects who previously to the inoculation for the Cow-Pock had been exposed to variolous effluvia.

" 7. Experience shews, that there is no reason to apprehend the smallest chance of deformities of the skin from the Cow-Pock Inoculation.

" 8. The extensive practice of the new Inoculation in the present and the two former years, and the accounts of the disease in the casual way, do not shew that any other disease will be excited subsequently, which is peculiarly imputable to the new practice.

" It may be useful to add, that the present Institution is perhaps the best imaginable for procuring evidence to inform those who are unacquainted with the new practice; for determining all doubtful points relating to it, and for discovering errors; as every case will be registered; every improvement be made under the direction of the Medical Establishment belonging to the Institution; and the results of the practice will be reported to the Governors.

" From the above comparative statement, it is manifest that it is highly

highly to the interest of the public to adopt universally the Inoculation of the Vaccine Pock in place of the Small-Pox."

BLOOMSBURY DISPENSARY.

The Vaccine Inoculation is practised gratuitously, and without any recommendation, at the *Bloomsbury Dispensary*, Great Russell Street; where medical Gentlemen may obtain the virus, properly authenticated, every Saturday at ONE O'CLOCK PRECISELY, by applying to any of the medical Officers of the Institution, or to Dr. JENNER, who superintends the inoculating department.

A correspondent has favoured us with the following NOSOLOGICAL DESCRIPTION OF THE COW-POCK:—THE COW-POCK, he observes, is a circumscribed, elevated, solitary Vesicle, nearly circular at its basis; having a regular, smooth circumference, but is flattened in its apex; surrounded, about the tenth or twelfth day, by an erysipelatous efflorescence; afterwards desiccating into a brownish, hard, glistening incrustation, which soon falls off, and leaves a white cicatrix through life.

Preparation of the Lichen Islandicus.

MR. RICHARD REECE, of Henrietta-street, Covent-garden, writes to us, that, having observed in the last Number our notice of Dr. Regnault's "Essay on the Lichen Islandicus in pulmonary Consumption," he thought the information where the genuine herb may be obtained, would not be unacceptable to our readers, particularly, as he believes the liverwort generally sold by herbalists to be the produce of this country. From the high character given of the dietetic and medicinal properties of this species of Lichen in Phthisis Pulmonalis, by Prof. Murray, and several eminent practitioners on the Continent, and Dr. Crichton in this country; Mr. R. was induced, some time since, to procure a quantity from a Correspondent on the Continent, and from the few experiments that he has made with it, he is convinced that it possesses very considerable anti-phthifical powers. He is now trying it in the manner recommended by Dr. Regnault, in the form of a concentrated syrup, of which he has prepared a quantity for the use of those physicians who chuse to prescribe it.

From the favourable reports of the deobstruent properties of the Rubia Tinctorum in Chlorosis, by Prof. Home of Edinburgh, and the great success that attended its exhibition in those cases under the direction of Dr. Symonds and Dr. Blount, during Mr. R's residence as domestic Surgeon and Apothecary at the General Infirmary at Hereford, he was induced, some time since, to make an extract from a cold infusion of the root, in the same manner as recommended by the French chemist for the *Sel essentiel de Cinchone*, communicated in a former Number of our Miscellany.

This

This extract contains, in a small bulk, the active properties of the root, and being free from its indissoluble matter, may be administered in sufficient quantity after the full dose of the powder recommended by Dr. Home has proved obnoxious to the stomach of a delicate female. Besides, continues Mr. R, the powder being prepared for the use of dyers, is seldom to be obtained sufficiently fine for medicinal purposes. The extract may be exhibited in a pilular form, or dissolved in mint water in the proportion of two drachms to half a pint, and two or three table spoonfuls taken three times a day. The latter is rather a pleasant medicine than otherwise. Dr. Osborne, in his Lectures on Midwifery, speaks very highly of the ecphratic properties of the rubia tinctorum, and relates a case of chlorosis, in which it proved eminently serviceable in correcting the scrophulous diathesis with which the patient was afflicted.

Mr. REECE states, that he has received the testimonies of several eminent practitioners of the great advantages of the essential salt of bark over the powder in typhus and intermittent fevers, in being retained in the stomach after the latter has been rejected, and that it has in no instance excited vomiting or diarrhoea. A Surgeon of considerable eminence in his neighbourhood, afflicted with ague, has received every advantage from it after the powder, in every form he could conceive, was rejected.

A new Method of preparing Phosphoric Ether, by Cit. BOUDET.

THE combination of phosphoric acid with alcohol seems to have been hitherto little regarded by chemists, as the authors who have written on ethers in general, make no mention of the phosphoric ether. In order to supply this defect, Cit. Boudet undertook a series of experiments, the results of which are here communicated.

The success of the experiments depending, in a great measure, on the purity of the phosphoric acid, he endeavoured to obtain it in as pure a state as he possibly could, for which purpose he proceeded in the following manner.

A glass balloon, of a considerable capacity, was connected with the neck of a large tubulated retort; the balloon communicated with Woulf's apparatus, the last receiver of which was in contact with the external air, by means of a long tube, which passed through the window of the laboratory. Having properly secured the junctures of the vessels, he poured into the retort six parts of nitric acid, purified in the common way, the weight of which, to distilled water, was nearly as 8 : 80. When the liquor was, by a proper heat, brought to the boiling point, one part of phosphorus, cut in pieces, was introduced into the retort, through its tubulus: every time a piece was thrown in, a great quantity of a reddish, more or less, dark gas disengaged itself, and it was not thought proper to put in another piece, until the gas had ceased to be disengaged. In this way the author proceeded, till all the phosphorus was brought in. It is remarkable that the retort was
always

always placed in the sand bath, in such a way as to form, with its neck, an obtuse angle, by which means the too hasty concentration of the nitric acid was prevented; a circumstance which is very much to be dreaded in this operation, because the nitric acid being too much concentrated, suffers the phosphorus to swim on its surface, where it burns, but only on the surface, and may thus occasion the cracking of the vessels. After the deflagration of the phosphorus is finished, the liquor contained in the retort is to be poured into a matrafs or phial, which being placed in the sand bath, is thus far heated, till all the nitric fumes are dissipated. The liquor being cooled, a more or less thick substance will be obtained, which may be considered as a good phosphoric acid, possessing all the requisite characteristic qualities. With this acid the author undertook the following experiments, for the purpose of obtaining phosphoric ether.

A tubulated retort was placed in the sand bath, combined with a balloon, which was likewise provided with a tubulus, by which it was connected with one adopter of Woulf's apparatus, which had been previously filled to two-thirds with lime water. Into this adopter a glass tube was applied, which made a combination between this and the pneumatic apparatus. The vessels being put in proper order, and their junctures well luted, the author mixed, in a glass mortar, equal parts of the above phosphoric acid, and of very pure alcohol of 38° of Beaume's areometer, at 14° of Reaumur; the moment the mixture was made, a considerable quantity of caloric was disengaged, capable of making the thermometer rise above 14° . The mixture was then brought into the retort, and being gently heated, it began to boil at a temperature of 60° . In this state it was suffered to remain some time, to give an opportunity of examining every thing that might happen during the operation. At first an uncoloured liquor passed over in the receiver, which smelled like spirit of wine, and which was separated by means of a syringe. The next liquor which passed over was also without colour, but of a different smell. During this time, the mass remaining in the retort acquired a brownish colour, which became darker during the continuance of the distillation. When this liquor had obtained a sort of consistency, the operation was discontinued, in order to separate the second product; but after having replaced the vessels in due order, the fire was carefully increased, till the remaining mass appeared to puff up, and to pass over.

In this manner, he obtained—1. An acid, faintly-coloured liquor of a disagreeable smell, which resembled the residuum remaining after the distillation of bituminous substances. 2. An oil, which had in the beginning a faint yellowish colour, but became darker by degrees; it swam on an acid liquor. These two liquors passed over with an elastic fluid, which was carefully collected. Lime water, through which it was suffered to pass, did not become turbid. On touching it with a light, it burned without detonation with a blue flame, which however appeared white in the glass bell, on the walls

of which it deposited a mass perfectly similar to foot, whence the author judged this fluid to be hydrogen, overcharged with carbon. The fire was now increased to such a point, that the retort began to melt, and the product obtained by this degree of fire was a much thicker and browner oil, part of which fell to the bottom of the liquor contained in the receiver. It was likewise observed, that a sooty matter had been precipitated in the neck of the retort, in form of globules, which, on being squeezed, had a somewhat metallic appearance. In order to learn the contents of what had remained in the retort, it was broke into pieces, upon which a blackish matter, intermixed with white opacous particles, was discovered. The weight of this mass was considerably less than the phosphoric acid which had been employed; when exposed to the atmospherical air, it attracted moisture; and being thus liquefied, it became a very acid liquor, which being saturated with carbonat of soda, yielded crystals of phosphat of soda, which proved its being nothing but phosphoric acid.

The products remained now to be explored, on which account the first liquor that had passed over was examined: from its colour, smell, inflammability, and from the easy combination with water, it proved to be spirits of wine. The second product, however, had the smell of ether, a little mixed with a smell analogous to that of garlick: blue vegetable colours were faintly reddened by it. Conceiving that it was not sufficiently pure, the author endeavoured to purify it by distilling it over carbonat of magnesia. During this process, carbonic acid was disengaged, and the liquor passed over before it came to the boiling point. When about one-third of the liquor had been distilled over, the heat was diminished, and the apparatus being cooled and the vessels separated from each other, the liquor was examined. It was without colour, volatile, and its smell resembled that of ether vitrioli; its deflagration was violent without leaving any foot; it was lighter than water, on which it swam, but on being stirred together, it could be mixed with it; when burned on water it left no residuum. It dissolved volatile oils, but appeared to have no effect on the fixed oils: it had a considerable effect on phosphorus, which immediately imparted to it the peculiar phosphoric smell. Its weight, compared with alcohol, was as 94 : 100; with distilled water, as 88 : 41; with vitriolic ether, as 426 : 482; or as 213 : 241. By these experiments, it appears to be proved, that this liquor is a true ether, the properties of which deserve to be farther examined by repeated experiments, particularly as they seem to deviate in some respects from those ascribed to ethers in general.

Note. Cit. Boudet seems not to have been acquainted with the experiments which the French as well as German chemists have made on the combination of the phosphoric acid with alcohol. Guyton de Morveau says, in his Elements of Chemistry, that spirits of wine distilled over phosphoric acid carry over a part of the latter. Lavoisier, on distilling alcohol over strong phosphoric acid, obtained

ed a liquor of an agreeable ether-like smell. *Cornette* obtained, by the distillation of alcohol over strong phosphoric acid, a dulcified spirit, resembling a true ether. *Mr. Westrumb* obtained it in a more perfect state by distilling alcohol over phosphoric acid and manganese: it had a smell analogous to that of the pear of the quince tree, (*pyrus cydonia*), and on being burned on the surface of water it left behind the smell of garlic.

Mr. CUTHBERTSON gives the following account of an experiment, by which the two kinds of electricity are distinguished, or the direction of the fluid is ascertained: Insulate two wires, furnished at each end with a ball, three-fourths of an inch in diameter; connect one with the positive, and the other with the negative conductor of a machine; the balls should be four inches asunder, and between them, at equal distances from each place, a lighted candle, with the centre of its flame nearly on a level with the centres of the balls. If the machine be put into motion, the flame will waver very much, and seem to incline rather more to the negative ball than to the positive one; after about fifty revolutions, the negative ball will grow warm, and the positive ball remain cold; if the revolution be continued to about 202, the negative ball will be too hot for the hand to touch, while the other remains as cold as at the beginning.

Citizen HAYY having compared the methods of correcting and calculating of several celebrated blind men, has digested into a body of doctrine the best productions of experience in this art.—His method of *writing* consists in using an iron pen, the point of which is not split. By writing without ink, and pressing on a strong paper, the blind man produces a character in relief, which he can immediately read by passing his fingers over the projecting characters on the opposite side of the paper, in the contrary direction. The relief is sufficient, provided a soft surface be placed under the paper, such as leather, blotting paper, &c.

Citizen PICTET gives an account of experiments, to prove that light and heat are *not* the same. Opposite to each other he places two concave metallic mirrors; in the focus of one he places a lighted candle, and in the focus of the other a very sensible air thermometer: he then places between the foci, a piece of very thin and transparent glass; the thermometer, indicating the transmission of heat, stopped that instant. The two mirrors were placed at the distance of about twenty-five yards one from the other, in order to determine whether the time of the propagation of the radiant heat, from one focus to the other, could be appreciated. A heated, but not luminous ball, was suspended at one of the foci, before which a screen was placed. At the instant that this obstacle was removed, the fluid in the thermometer, which was before perfectly at rest, began to move, and no sensible interval could be perceived between the suppression and the effects of the transmission of heat.

From

From some late experiments made by Mr. FRANCILLON, it appears, that a mixture, consisting of six parts of gold, and one of platina, gives a metal of a beautiful colour, great malleability, and capable of receiving an exceedingly fine polish, more unalterable than gold, when exposed to the action of sulphurised hydrogen, and other agents.

A new metallic substance has lately been discovered in Sweden. The ore has a blackish colour, with the metallic aspect of crystals of oxidated tin; its colour is equally dark; its gravity is considerable; it strongly scratches glass. M. EKEBURG has extracted from this mineral a new metallic substance, to which he gives the name of Tantaliti.

From some experiments in electricity, Citizen TREMERY concludes, that the atmospheric air, in its ordinary state, resists the passage of the negative, more than the positive, fluid, and that the insulating property of non-conductors cannot be the same for both electricities.

The vaccine inoculation continues to make rapid progress in Spain and Italy. In Catalonia 7000 persons were inoculated in the course of nine months; and, by its means, the fatal ravages of the small-pox have been stopped in the department of Milla, where, during three months only, 12000 persons have submitted to the vaccine operation.

Cit. SEQUIN, an Associate Member of the National Institute, lately read two Memoirs relative to *Cinnaber*, (*cinoper* or *vermillion*) in which that chemist endeavours to prove, that *ethiops* and *cinber* are only a composition of sulphur and of mercury, without oxygen and without hydrogen; that these two substances only differ from one another in the proportion of their principles or constituent parts, and, above all, in the degree of union of their molecules or particles; that this proportion, and this degree of union, are invariable in cinnaber; and on the contrary, very variable in ethiops; and, lastly, that cinnaber is a compound of thirteen parts and one-third of sulphur, and of eighty-six parts and two-thirds of mercury.

Mr. EZEKIEL WALKER has discovered a cheap method of producing light, which he thinks possesses advantages much superior to the common modes of illumination. This light generates no smoke, nor does it require the aid of snuffers.

An advantageous Method of preparing the Red Oxyd of Mercury.
By I. W. C. FISCHER.

Cit. Van Mons having remarked, that in preparing the red oxyd of mercury from the nitrat of mercury, a considerable quantity of the acid employed for the oxydation of the mercury is disengaged on heating

heating the nitrat of mercury, proposes to take a greater portion of mercury than the quantity of acid employed in this process is able to dissolve, because the superabundant mercury will be likewise oxydated by the acid that is disengaged on heating the said nitrat. The nitric acid however being of a different degree of concentration in the laboratories, I proposed, says M. Fischer, for the purpose of finding the just proportion of mercury, to rub the dry and hot prepared nitrat oxyd of mercury with one-third or one-half of metallic quicksilver, and to expose it to the common treatment in fire, by which means a certain proportion may be found out. Mr. Schmidt, apothecary, at Sonderburg, made several experiments according to the prescription of Van Mons, but without the intended success, as the quicksilver, which had been employed in a superabundant quantity, was obtained again in a metallic form. The results of my experiments however have answered my most sanguine expectations.—Four hundred parts of metallic quicksilver were dissolved in nitric acid at the heat of boiling water; in order to obtain a thoroughly neutralized solution, the acid was added by drops till all the quicksilver was dissolved. The solution being evaporated to dryness, the dry salt thus obtained is rubbed with 350 parts of metallic quicksilver. The powder received a dark grey colour, but on being mixed with a little water to the consistency of a bolus, for the purpose of producing a more perfect union of the metallic quicksilver, the colour became greyish white, and it only required a few minutes rubbing to make the metallic quicksilver entirely disappear. The moist mass having been gently dried, was put into a retort and exposed to a gradual heat. Three minutes after, oxygen gas was disengaged, and the whole mass began to change its greyish colour into dark red. The process having been finished, the mass after being cooled, showed in all its parts a light red colour, and was reduced to the finest powder, which could entirely be taken out of the retort without breaking the vessel into pieces. There were no traces of metallic quicksilver in the receiver, nothing but a small quantity of acid fluid having passed over, which induced me to repeat the experiment with a still greater quantity of quicksilver. To 400 parts of quicksilver, dissolved in the above manner by nitric acid, and afterwards evaporated, I added 400 parts of metallic quicksilver, and treated the mixture as before; the results, however, were about the same as in the former experiment.

From these experiments, it appears, that by the method which is here proposed, not only half the quantity of nitric acid is saved, but the retort which has been used may be employed several times to the same purpose. Another advantage of this method consists in obtaining the red precipitate in form of a fine powder, which saves a great deal of trouble. The time and fire, required in this method, are by far much less than in all others, as in less than thirty minutes several pounds of the above white mercurial bolus may be changed into red oxyd of mercury. The process with some ounces was always finished within four or five minutes. On account of all these advantages, this method deserves to be particularly recommended.

It is not unknown to the readers of this Journal, that Sig. Gerbi, an Italian gentleman, was the first who discovered the singular efficacy of a certain insect, when applied as a remedy for the tooth ach; a fact, which was afterwards confirmed by Dr. Corradori, by whom several other insects were found to prove equally efficacious in the same complaint; for instance, the *coccinella septem-punctata*, &c. This insect also was highly recommended by a certain German dentist, as an excellent anodyne in several kinds of tooth ach. Dr. Sauter likewise extols the efficacy of this species of *coccinella* in mitigating the pains of affected teeth; and he observes, that on applying it to the tooth, a particular sensation of cold is perceived, which always precedes the cessation of the pain. He also remarks, that the insect emits a strong odour of opium. In order to preserve the insects in winter, it is advisable to put them into a box, perforated with small holes and filled with earth, which must, from time to time, be moistened, and to give them a little grass or hay to feed on. The smell of opium which they emit, seems to be stronger in winter than in summer. Dr. Sauter made several experiments for the purpose of fixing the efficacious particles of this insect, as, in form of a conserve, &c. which however did not succeed. At last he bethought himself that the efficacious particles might be extracted by spirit of wine, and prepared accordingly the following tincture. Sixty or eighty specimens of the *coccinella septem-punctata* were squeezed in a stone mortar, and being triturated with one ounce of spirit. vini rectific. the mixture is exposed during eight days to sunlight, being shaken from time to time. Afterwards it is expressed, filtrated, and must be kept in close vessels. This tincture has a yellow reddish colour in winter, and changes the colour to red in summer; a white sediment falls generally down to the bottom. In this form, it was easy to bring the efficacious particles into the body; and Dr. S. being curious to know what effect it might have when used internally in painful affections, he determined to take the first opportunity of trying it. This was soon offered in the case of a lady, who having frequently had a rheumatic tooth ach, contracted, soon after her delivery, a violent pain in the jaws, which particularly attacked her in the night, and against which opiates, extract. aconiti had been employed, without producing much effect. At last he had recourse to the tincture *coccinella*, of which she was ordered to take 20 drops in the morning and in the evening; but being one night attacked by a violent fit of the pain, she swallowed above half a table spoonful of the tincture, after which the pain began gradually to abate, and ceased in a few minutes. Having continued the tincture in a larger dose, she was entirely cured of that painful affection. This remedy proved likewise serviceable in a case of hæmicrania, and it even produced relief in a case of the Fothergillian face ach, (tic douloureux.)

MR. THOMAS SALMON, of Canterbury, has given a description of a simple method for clearing apartments from noxious air. He carries

carries an air tight metallic tube from the upper part of the place in which the noxious air is generated, as common-sewers, cefs, pools, privies, &c. with an ascent towards the kitchen, or other chimney, whose fire is most frequently kept, and joined to the lower part of the back of the grate; a pipe is also fixed at the upper part of the grate, which is made to conduct the nearest way out of the house. By this method, Mr. Salmon says, holds of ships may be ventilated without labour or expence, by passing the metal pipe through the cabin or other fire; and that destruction of grain prevented that was experienced during the late scarcity.

DR. FORBES, of the University of Edinburgh, continues to devote his attention to the improvement of Medical Gentlemen in the Latin language, previous to Graduation. The method of teaching which he has hitherto pursued, and to which his invariable success determines him to adhere, he respectfully submits to the consideration of such gentlemen as may, during this season, be inclined to employ him. He converses with his Pupils in the Latin language, on the anatomy and physiology of all the viscera contained in the different cavities of the human body; on the diseases to which these parts are subject; on the pathology of these diseases; on their diagnostic and prognostic symptoms, and on the most rational indications of cure, with constant reference to the most approved remedies. He takes a view of the origin, the distribution, and the economy of the nervous, the sanguiferous, and the absorbent systems. He considers some of the most interesting processes of the animal economy, such as the vital functions of circulation and respiration, the natural ones of digestion, secretion, &c. in the light in which the present improved state of Chemistry enables us to view them. He unfolds the chemical analysis of the fluids, and states the most material changes which they undergo by diseases. He pays due attention to the *Materia Medica*, and to Chemical Pharmacy. Dr. F. reads any Medical Latin Author, with whom Gentlemen may wish to become better acquainted; and makes such observations on the language, or scope of the Author, as the portion perused may suggest; he also assists his Pupils, either by his advice or corrections, in bringing forward their Inaugural Dissertations.

TO CORRESPONDENTS.

The Editors will be particularly obliged to their Correspondents residing in distant parts of the kingdom, if they will favour them with accounts of the prevailing Epidemics at this season of the year.

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