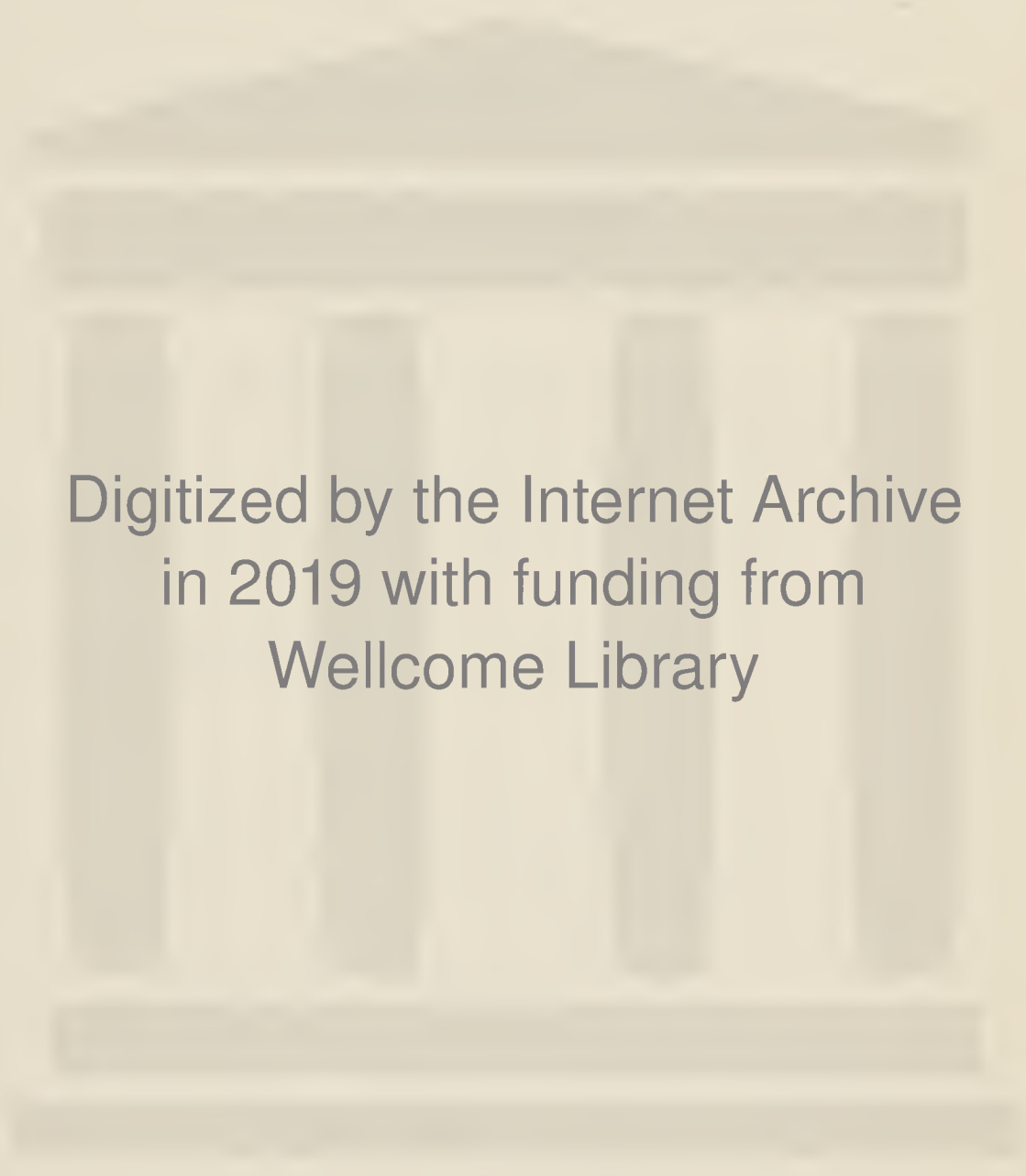


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THE
LONDON
MEDICAL REPOSITORY,
MONTHLY JOURNAL,
AND
REVIEW.

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Quærere Verum. HORACE.

VOL. XI.

FROM JANUARY TO JULY, 1819.

LONDON :

PRINTED FOR THOMAS AND GEORGE UNDERWOOD,
32, FLEET STREET.

1819.


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THE
LONDON MEDICAL
REPOSITORY.

No. 61. JANUARY 1, 1819. VOL. XI.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Two Cases of Paralysis, treated with Nux Vomica; and the Dissection of a Morbid Brain. By C. B. ROSE, Surgeon, Swaffham, Norfolk.

FOR the introduction of nux vomica as a remedy in paralysis, we are indebted to Dr. Fouquier, of l'Hôpital de la Charité in Paris; and I believe we have to thank Dr. Granville, a Lecturer of our metropolis, as the first who (in a Letter read to a Medical Society of London in November 1816, and published in the 38th Number of the REPOSITORY,) gave to his professional brethren on this side the Channel the valuable information. A new remedy, brought forward in this country with such high commendations, by an eye-witness of its effects, (a Physician of very superior talents and great attainments in professional as well as general knowledge,) must necessarily have attracted the attention of many of our inquisitive Practitioners; and it certainly is rather extraordinary, that after a lapse of two years we should not have been presented with the result of some isolated, if hospital practice could not have afforded reiterated trials. I feel convinced, that in the absence of the latter, one or two only of the former would be serviceable, by acting as landmarks to the less enterprising members of the profession, who require something more than exotic information to drive them from the too frequently useless routine prescriptions. As a proof also of the specific effects of this article of the materia medica on paralysis, although a single case of recovery will

aid but little towards establishing it; still, when followed by others, as I trust it will, it becomes valuable; and as a register of its peculiar action on some one or other of the organic systems, from idiosyncrasy or otherwise, it may be curious, if not useful, to lay before the medical public the following (I think the first) cases on record in this kingdom. For the above reasons I shall be more prolix and particular in describing the very minutiae of the first case, than many of its readers may think necessary, or it may really deserve; but if an error, they will, I dare say, consider it one on the right side.

Robert Patterson, of B——, forty years of age, of a weakly constitution, leucophlegmatic temperament, who had always lived abstemiously, consulted me on account of a palsy of the right side, affecting the nerves of locomotion only; with which he was attacked a fortnight before: upon inquiry into the history of the case, I learnt that for a few days previous to the paralytic attack he felt a great oppression on his breathing, but which he had nothing of after he became paralyzed: he certainly had no apoplectic fit, as his mental faculties were not suspended even at the very onset of the disease; for he was conscious of the abstraction of command over the muscles of the affected side. He experienced the attack about six o'clock on a very cold morning of last March. The parish Surgeon was called to him, who bled him once freely, applied a blister to the back of his neck, purged him, and ordered a low diet. When I first saw him he had in a considerable degree recovered the use of his lower extremity, still he moved it awkwardly; his articulation was so bad I could not understand all he said, and he could not in the slightest degree move his arm, or elevate or rotate the hand; his pulse was weak and slow; tongue healthy; no dyspeptic symptoms were present; his fœcal evacuations were very offensive and of a greenish colour, but his bowels had been constipated; the temperature of the lame hand (judging from my feeling only) appeared to be a trifle below the healthy one; the skin was rough and dry, but its sense of feeling perfect. I began the treatment with a brisk mercurial purgative, and ordered him to live on a nourishing diet; to take a large quantity of mustard with his food; and to endeavour to direct his will to the sleeping muscles, but not to carry his attempts sufficiently far to fatigue them.

On March 28th he began with the powder of *nux vomica* in three grain doses *ter de die*; I gave him also *pil. hydrargyri*, 5 grains *omni nocte*, and a powder composed of *rhubarb* and *magnesia omni aurora*. From this day to April 4th the doses were augmented every forty-eight hours; so that at the latter time he had to take 15 grains of the powder for each

dose. When taking the 10 grain doses, the effects of the drug began to discover themselves by producing slight twitchings of the extremities, and a sensation as if some fluid was running down the interior of the affected arm: indeed, of so particular a kind was the feeling, that the man repeatedly asked his wife if she could not *hear* it run.

On the morning of the 4th, about an hour after taking the first powder that contained 15 grains of nux vomica, a strong tetanic convulsion came on, and affected the whole body; but the paralytic side most severely: it dilated the mouth laterally, and closed the jaws; then a rigid contraction of the flexor muscles of the extremities, followed by a powerful contraction of the extensors thrusting out the limbs: his bowels were rather costive; pulse regular and languid, as when he began the medicine; the warmth of the body much in the same state; of a night in bed the lame side more moist with perspiration than the strong: his mouth being slightly affected by the mercury, I desired him to omit it, but to continue the morning powder, and to persist in the use of the present dose of nux vomica for another 48 hours.

April 8th. Yesterday he felt so much rigidity of the lame arm and leg, that he could not get off his chair; he was drowsy also; his bowels costive, and their evacuations offensive.

To-day he speaks better, and can walk better; he can lift his arm up to the arm of his chair; he feels occasionally a pricking sensation in his limbs, and some pain every night; he frequently has startings in the paralyzed limbs, more particularly of a night; the peculiar sensation of a fluid running down his arm continues; his appetite is small; his pulse regular, and not so languid; and his countenance is less sluggish. I ordered him a calomel purgative for to-night, and the day after to-morrow to begin the nux vomica again in doses of 18 grains *ter de die*; and I desired him when he feels that particular sensation in his arm, to endeavour at *that* time to move the limb, for he said he felt as if he could do any thing with it.

April 10th. He moves his arm up to the arm of his chair with greater ease; his pulse is regular; the alvine dejections are rather dark coloured, and offensive in smell; the bowels continue costive.

April 13th. I saw Patterson; he yesterday had another tetanic fit, about an hour after having taken his morning dose of the nux vomica (18 grains); it came on him when asleep; the spasm did not last more than a minute, if so long; it not only affected the extensors of the limb, but the flexors of the jaw; he was very low and languid for three or four hours

after the fit ; he has very frequently twitchings of the affected muscles, more particularly of a night ; he feels a great heat, much perspiration, and when in bed, the sensation very strong of pins and needles irritating the skin of the affected side only : his leg is drawn up at times, so that he cannot walk but with very great difficulty.

To-day I see but little improvement in the volition of the lame side ; his health continues the same, with a moderate appetite ; excepting a little drowsiness his head is not at all affected by the drug ; his pulse is very regular and soft, at 70 ; tongue clean ; and he is not dull or heavy, but in good spirits.

April 12th. He takes pulv. nucis vomicæ a scruple *ter de die*.

15th. An intelligent friend, and a naturalist (Mr. Scales, jun.), informed me, there was a "considerable alteration for the better" in my patient, for with his elbow resting on the arm of his chair he can raise his hand three or four inches high. I sent him six doses of the nux vomica, with 23 grains in each.

17th. There has been a rapid improvement in the paralyzed arm, for on this day he gets his hand nearly to his mouth, and bends the fore-arm a little upon the arm ; he can also grasp any thing placed in his hand.

18th. Gave him pulv. nucis vom. 26 grains *ter de die*.

19th. My patient was brought in a cart to see me ; he is looking very well, and walks and talks better ; he can to-day lift his hand above his head, and bring the cubitus to more than half flexion on the humerus, if he rests his elbow on some fixed point ; he grasps firmer with his fingers, but cannot yet hold any thing in his hand a minute ; the medicine produces a considerable degree of vertigo and severe spasmodic contractions, which last three or four hours : he continues to feel the particular sensation of something running in the flesh. I desired him not to fatigue the arm by too frequent efforts to move it ; for when he does move it, he suspends respiration, and seems as if he was lifting a weight that required all the strength he was master of to elevate it.

20th. I sent him six more of the powders without increasing their quantity, and desired him to take a little wine and more porter, for his appetite was but moderate.

29th. I had not an opportunity of seeing my patient till to-day : I learnt that on the 24th his head was very much affected with vertigo from the medicine, and so much spasm produced in his lower extremities, that he could not walk alone ; his wife led him to the door and left him standing ; a tetanic spasm attacked him, and he fell to the ground back-

wards: in consequence of this my friend advised him to take his medicine but twice a day; indeed when taken thrice, its effects were continuous, and thus the remedy was more painful, and nearly as irksome as the disease: at this time he was able to lift a box-iron with its heater from the floor and place it upon a table; and to hold a walking stick in his hand; the extensor muscles do not recover their power in the same ratio with the flexors; and he has not yet the least power of moving the thumb either by the flexors or the extensors; the pain is very considerable in the arm, but it has left the leg and thigh; his walking and speech are better; and he is looking better; his bowels are regular; pulse natural, and alike in both arms. The arm is, and has been from the first, very flaccid, and the skin of the hand remarkably dry and rough; for the first fortnight it gave out an odour, his wife says, "like a sweaty foot." I now ordered him a smaller dose (a scruple), to be taken thrice instead of twice a day, wishing to keep up a more constant, but not so powerful an effect, as he began to be tired of the severe discipline; and considering him in a convalescent state, I was more desirous than ever that he should persevere in the use of this galvanic drug.

May 6th. My patient came to see me: there appears but little improvement in his speech, or the moving of his lower extremity; but he uses his arm with more freedom, and what he does with it requires not the effort which he was obliged to make on the 19th of April. The power of the flexors continues progressively to return, but he has gained very little in the extensors; he can only very slightly extend the fingers or use any of the extensors of the arm; yet during the spasm produced by the medicine his fingers are fully extended, and the extensors are more acted on than the flexors; he has considerable power in, with the full command of the latissimus dorsi and pectoralis major muscles. When vapoured, and always when he gapes, the flexors of the fingers of the lame hand involuntarily contract, so that the hand is firmly clenched; and when he sleeps there is a tonic spasm of these muscles sufficiently strong to produce a degree of pain which obliges him to put some soft body into his hand to prevent so great a contraction; his bowels and pulse are in their natural state. As there had not been an improvement within the last fortnight equivalent to that in the week preceding, when the effects of the drug were more violent, I desired him to take 25 grains of the nux vomica thrice a day.

May 9th. My friend informs me my patient cannot be prevailed upon to take his medicine more than twice a day; for, he says, when taken thrice, the effect of the first dose is not off before he should take the second, and it is so powerful

that if he take the second early in the day, he cannot get about at all in consequence of the vertigo, dimness of sight, and stiffness of the limbs which it produces. I now desired he would take pulv. nuc. vom. $27\frac{1}{2}$ grains of a forenoon, and to repeat it at bed-time.

14th. Patterson came to see me. I found he had improved, for he bent and extended the fore-arm on the humerus with greater facility; he has also regained, in a slight degree, the power of moving the thumb, both in flexion and extension. If he goes long without exercising the muscles of the affected limbs, they feel very stiff and useless, and it is some time before they recover themselves. In two or three hours after taking the night dose the startings come on, awake him, and prevent his falling asleep again; his pulse to-day was not so full or strong, and it intermitted frequently: his appetite good, and bowels regular.

18th. I learnt that my patient continued to improve, and that he could use the bellows with his lame hand. I sent him half a dram of pulv. nuc. vom. for a dose, to be given noon and night.

20th. He came to see me, and appeared to be progressively improving; his pulse not intermitting, and at its standard heat; appetite very good.

27th. He came to see me again, and alighted from his luggage-cart without assistance: he told me, that on the day previous he felt a great faintness and sinking, with a rapid beating of the heart, and quickness of breathing, which continued all day; and that his appetite diminished: on this day he felt better, but his pulse was very fluttering and irregular; his tongue white; bowels regular; he had but little appetite. The medicine had not produced so much dizziness and vertigo; but considering that it had caused the above unpleasant symptom, I desired him to omit it for a few days, and take twice a-day some infusion of cascarilla; and as the pains in the affected limbs prevented sleep, I gave him one grain of opium *omni nocti*: latterly he had not taken a sufficiency of ale and porter, and I desired he would be less abstemious.

30th. He was better; his pulse was become regular, but weak; the three preceding days he had felt very much of the palpitation of his heart, and with it always a great fluttering (as he described it) of the muscles in general, which mostly commenced in those of the abdomen. Since omitting the nux vomica, the locomotive powers of the arm had not diminished. I gave him some pills composed of the compound galbanum pill, carbonate of ammonia, and ammoniated iron, to be taken three times each day.

June 3d. He remained better; the unpleasant symptoms had not returned since I saw him last; his pulse was much improved; there were occasional intermissions; his appetite was bad; and his bowels costive; he retained the power of the lame arm undiminished. I gave him a cathartic of calomel and jalap, and desired him to continue the tonic pills.

June 10th. Patterson has had no return of the flutterings; his pulse is regular and strong; appetite good, and bowels healthy; the command over, and power of the affected muscles have increased, although he has not taken any nux vomica for a fortnight: during the time he omitted he had no tetanic symptoms, and less pain, heat, and perspiration in the limbs. I desired him to begin the nux vomica again, in doses of 23 grains *bis in die*, and increase the dose every third powder. From the 13th to the 20th he took 26 grains at a dose, but on the latter day he called to say he could not take the powders if made so strong: he had not taken them regularly: he had gained both strength and freedom of motion. I gave him a scruple of the powder to be taken twice a day.

July 1st. He told me, that on the 28th of June, on coming home from church, he felt very giddy, and his head very uncomfortable, and the power of moving his left arm and hand diminished; it was still not quite recovered to the state immediately preceding that event: up to that time he had continued in a slow but progressive improvement; his pulse, appetite, and spirits were very good. As the medicine, in the last doses, had affected him but very slightly, I again gave it in doses of 25 grains twice a day.

11th. He had a return of the faintness, flutterings, and palpitation of the heart; they lasted about 24 hours. I ordered him to omit taking his powders.

14th. He was pretty well recovered from his late disagreeable feelings; his pulse was again very good; and power of action continued to be restored to the paralyzed members. As the dose of the drug could not be increased without producing effects of too serious an aspect, and having seen that during a discontinuance of its use he had continued to improve, I laid it aside, and gave him two brisk doses of calomel and jalap, for he had a good deal of ecthyma in his legs, with much local heat, and afterwards the tonic pills which he had before taken. He took them only a week.

August 24th. My patient again called on me, and I was happy to find that he had gained ground since I last saw him: although he had taken no more medicine, it was very evident the natural powers were gradually returning; but he com-

plained of a general feeling of fulness, and as if it was passing towards his head. I feared a second paralytic attack was threatening, and as his pulse was good, I took twelve ounces of blood from his arm. I saw him the week after, and he said he had felt somewhat lighter from the bleeding, but no material change.

November 3d. My patient called to tell me that he continued to improve both in strength and freedom of action, and that he expected to be able to go to day-labour again in the spring.

When the successful administration only of a new and powerful medicine is made known, we are likely to over-rate its powers, and expect too much efficacy from it; we are in consequence disappointed, and prematurely throw it aside, without giving it a fair trial. That the publication of the above case of recovery from paralysis, during the exhibition of *nux vomica*, may not mislead in a similar manner, I shall proceed and relate a case in which the drug produced no effect whatever upon the disease, notwithstanding its action upon the frame was extensive and exceedingly powerful.

Mr. Headly, about 30 years of age, of a thin spare habit and sanguineous temperament, was affected with a great diminution of the power of extension of the thumb, index, and middle fingers, and the wrist, nearly amounting to a paralysis, the sequela of three attacks of colica pictonum; the first about three years since; the second in January last, which left a weakness of the hand and arm, the strength of which he had considerably recovered, when in August last he had a third, at which time I was called in, and found the power of the extensors of the wrist and fingers above mentioned nearly gone. He is a tin-man by trade, and is daily exposed to the fumes of melted solder. I thought this a favourable case to try the *nux vomica* in, and he began to take it in five grain doses *ter de die*, on August 24th, and on the 31st, when taking it in doses of ten grains each, he first began to feel its effects; its action was confined to the lower jaw and tongue, producing a great stiffness in them, but did not destroy the power of moving them. I continued to increase the dose, and he was similarly affected every day, until September 9th, when after having taking 25 grains at two P.M., and repeated the dose at eight, at the expiration of an hour its action commenced with redoubled violence on the jaw and tongue, and very soon extended to the inferior extremities: he could bend them readily while sitting; but when he attempted to get upon his feet, the extensors thrust the limbs out so suddenly, that he fell backwards into his chair again; his lame hand felt cramp, but nothing more; this state continued nearly two hours; his pulse was not at all affected, nor the pupils of his

eyes; nor his head by vertigo; nor had he any pain or perspiration in the parts affected by the drug, and he ate, drank, and slept as usual. He continued the powders to the 14th, on which day he took half a dram *ter de die*; it produced the same effects daily, but in a less powerful degree, and without any beneficial result, therefore I discontinued its use, determining to try the extract. I could get the watery extract only; which he began to try on the 25th, and took a grain pill of it thrice a day, increasing the quantity every sixth dose: it produced no effect until Oct. 7th at night, on which day he had taken 10 grains at ten A.M., the same quantity at four P.M., and fifteen grains at eight in the evening. About an hour after the last dose its action commenced, and, as with the powder, was confined to the jaw, tongue, and inferior extremities, and also affecting them in a similar degree. This preparation caused a heaviness of the head, which almost amounted to pain at the back part, and a nausea at the stomach: it did not in the slightest degree affect the pulse. He persevered in the use of the extract in fifteen grain doses for a few days longer; but its effects now usually arising after the morning dose, consequently incapacitating him for work while upon him, making him lose more time than he could afford, and having no amendment to encourage his perseverance in the trial, he gave it up as a hopeless case.

As our knowledge of the cause of paralysis is at present very limited, which it necessarily must, whilst the anatomy and physiology of the brain are so imperfectly understood, I trust a few remarks on the above cases will not, on perusal, be considered superfluous. In many instances we are foiled in our most strenuous endeavours to discover either the exciting or proximate cause; but I think the symptoms in the case of hemiplegia elucidated them both in a great degree: the man had apparently laboured under a congestion of blood in the lungs, shown by the oppression on his breathing, unattended with inflammation, hydrops, or spasm; exposure to cold early of a morning in March constricted the vessels of the lungs and skin, and drove the blood on those internal parts which were in a state most disposed to receive a morbid impression: of what that state consists, and why it should be confined to one side of the body, I fear we shall very long, if not for ever, remain ignorant: be that as it may, had the cause in this case been extravasation or effusion, apoplexy would have accompanied paralysis; and the patient's recovery renders it almost certain that neither lesion of substance, nor local compression from tumors, was the cause: we must infer, then, that cold was the exciting cause; and the proximate cause consisted in suspended function of the nerves from san-

guineous congestion of the brain and nervous chords. The employment of the subject of the latter case plainly evinces the exciting cause of the disease : and here again, in what way the lead acts, it is difficult, if not impossible, to say ; for it may be by changing the state of the nerves affected, so that they cannot transmit the mandates of the will ; or its action may be on the power of contraction inherent in the muscular fibres, and rendering them unable to obey those mandates when conveyed. When administering a new and violent remedy, we should not only observe its action upon the disease, but upon the constitution also, with the hope of discovering an antidote for some other malady, or of elucidating some obscure points in physiology or pathology, and for the obvious reason that some of our most valuable drugs have very deleterious properties. On examining the detail of the above cases it will be seen, that, in the first, effects were produced, some beneficial, and others which could not be renewed with impunity ; whilst in the latter, effects powerful, but neither useful nor prejudicial. Of the beneficial, it is I think particularly deserving of notice, that the first sensible effect of the drug upon the disease should be the production of a sensation as if a fluid was running down the interior of the arm, and of twitchings also. I conceive we must attribute this feeling to the actual passage of the nervous influence along the nerves, and that from this period we may date the commencement of the recovery of their natural actions, and in future cases welcome these effects as harbingers of a successful termination. I think no one can peruse the above cases without feeling persuaded that the action of the *nux vomica* upon the nervous system is direct, and that the effects on the arterial system are most probably indirect ; for surely as it excites the nerves so powerfully, it may be considered an irritant to them ; and, as Sir E. Home has observed, that mechanically irritating a nerve increases the action of the accompanying artery, it is not a too far-fetched analogy to authorize me to conjecture, that thus it excites the heart ; and thus I should say the palpitation of the heart in Patterson's case (undoubtedly the effect of the remedy, for it was not present when the drug was omitted,) was produced. That its action should be confined almost solely to the paralyzed parts is exceedingly curious ; but not more extraordinary, nor more explicable, than the peculiar limits of the disease. It will be seen also, that the action of the *nux vomica* was more powerful on the flexors than the extensors, and that the former recovered their function earlier and with greater rapidity than the latter ; also, that the drug had an extraordinary power of exciting the calorific process. These circumstances are much in confirma-

tion of two physiological opinions: the former, that the flexors have inherent in them considerably more irritability than the extensors; and the latter, that nervous influence is one and a powerful agent in producing and regulating animal heat. The accumulation of heat requiring an increase of evaporation to restore the standard point, the habitual association of the two functions of a necessity is productive of more plentiful secretion of perspiration, a constant attendant on the increased heat from the use of the nux vomica. Its effects not being alike in both cases, only show the difference of the constitutions; either that in Headly's case there was not that particular concatenation between the nervous and arterial systems, which existed in Patterson's, that allowed of the indirect action of the nux vomica; or the nervous system was less susceptible to its action; for perhaps the palpitations and flutterings might have been produced in Headly's case also, had the dose been further increased.— And now, in regard to the mode of administering the nux vomica. Some of the French physicians have given it in a *lavement*; but its introduction into the stomach must be preferable, if it sit easy there. And respecting the form of the drug, whether the powder, or spirituous, or aqueous extract is to be preferred, as my limited experience does not enable me to give an opinion, I cannot furnish the reader with that information better than by relating the substance of a letter, dated July 1818, with which I was favoured by Dr. Fouquier, in reply to some questions I addressed to him through the medium of my friend, Mr. Scales, Jun. when on a visit of scientific inquiry at Paris, who also accompanied him to the hospital, and witnessed the beneficial effects of this extraordinary medicine on several cases of paralysis, which were in different stages of convalescence. I would give a full translation of his letter, but for the length to which it would extend this communication. He writes me— “ That since the specific effects of the nux vomica have been known to him, he has preferred the alcoholic extract in the form of pills, to either the aqueous or the substance in powder; that its effects are more powerful than either of the other preparations; and that he begins with doses of one grain twice a day, gradually increasing the dose.” He goes on to describe the particular effects of the remedy, which are precisely such as are noticed in the preceding cases, excepting those of vertigo and palpitation. He says: “ If too large a dose is given, its effects then discover themselves on the healthy members: to obtain a cure it must be given a sufficient time, and the dose so regulated, that sensible effects may be daily produced by it.” On the subject of what kind

of cases it is most likely to effect a cure in, he says: "Although the return of motion is very tardy, and more particularly in paralysis, from an effusion of blood into any part of the brain, (*epanchement du sang*), still, when it is *independent* of effusion, extravasation, or change of structure in the brain or nerves, we can depend upon its efficacy." And he affirms, "that it is no less specific for paralysis in general than mercury for syphilis, or bark in ague." I gave in the first instance the powder, because I could not procure either of the extracts: indeed, very lately my druggist told me he had applied at Apothecaries' Hall for the alcohol extract, and was told that "the man who sent him must be a fool, for there was nothing in the *nux vomica* for spirit to extract:"—if not, 'tis passing strange, that Dr. Fouquier should prescribe it, and particularly order it to be "made with the best rectified alcohol." I procured the aqueous extract, and it will be seen by the doses given, that it is much less powerful than the spirituous. Extracts are so very frequently rendered inert by the application of too much heat during their preparation, that it is exceedingly difficult to get them retaining all the virtue of the drug; but when good, they are certainly to be preferred to the drug in substance, because patients more readily continue their use, and their bulk does not nauseate: but that the latter is as effectual as the former, my first case fully proves. It is very obvious that great care is required in administering so active a medicine; but to limit its effects to the affected members only, would be, I think, over-wary: in every case I should advise the dose to be increased until decided threatenings of its deleterious action were visible. Although it is from potent medicaments only we can look for extraordinary effects; yet, in receiving Dr. Fouquier's *positive assertion* respecting the efficacy of *nux vomica* in paralysis, we must not forget that it originated from a practice, the offspring of his *own* truly ingenious mind.

The nature of the proximate cause of paralysis is so occult, that any fact which may throw only a slight degree of light upon the subject must be considered interesting. My communication has arrived at a length, that its value, I fear, will not be a recompense for the space it occupies; still, as the following *post mortem* examination presents morbid appearances that seem to bear some relation to the symptoms which arose during the progress of the disease, I shall trespass somewhat further, and give a brief history of the case, and dissection.

Elizabeth Hall, aged 25, on waking in the morning of October 17th, 1817, discovered that she had nearly lost the power of articulation, and the use of the superior and inferior

extremities of the right side ; she had felt a pain and heaviness in her head for some time, but in no other way had she felt unwell ; she menstruated regularly ; her diet consisted only of the daily fare of the indigent. She was treated strictly on the antiphlogistic plan, and on the 20th the pain of the head was completely removed ; her speech a little improved, but the paralysis of the limbs continued in the same state : thus she continued for ten days, when fever supervened, with a pulse neither rapid, full, nor hard ; her tongue with a thick white fur ; and her bowels very constipated, but the fæces were not unnatural in odour or colour ; and she complained of a dull pain all over her head : this state of things continued about a week, when her attendants informed me she had two or three fits, during which she could not speak to be understood : from this time a degree of paralysis commenced of all the muscles of voluntary motion, so that they could not obey the will steadily ; for instance, when she wanted to convey her hand to her mouth, it wandered in various directions before it arrived there ; all the symptoms daily increased until her death, which took place on the 18th of November ; and for a week previous to that event her bowels were *obstinately* costive ; she could not retain her urine ; she apparently became idiotic, and her memory failed her very much ; her right eye (for she had been blind from amaurosis of her left from birth,) was less irritable than natural, yet the pupil was not much dilated ; and she continued sensible to external impressions until a few hours before her death. She had a very copious secretion of mucus about the fauces, which impeded respiration and deglutition ; and on the day of her death she was continually making efforts to draw the phlegm from her throat with her fingers. I was permitted to examine the body, and began my dissection with opening the head. It required a considerable degree of force to elevate the cranium, from the extraordinary number of vessels which connected it with the dura mater. I found the vessels of the cerebrum and its meninges, and the cerebral sinuses, gorged with blood ; sections of the cerebrum discovered an unusual number of bloody points on its surface showing great congestion : the prosecution of the dissection of the cerebrum discovered no other morbid appearances, except that there was somewhat more fluid in the ventricles than was natural : here I observed two preternatural oval eminences on the thalami nervorum opticorum, parallel with, and about three lines posterior to the anterior commissure : they were mere protuberances of the substance of the thalami.

Proceeding on to the upper surface of the cerebellum, I

found its posterior superior margin had been inflamed, for the number of red vessels was exceedingly increased.

The examination of the inferior surface of the brain presented the largest portion of disease, and the most material morbid alteration of structure, for the cineritious matter between the thalami and the nervi optici was very soft; and the left half of the tuber annulare was diseased in an extraordinary degree, its substance being very much disintegrated and softened, but not containing pus: part of the right half partook of the same disease, but not to the same degree or extent; it appeared as if the morbid action was extending itself in that direction: every other part of the encephalon was distinct, and looking healthy, but contained too much blood.

The elevation of the abdominal parieties exposed a liver very firm and dark-coloured, appearing as if more blood had circulated through it than in health; a spleen small and soft; the large intestines exceedingly distended with air, and containing a considerable quantity of hardened fæces.

We learn from the above history, that in a case of paralysis affecting in the first instance one half of the body only, and afterwards extending to all the voluntary muscles, upon examining the brain a diseased state of the opposite half of the tuber annulare was discovered, apparently extending itself throughout the whole of that body. If the extension of the paralysis was the consequence of the morbid action having extended from the left to the right side of the tuberculum, may we not infer that the tuber annulare is the centre whence emanates the nervous influence destined for the muscles of locomotion? Or, that the communication between the nerves of those muscles and the cerebellum was cut off, and the transmission of the will thus prevented? Or, was the general paralysis the effect of the attack of inflammation which evidently took place in the latter part of the second week of her illness; and which, after death, was found to have been seated in the cerebellum?

II.

Remarks on the Mode of Communication, and on the Treatment of the Venereal Disease. By THOMAS COOKE, of Northampton, Member of the Royal College of Surgeons in London.

IN the REPOSITORY for September, Mr. Diamond, in advertising to a paper of Mr. Hey's in the second part of the 7th volume of the Medico-Chirurgical Transactions, proposes as

a question, "In what manner is the venereal disease communicated to a female by the male, when he shall at the time have no symptoms of the complaint on him?" and it would afford me as well as him much satisfaction to see the subject discussed: but it strikes me it should clearly be made to appear that the disease can, and is occasionally communicated under such circumstances.

The observations of Mr. Hey struck me so forcibly when I saw his paper in February 1817, that I then committed to writing the following remarks; and as I think they may probably be interesting, shall transmit them for insertion in the REPOSITORY, should they be thought worthy a place in that useful miscellany.

Having for many years been engaged in a military practice, various opportunities have been afforded me of noticing the peculiarities the venereal disease occasionally assumes; not merely as it affects the male, who come most under the care of the medical officer, but also the wives and children of soldiers, who likewise claim attention. But not having seen any mention made of those varieties which have occasionally presented themselves to me, till I met with Mr. Hey's paper, I thought it not improbable I might have been deceived, as it is not usual with military Surgeons to give credit to much more than comes under their actual observation; nor is it customary with them to keep a register of the diseases of soldiers' wives and children, to which to refer; but having now been several years in private practice, I have taken notes of cases, in some of which many of these peculiarities occurred: I will, therefore, briefly detail the least objectionable of them, in the hope that they may be interesting to the profession, and the respectable author of the paper to which I have before alluded.

On the 6th of March, 1804, I was engaged to attend M. D., who expected to lie-in about the following June: on the 12th I was called upon to visit her. From the inquiries then made, I was led to conclude she was affected with lues venerea, which was confirmed upon examination. There was a very great puriform discharge from the vagina, several sores upon the labia-pudenda and parts adjacent, with an incipient bubo: after lowering the system by refrigerants and aperients, a mercurial course was adopted. I ordered the pilula hydragryri to be taken, and afterwards inunction of the mercurial ointment, which was used till the mouth was considerably affected; when the pills were again had recourse to, and continued till all appearance of disease was removed. On the 5th of May she was delivered, between the seventh and eighth month of pregnancy, of a dead child. On the 16th

of February, 1805, she was again delivered, between the sixth and seventh month, of a dead child; and on the 15th of June, 1806, being at a distant town, she was delivered of another child, which lived about a month. The mother states that it was covered with an eruption, particularly upon its face, hands, and feet. She has had four children since, and all of them perfectly healthy, and without at any time the smallest appearance of the disease; it therefore terminated with the third child; from which I conclude its morbid powers then became exhausted. Being, from the peculiar circumstances attending the case, very desirous of satisfying myself respecting the accuracy of it, I was anxious to ascertain if the account of the husband and wife would correspond with that which I had noted down at the time of my attendance. I therefore requested that they would call upon me. I separately questioned them upon it; and it afforded me much satisfaction to find that it accorded with their former statement. It appears that they were married in August 1803; and in about six weeks symptoms of disease appeared upon her. She was quite ignorant as to the nature of it, till her female friends intimated their suspicions. The symptoms gradually increased till she became so sore that all intercourse with her husband became inadmissible.

The husband stated, that in 1795 or 1796 he had the venereal disease in Galway, Ireland; but being a soldier, and not wishing to go into the regimental hospital, procured some pills and lotion, and cured himself: that in 1801 he contracted the disease again at Killala, in Ireland; and then had large sores or chancres, for which he procured some medicine and lotion from the Surgeon of the hospital, which he supposed quite cured him, as he never afterwards had any symptoms of the disease. He had not had any sexual intercourse for more than two months previous to his marriage; but although he regularly had with his wife from the time he was married, till he was prevented by her very diseased state, he never had any symptom of disease himself.

I have frequently remarked, that those who have been cured by astringent applications are not so susceptible of the disease as those that have not, hence primary sores were but seldom seen in such persons; and it is well known that lotions of that nature are frequently used as preventives.

As might naturally be supposed, I was very minutely questioned as to the possibility of his communicating the disease to his wife, when he had no appearance of it himself; and after considering all the circumstances attending it, and comparing it with others of a similar nature, I felt no hesitation in giving it as my opinion, that it must have been occasioned

by him : he then became desirous to know if it would be necessary for him to adopt measures to free himself from it ; but as he had no appearance either of primary or secondary symptoms, none were proposed nor ever used to my knowledge ; and I think, from having known him for many years, that he is deserving of implicit credit. I therefore judge this case will go far in proving that the disease may be communicated to the female by the male at a time when there is no appearance of it upon him ; and that it may, and frequently does, remain dormant in the system for years without occasioning any visible constitutional effects : but how long it will retain its morbid tendency is difficult to say, as it is probable that will very much depend upon the susceptibility of the individual exposed to its influence, and other circumstances. In this case it was retained upwards of two years, when its effects upon his wife ceased ; but that probably was in consequence of her constitution not being so obnoxious to its contagion after that period ; though it is to be observed it extended to the third child. That the husband had the disease in a latent state there can be but little doubt ; and that he communicated it to his wife is pretty certain ; but in what way, has hitherto, I believe, eluded the ken of our senses, and perhaps ever will. Numerous cases of a similar nature have come to my knowledge ; and in all of them, though the husbands declared that they had no disease upon them, nor did any appear upon examination, still it was acknowledged they had had the disease, and had been cured by some external application ; procured, too often, from some illiterate person. In some cases the glands appeared corrugated from such applications. It is a remarkable fact, that nearly the whole of those who fell under my care with secondary symptoms, which are so tedious and generally very difficult of cure, had been thus improperly treated in the first instance. Therefore it became an established practice with me to secure the constitution by mercury ; and leave the sores to heal by cleanliness, and a little lint to absorb the discharge from them. And though this mode was tedious, it was sure ; which induced me to adhere to it rather pertinaciously, and perhaps rather more so than was warranted, a different mode having of late years been adopted by men of approved talents.

It would ill become me to disregard their authority ; and on that account I shall merely state the result of my own observations, with remarking, in the words of a distinguished author, that “ credulity in matters of physic has been the principal cause of the slow advancement of it ; and that an

absolute resignation to the opinion of any man, however great, without taking proper pains to judge, examine, and search into the truth of it, is a slavish submission, and very unbecoming a rational creature."

If I am not mistaken, it has of late years been the practice with some very respectable Practitioners to cure primary venereal sores with escharotics; giving little if any mercury to secure the constitution. But from what I can learn, it was usual to tell the patient such sores were not venereal, though very much like it; two very remarkable instances of which fell under my notice in the spring of 1816.

My advice being requested by an officer of a dragoon regiment, of which I had the medical care, respecting an ulcer upon the preputium, and no doubt remaining either upon mine or my patient's mind as to the nature of the complaint, a mercurial course was proposed, some antiphlogistics being premised. In a few days after, business of an urgent nature required his attendance in London, and this induced him to consult a professional gentleman of great respectability there, who informed him it was not venereal, though very much like it; and cured him in a week or ten days with only two or three times dressing. Very soon after I was again applied to for my assistance by another officer of the same regiment under precisely the same circumstances, and it originated from connexion with the same female as in the former case: but being now put upon my guard, I determined to act with more caution; I therefore advised him to be perfectly satisfied as to the nature of the disease before any measures were taken for its removal; adding, if it was not venereal, nothing more than cleanliness would be required; but if it were, the sore would gradually enlarge and get worse. At the end of a week it assumed the true venereal character, with which military men in general are too familiar to be much mistaken. Tired of further delay, he now requested me to adopt the plan I proposed. But at the end of a few days his friend returned from town, full of glee at having been cured with only a few external dressings, regimen and medicine not having been thought at all necessary. The effect of such agreeable intelligence may be much easier conceived than described; restriction was no longer to be endured; and away he speeded to the Æsculapius who had performed so great a miracle. In about a fortnight he returned to his regiment apparently quite well. Facts are stubborn things, and it was now very difficult to support either my opinion or practice: argument must give way to proof. My objections to this practice may be stated in a very few words: I do not like secondary symp-

toms ; when they begin there is no knowing where they will end ; at least I have often been puzzled and perplexed to arrest their merciless ravages.

I am not ignorant of what has been said by Mr. Pearson on cachexia syphiloidea, and by Mr. Abernethy on pseudo-syphilis ; and though I have no objection to these distinctions, yet I think the subject in need of much investigation, as all those cases which could be considered as coming under such descriptions, that have fallen under my care, and they have been rather numerous, were cured by mercury in some form or other ; and that after other means had been tried in vain, the sores having invariably broke out again at no great distance of time, or showed themselves in other parts. This has induced me to continue in the old beaten path, until facts have established the superiority of a different mode of treatment. I shall now state a case or two in illustration of what I have advanced.

In the spring of 1814, a medical officer of a regiment of dragoons called upon me to request my opinion respecting one of the officers of the regiment who had a sore throat, which, on inspection, I found to have all the characters of a venereal one ; and, therefore, without hesitation, pronounced that opinion.

I was then informed that he had only been a very short period released from his bed, where he had been confined for a considerable length of time with two very extensive sores in the groin, which the senior medical officer of the regiment had declared were not venereal, and cured them without mercury. My opinion being given without any knowledge of this circumstance, was considered as free from bias of any kind ; a mercurial course was proposed and adopted, and by which the patient was cured.

On the 2d June, 1814, a private soldier of the same regiment was transferred to my care in the most deplorable state imaginable ; in short, he was a complete Lazarus : not an idea was entertained that he could recover ; but on the 19th of October following he was sent to Chelsea.

This case was attended by a peculiar circumstance which I had never noticed before : three weeks after he had been under my care it is noted that " his gums are tender as if he was taking mercury, and his breath has the mercurial fætor," though none had been used since he was transferred to me. He had been taking cinchona, opium, and nitric acid.

On the 17th of August it is again noted, " his breath still retains the mercurial fætor, his mouth quite sore, and spits considerably."

On the 3d of September it is again noted, " his mouth is

still very sore, and the mercurial factor very strong." To enter further upon this would be digressing too far from my subject, and therefore I shall leave it without any comment.

Upon inquiry into the history of this case, I was informed that when he was at Dorchester, some years since, he had a chancre, and applied to his Surgeon for relief; that this gentleman gave him some dressings, desired him to keep himself clean, and go about his business; that he obtained fresh dressing from the hospital sergeant when he wanted it, and the sore got well; and that he has not since had any of the same kind; that when the sores broke out about his body and limbs he applied for relief, and was then admitted into the hospital (14th of September, 1813), and put under a mercurial course; and that had been his general treatment till delivered over to me. From these and many similar cases that have fallen under my care, I am disposed to think that the disease, in its primary state, is often curable without mercury; and that its virulence does often become much mitigated by reason of general and inadequately resisted diffusion, or other causes; and after running a certain (in some instances a mild) course, exhausts itself, and ceases spontaneously. Such appeared to be the case with the husband of M. D.: and though it is known to be so occasionally, I think that will not warrant the subjecting of our bodies to the unresisting influence of that disease, the consequences of which might, and frequently are either fatal, or occasion mutilation and decrepitude in ourselves or offspring: and these are my reasons for thinking that to cure the disease by topical means alone, in its primary state, is pernicious and highly dangerous.

I have often had reason to regret that the farriers of regiments could not be prevented from practising in this way; the evils attending it have been very great, and often seriously felt by the country, in the loss of the valuable services of numbers of its bravest defenders.

I have perused Mr. Fergusson's paper upon the venereal disease in Portugal with much satisfaction; and his ideas upon the subject accord pretty generally with those of my own.

III.

Case of Immediate Death from Oxalic Acid, taken in mistake for laxative Salts. By JOHN WESLEY WILLIAMS, of Portsea, Member of the Royal College of Surgeons in London.

It is much to be deplored that the benefits arising from the progress of science should be checked by the drawback of the fatal misuse of many of the powerful materials which are

thereby made known to us. Every precaution to keep such substances from persons unacquainted with their active qualities should be strictly observed. I do not consider it a happy addition to the conveniences of domestic life, that so poisonous a substance as oxalic acid, so fatally resembling salts, should be commonly used for removing stains from boot-tops, when other strong acids, the muriatic for example, would fully as well effect the purpose, without the liability of these awful errors.

I was summoned to the assistance of Anne Prouse, residing in Portsea, early on Monday morning, the 2d of November, but she expired before my arrival. I was informed by her husband that she arose to prepare breakfast at a quarter before seven o'clock, leaving him in his room. At half past seven she returned, saying that she had taken salts, and complained of the most agonizing pain. She asked for some oil, which was given her: soon after which she had an evacuation from the bowels.

She threw herself upon the bed, became convulsed, and expired. Thus, allowing half an hour for her occupations in lighting her fire and boiling her kettle before she dissolved the supposed salts, death must have ensued in rather less than half an hour after she had swallowed the draught.

The crystals which she made use of were given her by a friend, who had casually found the parcel in clearing out a *grocer's* shop! Mrs. Prouse had given a dose to a neighbour who was unwell; but, fortunately, she laid it in a place where it became mixed with dust, on which account she wisely cast it away. The children of Mrs. Prouse narrowly escaped the fate of the mother. She endeavoured to persuade three of them to take some of the same portion, as a preventive of the fever in their vicinity; but on being informed that taking physic required them to omit their breakfast, they, with a happy firmness, refused to take the dose.

A basin was shown me in which it was supposed that the salts had been mixed. I noticed some obscure crystals irregularly strewed over the basin; but such was their indefinite figure, from having been moistened, that I could not satisfy myself that they were not an unrefined species of Epsom salts.

I should have mentioned that the poor woman appeared of a weakly and infirm state of body. One or two dejections from the bowels had taken place, but it could not be told whether they were sanguineous or not; nor had bloody vomiting occurred; so that the whole suspicion of poisoning rested on two facts—the occurrence of excruciating pain after the substance swallowed—and the fatal event succeeding it. I confess I almost gave way to the belief that the salts (sup-

posing them of ordinary quality,) had acted powerfully on a peculiar diathesis.

On inspecting the half liquified remnant in the basin, I perceived a whiteness in the fluid parts, which I attributed to some portion of milk remaining in the basin that was used; but this appearance was afterwards satisfactorily ascertained to be from the lime in the water used to dissolve the crystals. I took the basin home with me, to prove its contents by a chemical examination.

I took a particle of the substance on the point of a bright knife, and observed a stain produced similar to that of strong acids. This gave me a suspicion of its corrosive nature. A solution of two grains in four ounces of Farlington water gave a sensible cloud. This I supposed was from the affinity of the substance to lime. I now believed that it might be oxalic acid. A like quantity dissolved in four ounces of the water of Portsea island, rendered it turbid, but considerably less so than in the former instance. This further proved that lime was the substance affected by the affinity, as on treating the water of either spring (both being used in the water works of these towns,) with oxalate of ammonia, it appeared that Farlington water superabounded in lime when compared with that of Portsea. I now added lime water to a solution of the matter in distilled water, and a most abundant precipitate of oxalate of lime was formed.

I next proceeded to prove its acid qualities. A drop of the exceedingly dilute solution alluded to above perceptibly changed the tinge of litmus paper; but when a bit of crystal was presented to moistened litmus paper, the purple was changed to the brightest red. My syrup of violets was thick and crystallizing; I could not therefore depend on it as a further test; but from the striking and undeviating affinity for lime, and its effects in reddening litmus, qualities remarkable in oxalic acid, I fairly concluded that such was the poison.

Examinatio post mortem.—The friends objected to an inspection of the body: but although I could not consistently forego this point, for the sake of their feelings I restricted the examination principally to the stomach; a view of that viscus being most important in tracing the effects of corrosion.

At five o'clock in the evening of the same day, accompanied by Dr. Lazzaretto, of Portsea, I proceeded to the house for this purpose. A bloody serum was passing at the mouth. The abdominal parieties on being pressed gave the elastic crackling feel of air confined in the cellular membrane. The section of the abdominal coverings exposed the intestines highly inflamed, and distended with flatus. The stomach appeared inflamed at particular points externally, particularly near the pylorus. This organ was shrunk, and contained

about eight ounces of a dark, grumous, pulpy matter, more like meconium than any thing to which I can compare it; so viscid and tenacious, as to adhere strongly to the hands: there were membranous flakes intermixed with it derived from the velvet coat of the stomach, which seemed destroyed throughout. Thus the disorganization of the stomach, which so remarkably occurs from corrosive poisons, proved in connexion with the rapid deprivation of life, that oxalic acid was the substance peculiarly capable of producing these effects.

Examination of the contents of the stomach.—I should first state that the knife used in laying the stomach open was impressed with an indelible stain.

The surgical needles were so completely stained and corroded, that my pupils put them into lime water to decompose the crust, and a remarkable deposit was quickly formed. The matter found in the stomach was so adhesive, that I could not in that state subject it to examination. I therefore poured a pint of boiling water on it, stirring it well, to dissolve any crystals, and filtered it through paper. A transparent pale red liquor was produced, which probably owed its colour to sanguineous fluids heightened by the acid. This filtered liquor so much diluted, affected litmus paper, and on pouring lime water to a quantity of it, a very copious sediment of oxalate of lime ensued. Hence it appeared that oxalic acid was the real cause of death. An inquest gave a verdict of “Death by oxalic acid, taken in mistake for salts.”

After the inquisition was over, the remaining members of the family incurred the risk of the mother's fate.

On taking down the sugar jar for tea, they met with some impediment in taking out the sugar, and on examining the jar they found a loose paper containing a quantity of this acid. And probably more than an ounce had fallen into the sugar and was mixed with it.

The crystals were brought to me, and the identity with oxalic acid was fully apparent.

I have troubled the REPOSITORY with this account, as I recollect several cases similar to this have been inserted in that Journal.

IV.

A Case of Hemorrhage, which terminated fatally from the Application of a Leech. Communicated by ANTHONY WHITE, M.B., Surgeon to the Asylum, Consulting Surgeon to the General Penitentiary, and Assistant Surgeon to the Westminster Hospital.

It has been rarely (if ever) recorded, that the application of a leech has been directly productive of death to the person on

whom it was placed: such an occurrence I have once witnessed; and on several occasions my assistance has been requested to restrain hæmorrhage which had continued many hours, and where every usual method had in vain been adopted, and where the blanched and exhausted condition of the patient was not sufficient to cause a spontaneous cessation of the flow of blood. The case of death to which I allude happened in my immediate neighbourhood: the circumstances were the following. A gland under the angle of the jaw became enlarged and painful, in a female child two years and a half old: the mother, at the request of her apothecary, placed a leech on the tumor; the direction given was, that when the leech had fallen off, a large poultice was to be applied to the bite, into which it might bleed; and it was requested that the poultice should be kept on all night. The leech was applied at night; the poultice also; the child put to bed: thither also, at the same time, went the mother.

The next morning the child was found with pallid face and bloodless lips, and its whole body bedewed with chilly sweat, the usual precursor of death, arising from slow hæmorrhagic exhaustion. The blood had flowed during seven hours, and was found in a large coagulated mass under the sheet. The unhappy mother had of course slept during this period: the volatile and other stimulants which I directed to be administered were of no avail; depletion had gone beyond the recoverable limit, and the patient died before I left the house.

It is remarkable that in this exhausted state blood was yet slowly oozing from the leech wound; and I have witnessed in many other instances, where, even during fainting, the blood has flowed from the peculiar bite of this animal. Children, on account of many inflammatory affections, and where the use of the lancet is impracticable, become the frequent subjects of leeching; and many parts of the body, from structure and situation, are ill calculated to bear pressure, or to have it effectually applied. The relation of the following case, which led me to adopt a method of restraining hæmorrhage, is an example:—My friend, Mr. William Pritchett, had directed leeches to be applied over the trachea of a child affected with croup; the bleeding from one of the punctures became alarming; styptics after the usual fashion had been in regular order applied, and all as regularly failed. On my seeing the child with Mr. Pritchett, I found it much exhausted, and the blood pouring over the throat in a rapid stream. The weak condition of the patient forbade me to reiterate the attempts which are usually adopted, and on closely inspecting the parts, a small pulsating arterial stream was

discernible. On the spur of the moment the following method was adopted: I procured a fine sewing needle, which I passed through the leech-bite, piercing as much of the skin on each side as was sufficient to obtain a moderately firm hold: the bite or wound thus transfixed, I conveyed beneath the needle a few turns of common thread, which gave me complete and effectual pressure on the orifice. The method used by the farriers after bleeding the horse, which is to pass a pin through the orifice, and afterwards to wrap round or behind the pin a piece of hair or flax, nearly resembles the plan I adopted. A piece of cork or wax was adjusted on each end of the needle, which the next day was removed: the portion of skin necessarily pierced on each side of the wound is so small that very little pain is experienced by the operation. The plan is so simple, yet so certainly effectual, that I have for the last five or six years constantly adopted it, where, from situation or structure, pressure was inadmissible; or danger, during the night, of a recurrence of the bleeding was apprehended. A very recent case in which leeches had been applied over the scrotum of a boy eight years old, with a congenital hernia, and where (arising from three of the punctures,) hæmorrhage had returned during the night, the patient was with difficulty recovered from its excess, the needles were effectually applied. I have from this circumstance thought the subject of sufficient importance to the community to give publicity to the method which has invariably succeeded. The throat, scrotum, and perinæum, are parts of the body to which leeches are frequently applied, and which, from situation and structure, are ill adapted to receive or bear pressure: when the bleeding cannot be restrained with facility in these situations, I have oftentimes saved my patient much exhaustion and alarm, and myself much trouble, by adopting the plan I have explained. Where the leech, with its teeth, has punctured a large cutaneous artery, which not unfrequently happens, and where, from its imperfect division, contraction cannot take place, I have occasionally succeeded in restraining the bleeding by pushing the point of a lancet into the leech puncture; but this method is uncertain of success. From the report of many of my professional friends it is certain that infants occasionally perish from the effect of leech punctures; and many cases of great hazard, no doubt, frequently occur from the same cause to children beyond the infant age, and even to adults of delicate and lax structure. The circumstances connected with each case will regulate the adoption (among Practitioners) of the method which I have recommended. The histories I have detailed are of themselves, I

trust, of sufficient importance to warrant this very simple, yet effectual, method of restraining hæmorrhage, being the subject of communication to the medical public.

Parliament Street.

V.

Case of Croup. By L. LEESE, Surgeon.

IN transmitting the following case of croup, my motive is to exhibit the beneficial result of prompt and efficient measures in this rapid and fatal disease; without pretending to any novelty of treatment.

A family in the city, in the year 1815, possessed two remarkable fine children, both of whom they lost in the month of October of that year, in one week, by croup. On the 5th of October, of the present year, I was called early in the morning to a very fine child of the same parents, aged nine months, whom I found with most decided symptoms of croup. Pulse 160°, and interrupted. I immediately ordered ten leeches to be applied to the throat, an ounce mixture with four grains of tartarized antimony, a tepid bath every three hours, and a fomentation to the throat every hour from the falling off of the leeches; the good effect of these remedies was apparent in a few hours, and before the following morning they had removed symptoms that threatened speedily to extinguish life.

I am decidedly of opinion, that had there been any delay in the application, or want of entire confidence and active co-operation on the part of the parents, and others of the family, this child would also have been lost in less than forty hours, as both the others were.

I am hereby induced to recommend the employment of persons who are in the habit of providing and applying leeches; in the due application of which we are often disappointed: when a given number are sent for, they are frequently attempted to be applied by inapt persons, or the leeches may be inert: in the present case a woman was sent for them, who brought a great number, so that if some did not readily adhere, others were at hand, the patient thereby saved from fatigue, and delay prevented. By this mode, in many cases, highly important results may be gained or avoided, — no less than life or death.

DEPARTMENT OF NATURAL HISTORY, &c.

On the Animals of the Class Vermes in general, and on the Intestinal Worms of Mankind in particular. By S. F. GRAY.

AMONGST the numerous species of animals which are already known, there are none more important than those to which the generic name of vermes is now confined. This importance arises from many of them living within the body of mankind; and others in the bodies of animals. The knowledge now possessed of these animals is very small, and almost entirely confined to the external form, and the names which have been given to them by those few naturalists who have written upon the animals of this class.

Lamarck, from a consideration of the anatomical structure of these animals, considers them as forming the first rudiments of that series of animals which passes on successively from the vermes to the epizoaria, insects, crustacea, arachnides, and terminates in the cirrhipedes. This anatomical structure is very different in the various species, and can scarcely be characterized in a generical manner, for there is a very considerable difference between the organization of a hydatis compared with that of the strongyli that live in the stomach and larger intestines of the horse: and yet these last animals are much more imperfect than insects, and still more so than the mollusca with which Linnæus had confounded them, but which approach very near to what are called the more perfect animals.

But although positive characters can scarcely be given, which are common to all these worms, there are certain negative characters which apply to them. Thus none of these animals exhibit any appearance of radiation, neither have any of them a head forming the seat of any peculiar sense, and still less as forming the focus of sentiment. Hence the best way of describing them seems indeed to be the definition given by Lamarck himself, as hereafter mentioned.

The vermes have been confounded with the annelides of the present naturalists, but there is an immense difference in the anatomy of these two classes, since the annelides have a nodose longitudinal medulla as the organ of sense and motion, a regular circulation of red blood through arteries and veins, and they breathe either by internal or external gills.

The following enumeration of the genera and species of worms is the completest hitherto published, and is taken partly from Rudolph and partly from Lamarck, with occasional reference to other authors.

CHARACTER OF THE CLASS.

VERMES. *Animals* soft, long, mostly naked, without any head, blind, and without feet.

Mouth with one or many suckers; tentacula none.

Organization. An alimentary tube or sac; breathing water by their external pores; the generation of some species is by buds, and of others inclining to oviparous: none have a brain, a nodose longitudinal medulla, any organs of sense, or any vessels of circulation.

ORDER I.—*Vermes Molles.*

Naked, soft, and without any apparent stiffness, of very different shapes, and for the most part irregular.

A. Vermes molles vesicularii. Either vesicular or terminated behind by a bladder, or else adhering to a bladder-like cyst in which they are contained.

1. DITRACHYCEROS, Sultz; *Diceras*, Rudolph. *Body* ovate, flat, covered with a transparent tunic, furnished in the fore part of the body with two long horns covered with filaments.

D. rudis. About a quarter of an inch long, one half of which was taken up by the horns; four of these were ejected from a woman 26 years of age after taking a cathartic medicine, along with great numbers of others which seemed to be the ovaria of tœnias. Body hollow, filled with a watery liquor, the internal surface tubercular as well as the external.

2. HYDATIS, Lamarck; *Cysticercus*, Rudolph. *Bladder* external, cystose, usually containing only a single worm. *Body* vesicular, pitcher-shaped filled with water, narrowing in the forepart into a thin neck, having at its summit four suckers and a crown of hooks.—The hydatides have been considered by some as mere deposits of lymph; a great abundance of them in animals cause a considerable degree of disease: they are superficial, or but moderately immersed in the viscera of various animals. Two species are enumerated by Lamarck, neither of which are found in mankind.

3. HYDATIGERA, Lamarck; *Cysticercus*, Rudolph. *Bladder* external, cystose, almost always containing a single worm. *Body* long, depressed, wrinkled, terminating behind in a caudal bladder shorter than the body, and filled with water, the fore-end having four sucking mouths, and being armed with a terminal crown of hooks.—These have been included by Rudolph in the same genus as the preceding, under the common name of cysticercus, of which he enumerates fifteen species as having been found in animals. Of these only one has as yet been found in man.

H. cellulosa. Head four-sided, beak round, hooked; neck

very short; growing smaller in the fore-part; body cylindrical, caudal bladder transversely elliptical. Scarce half an inch long when extended, and about a line wide; the caudal bladder shorter. Head large in proportion; mouths orbicular placed in the corners; body retractile within the bladder, and appearing through its transparent sides like a hard globe within it. Skin papillose. Found between the muscles in the brain, and in the axillary fovea of man, and in almost every soft part of the hog, sometimes in great numbers, the pork being then said to be *measly*.

3. *CÆNURUS*, Rudolph; *Polycephalus*, Zeder. *Bladder* external, thin, cystose, filled with water containing many worms adhering together. *Body* long, rather flat, slightly wrinkled, terminated in the fore-part by a swelling furnished with four suckers and a crown of hooks.—These are included by some in the next genus, but are flat: they are found in the brain of sheep, at the bottom of a bladder rather larger than a pigeon's egg; the worms themselves are about one-sixth of an inch long: the sheep afflicted with them lose their senses, become blind, and die in great numbers; the cure is attempted by puncturing the skull at the sutures, by trepanning and extracting the bladder, or by passing a sharp pointed wire up each nostril till it reach the skull; after which operation the sheep sometimes lies as if dead for 12 hours; occasionally an accidental contusion breaks the bladder, and the sheep recovers.

4. *ECHINOCOCCUS*, Rudolph; *Polycephalus*, Zeder. *Bladder* external, cystose, filled with water containing several very small worms, like grains of sand adhering to the internal surface; *body* globular or top-shaped, smooth; the apex having four suckers and a crown of hooks.—Three species of this genus are known, all found in the viscera of animals. One is found in mankind.

E. Hominis. The bladder is sometimes as big as the fist, the worms smaller than sand, yellowish. The specimens of Meckelan are supposed to have been found in the brain, but Rudolph rather imagines they were found in the liver; Rudolph himself has some of these worms in small bladders, ejected by the anus, and which probably passed from an abscess of the liver into the duodenum.

B. Vermes molles plani. Body soft, flat.

5. *TÆNIA*, Galen; *Tinea*, Pliny; *Alyselminthus*, *Halysis*, Zeder. *Body* soft, very long, flat, jointed, terminated in the fore-part with a head-like nodule. *Terminal nodûte* having four sucking lateral mouths.—These worms resemble a white riband with jagged edges, and are divided into joints, the larger species having in general the smallest joints; each joint

appears to be a separate animal; and yet the fore-end, after generally growing narrower, terminates in a swelling with four mouths, the œsophagi of which afterwards unite into a single canal which transverses the whole length of the worm. Each joint has usually a pore on one of the edges, and sometimes a little button or perforated nipple; internally each joint appears to have an ovary sometimes resembling a bunch of grapes, the ova of which may be pressed out through the lateral pore in great numbers. All the worms of this genus live in the intestines only of animals. Rudolph enumerates 116 species, of which however only two are found in mankind, both of which are called indiscriminately *tape-worms* from their appearance, and frequently confounded.

T. lata. Terminal nodule, simple, not beaked, obtuse; neck none, joints in the fore-part very short, the others squarish, with lateral pores. Grows to the length of twenty feet, and generally half an inch broad, rarely an inch; Goezius however had an imperfect specimen 60 ells long; said to be more frequent than the next species in Switzerland and Russia, often found in France, but rarely in Germany, Holland, and England. Rudolph says he never knew it found in a dead body.

T. Solium. Terminal nodule armed, hemispherical, broader than long, beak obtuse; neck growing thick toward the terminal nodule; joints towards the fore-end, very short, the following ones squarish, the remainder oblong; all the joints rather blunt; with one of the lateral edges obtuse and furnished with a perforated nipple, the other sharpish and not perforated, the pores being generally placed on alternate sides. Found in the small intestines of mankind, usually by itself in Germany, Holland, England, and the East; but in France generally in company with the preceding. Called by the French *le solitaire*, yet Rudolph procured four specimens with terminal nodules which had been ejected by stool, from the same person. The terminal nodule is very small, flat; neck three or six times as long as the head, also flat. These worms are sometimes found folded together, several of the joints being in coition with others of the same individual; sometimes two worms are found closely adhering from the same cause. The joints are sometimes ejected singly, and thought to be a different species, called in English *gourd worms*: the *tænia* itself has also been conceived to be formed by the union of these separated joints; and the nipple on their edge was thought to be a proboscis. Some have vainly imagined that persons afflicted with either of these worms dislike music, and are irritated by it.

7. BOTRYOCEPHALUS, Rudolph; *Tania*, Linnæus; *Rhy-*

telminthus, *Rhytis*, Zeder. *Body* soft, long, flat, jointed; *terminal nodule* four-sided blunt, with two pits on the sides opposite to each other; *pits* either naked or armed with suckers.—Of these there are nineteen species hitherto described as inhabiting other animals, mostly in fishes. According to Lamarck the *tænia lata* just spoken of belongs to this genus.

7. TRICUSPIDARIA, Rudolph; *Tænia*, Linnæus; *Rhytis*, Zeder. *Body* soft, long, flat, deeply wrinkled at the hind end; *mouth* near the fore-end, two lipped, each lip having two three-pointed spines.—Of this genus only one species is known, which is found in the pike, perch, and other fish; either free in the intestines, or included in a cyst in the liver, and sometimes also in the mesentery: it is from an inch to two feet long, and about one-eighth of an inch broad.

8. LIGULA, Bloch; *Fasciola*, Linnæus. *Body* long, flat, strap-shaped, smooth, sometimes having a longitudinal groove; rather blunt at each end: *mouth* and *anus* not separated. Of these nineteen species have been already described, some being found in aquatic birds, others in fishes; either in the intestines or in the hollow of the abdomen, twisting themselves round the intestines. It is a species of this genus that by its irritation causes the bleak to have those irregular motions and to leap out of the water in the latter end of summer; at which season they are called mad bleak by fishermen and anglers.

9. LINGUATULA, Frælich; *Polystoma*, Zeder. *Body* soft, long, flat, growing narrow behind; *mouth* manifold; openings four to six, simple, placed underneath and towards the fore-end; *anus*.....—Six species are known, found in the lungs and other parts of animals; one of which is found in mankind, viz.

L. pinguicola. Flat, oblong, truncated before, sharp pointed behind; six pores placed in a semicircle. These pores, or mouths, may be pushed out or retracted at the will of the animal; about three quarters of an inch long, and a quarter wide. Found by Treutler in a fat, but hollow, reddish tubercle about the size of a hazel nut, in the cellular substance of the indurated ovarium on the left side of a country woman twenty years old, who died, after a difficult labour, of sanguineous apoplexy.

10. POLYSTOMA, De La Roche. *Body* long, flat, contracted towards the fore-end, pointed behind; *mouth*, six bilocular concave suckers, with two holes each placed in a row under the fore-end; *anus* underneath, near the hind-end.—Only one species is known, which is found sticking to the gills of the tunny, of a grey colour, about an inch long.

11. *PLANARIA*, Muller. *Body* oblong, flattish, gelatinous, naked, contractile, rarely divided or lobed; *mouth* and *anus* underneath.—Of this genus many species are known, of which sixteen are discriminated by Lamarck: they are not intestinal, but live in ponds, rivulets, or the indentures of the sea coasts. It is not, however, certain, whether they really belong to this class, or to the annelides, as some suppose the black spots on them to be eyes, which would necessarily require the presence of optic nerves, and a brain, and of course remove them from this class.

12. *FASCIOLA*, Linnæus, *Distoma*, Retz. *Body* soft, oblong, flat, sometimes rather cylindrical; *pores* two, one near the fore-end, being the mouth, the other below, or on the side distant from the former, being the anus.—It is also doubtful whether these are vermes or annelides. They live in the intestines, and other viscera of animals. Eighty-one species are known, of which only one is found in man.

F. hepatica. The fluke worm. Obovate, flat; neck sub-conic, very short; pores round, the ventral one the largest. Found in the gall-bladder of mankind, and in the livers of sheep, &c. causing in these animals an ascites: when full grown are about an inch long, and half an inch broad, yellow, green, or brown. Is capable of passing through very narrow passages, by lengthening itself.

C. Vermes molles heteromorphi. *Body* sometimes flat, sometimes cylindrical, frequently of an irregular shape.

13. *MONOSTOMA*, Zeder; *Festucaria*, Schrank. *Body* soft, long, of many forms, flat or cylindrical; *pore* single, terminal, or on the end of the fore-end, appearing to be the mouth; anus wanting.—These singular worms have in many of their species no appearance of any intestines. Fifteen species have been described, as found in the intestines of the mole, of some birds, and fishes.

14. *AMPHISTOMA*, Rudolph; *Strigea*, Abilgaard. *Body* soft, cylindrical, rather irregular; *pore* at each end, single; being perhaps the mouth and anus.—Several of this genus having a swelling at the fore-end resembling a head; eleven species are known, which are found in the intestines of quadrupeds and birds.

15. *CARYOPHYLLÆUS*, Gmelin; *Phylline*, Abilgaard. *Body* soft, flat, long, growing narrower behind, the fore-end spread out wide, fimbriated contractile; *mouth* lipped, rarely conspicuous; *anus* terminal, behind.—Only one species is known, found in fresh water fish, growing to two inches long; the fore-end is usually spread out like a spatula, and as crisp as the petals of a pink.

16. *TETRARHYNCHUS*, Rudolph; *Tentacularia*, Bosc.

Body sacklike, oblong, resembling a club, the fore end obtuse, contracted at the hind end; *suckers* four, probosciform, retractile, placed at the fore-end; *anus* behind, terminal.—These vermes are generally very small, and inhabit the stomach, intestines, and liver of fishes. Four species have been described.

17. *SCOLEX*, Muller. *Body* gelatinous, long, rather flat, broad at the fore-end, pointed at the hind-end, contractile; *mouth* terminal, orbicular, surrounded with four folding ears of various shape.—Only one species of this genus is known. These worms are very small, and are found in the intestines of fishes, especially flat fish.

18. *TETRAGULUS*, Bosc. *Body* long, club-shaped, rather flat, ringed transversely; rings narrow, the lower edge fringed with short spines; *mouth*, under the broader extremity, armed with two hooks on each side; *anus* terminal, behind.—Only one species is known, about one-eighth of an inch long; found in the lungs of Guinea pigs.

19. *SAGITTULA*, Bastiani. *Body* soft, oblong, rather flat; *fore-end* terminated by a pyramidal swelling, armed with points directed backwards; *hind-end* has two appendages, opposite to each other, and shaped like a thigh; *proboscis* single, retractile, inserted on the upper part of the animal, under the apex of the pyramidal swelling. This singular worm, the *S. hominis* of Lamarcke, was found in a stool ejected in a verminous cardialgia. From the form of its appendages it was described by Dr. Bastiani. Act. Acad. Sienn. vol. vi. p. 241, as a biped animal.

(To be concluded in our next Number.)

PART II.

ANALYTICAL REVIEW.

I.

Pathological and Surgical Observations on Diseases of the Joints. By B. C. BRODIE, F.R.S. Assistant-Surgeon to St. George's Hospital, and Lecturer on the Theory and Practice of Surgery.

A YOUNG Surgeon or general Practitioner having completed his studies, and commenced the management of morbid affections on his own individual account and responsibility, will very soon be called on, in the most common

course of events, to exercise his skill in cases of diseased joints; than which cases, indeed, nothing in the whole department of medical surgery is more important in its nature, or more frequent in its occurrence. Let us then suppose one of these instances to have occurred. We will imagine that our youthful novice is summoned for the first time to pass his judgment, and commence his remedial operations upon a morbid affection of one of the great articulations. The questions which will immediately present themselves to his mind as of the highest moment to solve, are, first, what is the precise seat of the disordered action? and, secondly, what is the particular nature of such disorder? And as a directory to the more ready solution of these important problems, we have the greatest satisfaction in recommending the volume which is now before us for review.

That kind of generalization which arises out of an indolent acquiescence in the application of general terms has been injuriously made to apply to the subject of articular maladies, and the expressions "scrofulous diseases, and white swellings," have stood too much in the way of minute investigations and accurate views. "These terms (says Mr. Brodie) have been used without any well-defined meaning, and almost indiscriminately; so that the same name has been frequently applied to different diseases, and the same disease has been distinguished by different appellations. Confusion with respect to diagnosis always gives rise to a corresponding confusion with respect to the employment of remedies; and hence I was induced to hope, that if it were possible to improve our pathological knowledge of the diseases to which I have alluded, this might lead not indeed to the discovery of new methods of treatment, but to a more judicious and scientific application of those which are already known, and a consequent improvement of chirurgical practice."

Our author's arrangement of articular affections is, first, *Inflammation of a common rather than specific nature of the synovial membranes of joints.* Secondly, *Ulceration of this membrane.* Thirdly, *More specific or peculiar disease of the same part, in which the membrane undergoes a morbid change of structure.* Fourthly, *Ulceration of the cartilages which enter into the composition of joints.* Fifthly, *That disease of these parts which has its origin in the cancellous structure of the bones, and which Mr. Brodie regards as the only, properly speaking, scrofulous derangement.* To the above general division are added, *caries of the spine*, other affections of the joints which are of a more miscellaneous character; and, lastly, *inflammation of the bursæ mucosæ.*

We shall aim at presenting our readers the sum and sub-

stance of Mr. Brodie's able dissertations on these several particulars, merely premising that some valuable papers of this author in the Medico-Chirurgical Transactions had anticipated a considerable portion of the present volume, in reference especially to the distinction between synovial and scrofulous inflammation. It does not however in the present instance appear that the repetition of the author's self is objectionable; since the volume, as it now stands, constitutes a complete treatise of diseases of the joints, and will, we hope, get into the possession of many individuals who are without the opportunity of consulting the excellent volumes which are sent into the world from the Medical and Chirurgical Society.

In treating first of disordered action in the synovial membrane, Mr. Brodie alludes to that collection of fluid in the joints which has been named by authors *hydrops articuli*, or *hydrarthrus*. He admits that such a collection in the capsule of the joint may in some cases arise from a debility or diminished action in the absorbents, by which the effused fluid is suffered to collect without any actual or positive increase in the quantity exhaled. The possibility of such an occurrence is questioned by some pathologists in the present day; but we think that in indolent strumous habits these depositions of fluids do occasionally occur, without any membranous inflammation as their cause. Such inflammation is however their most ordinary source, and the swelling in this last case is occasioned by a morbid increase of secretion from the surface of the synovial membrane. This inflammation seldom occurs in very early life, and unlike the irritation productive of white swelling, it is exceedingly rare as individuals approach the age of puberty, while, unlike that irritation also, "it is very frequent in adult persons." Sometimes it is constitutional, as from a rheumatic diathesis, or where the individual has taken mercury in too large quantities; but its most frequent exciting source is the application of cold, "and hence it is easy to explain why it occurs much more frequently in the knee than in any other joint; and why it is rare in the hip and shoulder, which are defended by a thick mass of muscles from the influence of external temperature."

"In the first instance the patient experiences pain in the joint, which although it affects the whole articulation, is often referred principally to one spot, where it is felt more severely than elsewhere. The pain usually continues to increase during the first week or ten days, when it is at its height. Sometimes even at this period the pain is trifling, so that the patient experiences but little inconvenience from it; at other times it is considerable, and every motion of the joint is distressing and difficult.

“ In the course of one or two days after the commencement of the pain, the joint may be observed to be swollen. At first, the swelling arises entirely from a preternatural collection of fluid in its cavity. In the superficial joints, the fluid may be distinctly felt to undulate, when pressure is made alternately by the two hands placed one on each side. When the inflammation has existed for some time, the fluid is less perceptible than before, in consequence of the synovial membrane having become thickened, or from the effusion of lymph on its inner or outer surface; and in many cases, where the disease has been of long standing, although the joint is much swollen, and symptoms of inflammation still exist, the fluid in its cavity is scarcely to be felt. As the swelling consists more of solid substance, so the natural mobility of the joint is in a greater degree impaired.”

Mr. Brodie very properly adverts to the form of the tumor as of some consequence to attend to; this depending upon the situation of the ligaments and tendons which resist the fluid in certain directions. “ Thus when the knee is affected the swelling is principally observable under the anterior and lower part of the thigh, under the extensor muscles, where there is only a yielding cellular structure between those muscles and the bone. It is also often considerable in the spaces between the ligaments of the patella and the lateral ligaments:” and the same obtains in other joints, the swelling depending in a great measure upon the ligaments and tendons in the neighbourhood, and on the degree of resistance which they afford.

There is one particular circumstance of distinction between this inflammation of synovial and that which takes place on serous membranes such as the pleura, viz. that while the latter soon occasions the effusion of coagulable lymph, it requires a long-continued inflammation of the former to effect the same; and pus very seldom in this last case is generated without actual ulceration.

“ After inflammation of the synovial membrane has subsided, the fluid is absorbed, and in many instances the joint regains its natural figure and mobility; but in the majority of cases, stiffness and swelling remain. Sometimes the swelling has the same peculiar form which it possessed while the inflammation still existed, and while fluid was contained in the joint; and we may suppose, that it depends principally on the inner surface of the synovial membrane having a thick lining of coagulable lymph: at other times the swelling has the form of the articulating extremities of the bones, that is, nearly the natural form of the joint, and it probably arises from the thickened state of the synovial membrane. From whichever of these causes a swelling remains after the inflammation has subsided, the patient is very liable to a recurrence of the disease.”

The treatment of this complaint must in some measure depend upon whether it have originated from constitutional

predisposition, or have been brought about by the intensity of exciting causes, especially of cold. Sarsaparilla may be employed with advantage when mercurial irritation has occasioned the disease, and anti-rheumatics when the diathesis of rheumatism is conspicuous. With respect to local applications, leeches and even general blood-letting are called for when the inflammation is active, "and if the swelling has rapidly risen to such a height as to occasion a considerable tension of the soft parts, the pain will be best relieved by means of warm fomentations and poultices; but otherwise cold evaporating lotions seem to produce a better effect." In the more chronic form Mr. B. recommends as a cardinal point that "the limb should be kept in a state of perfect quietude." Cupping is here advisable, which our author prefers to leeches for the most part; and when the inflammatory action is got somewhat under, a succession of large blisters is recommended, applied at a little distance from the joint, if such joint be deep-seated, and over it if it be superficial. "For example, if the synovial membrane of the hip be inflamed, the blister may be placed on the groin and nates; but if the disease be in the wrist, it may be applied to the lower part of the fore-arm." Stimulant liniments are to be used when the inflammation is in a great measure relieved, and Mr. B. objects to the common formulæ of the pharmacopœia as being of insufficient strength. He recommends the addition of the *oleum terebinthinæ* or *tinctura lyttæ* to them, and gives the following as a formula which he employs with advantage: \mathcal{R} *Ol. olivæ*, \mathfrak{z} iss. *acidi sulphuric.* \mathfrak{z} ss. *M. ft. linimentum.* The above proportion being applicable to hospital practice, and a less quantity of acid being expedient in the higher classes of society, in the individuals of which the cuticle is comparatively thin, and the skin tender. There is also a recommendation of the following application to the parts under the circumstances supposed; an application from which we have ourselves seen in these cases most unequivocal benefit, more especially in those instances in which there appears a tendency to what is called humour in the frame; and in which it appears desirable to direct such *humorous* irritation from internal parts to the surface of the body. The preparation alluded to consists of a dram (or more) of the *antimonium tartarizatum*, to an ounce of the *unguentum cetacei*, which produces a pustular and vicarious eruption on the skin. Gentle exercise of the joint is now also desirable, which may gradually become more bold and free as the inflammation passes off, and a stiffness and swelling only remain. Friction, Mr. Brodie tells us, should be used with caution; it being more applicable to a contracted state of muscles and tendons

than to the consequences of membranous inflammation; and the same remark applies to pumping hot water on the part, as recommended by Le Dran.

Through the detail of our author's cases we cannot of course follow him; suffice it to say, that although the symptoms characterizing the synovial inflammation are almost always pretty easily detected by accurate observation, they are not always of so simple and uncomplex a nature as the above account might lead some to suppose: and with respect also to their duration and event there is more variety than can be easily explained; sometimes the inflammation, with all its consequences, disappears in the course of a few weeks; at other times stiffness, enlargement, and induration last for months and years. But even when solid substance is effused so as to occasion hardness, a perseverance in steady friction, with the occasional use of mercurial ointment and camphor, according to the complexion of the malady and the judgment of the Practitioner, may so excite the action of the absorbents as to restore the joint to its proper size and functions.

Before dismissing the subject of synovial inflammation, Mr. Brodie adverts to some instances of this disease complicated with scrofulous, pseudo-syphilitic, and rheumatic conditions of the system; and in which the knee affection, purulent ophthalmia, and a sort of spurious gonorrhœa, took place either in succession or in a kind of vicarious alternation. The young Surgeon should always be ready to meet these anomalous occurrences, and ought ever to recollect that admixtures, so to say, of constitutional complaints and topical maladies, may take place in such a nicety, and to such an extent, as book descriptions must fail to follow.

The next articular derangement upon which Mr. Brodie dwells, is that in which the synovial membrane becomes the subject not merely of common inflammation, but of a morbid change of structure. The facts of specific inflammation, so to say, are among the most remarkable of pathological phenomena: thus, apparently, the same degree of vascular derangement shall be cancer in one structure and tubercle in another; and even when disorganization does not thus result, there is a peculiarity and *sui-generis* character in some kinds of irritation which appear to be not entirely dependent upon the particular seat of the disorder. Rheumatism, for example, may be said to be an inflammation of the aponeurosis of muscles: but allowing this to be the case, such predication does not explain the whole of the business, since this same membrane shall, in common with other parts, at times become the residence of inflammatory disorder without the result being actual rheumatism: so in respect of the synovial membranes of

the joints; they are sometimes obnoxious to common, sometimes to peculiar inflammation; and in that peculiarity now under notice, the part inflamed eventually "loses its natural organization, and becomes converted into a thick pulpy substance of a light brown, and sometimes of a reddish brown colour, intersected by white membranous lines. As the disease advances it involves all the parts of which the joint is composed, producing ulceration of the cartilages, caries of the bones, wasting of the ligaments, and abscesses in different places." This species of disease in the synovial membrane "is rarely met with except in the knee. I have never known (says Mr. Brodie) an instance of it in the hip or shoulder. It is probable that the influence of the external cold may operate as one of the causes by which the disease is produced, and this explains why it occurs frequently in the knee, and seldom in the deep-seated articulations." The knee membrane may in this respect be somewhat in the same relative situation to that of other joints, as the parenchyma of the lungs is to parenchymatous structure elsewhere found; tubercles being more readily formed in the pulmonary than in other organs, principally because they are exposed more than such others to those derangements that are consequent upon varied temperature.

"This disease generally takes place in persons who are not much above the age of puberty. In its origin there is a slight degree of stiffness and tumefaction, without pain, and producing only the most trifling inconvenience. These symptoms gradually increase. In the greater number of cases, the joint at last scarcely admits of the smallest motion, but in a few cases it always retains a certain degree of mobility. The form of the swelling bears some resemblance to that in cases of inflammation of the synovial membrane, but it is less regular. The swelling is soft and elastic, and gives to the hand a sensation as if it contained fluid. If only one hand be employed in making the examination, the deception may be complete, and the most experienced Surgeon may be led to suppose that there is fluid in the joint when there is none: but if both hands be employed, one on each side, the absence of fluid is distinguished by the want of fluctuation.

"The patient experiences little or no pain, until abscesses begin to form, and the cartilages ulcerate; and even then the pain is in many instances not so severe, as where the ulceration of the cartilages occurs as a primary disease: and the abscesses heal more readily, and discharge a smaller quantity of pus, than in cases of this last description. At this period the patient becomes affected with hectic fever; loses his flesh, and gradually sinks, unless the limb be removed by an operation.

"The progress of this disease varies in different cases. In general, one or two years elapse before it reaches its most advanced stage;

but sometimes the period is much longer; and occasionally it becomes indolent, so that it remains during many months without any sensible alteration."

It is to be distinguished from other affections of the joint by the gradual progress of the enlargement, by the stiffness of the joint without pain, the soft elastic swelling without fluctuation, and by its not yielding to that treatment which would reduce common inflammation. With respect to its treatment in the advanced stages, as it is now a disorder of structure, nothing can be expected to prove radically remedial except the amputation of the limb. "By means (says Mr. Brodie) of rest and cold lotions, the progress of the disease may be somewhat checked, as the suppuration of tuberculated lungs may be retarded by occasional bleeding and a milder climate. When there is considerable pain in consequence of the cartilages having begun to ulcerate, some benefit is derived from the use of warm fomentations and poultices. But no method with which I am acquainted is capable of doing more than somewhat checking the progress, and somewhat relieving the symptoms of the complaint."

The next section of Mr. Brodie's work is devoted to the consideration of those disorders of the joints in which the articular cartilages become ulcerated as an original affection; and not, as in the instances before referred to, as a mere secondary occurrence and consequence of morbid action, originating in the neighbouring soft parts. This disease, when it takes place, as it most frequently does in the hip-joint, "has been variously designated by writers," the morbus coxarius, "the disease of the hip," the "scrofulous hip," the "scrofulous caries of the hip-joint."—"At least (says Mr. B.) it is to this disease that these names have been principally applied, though probably other morbid affections have been occasionally confounded with it." The following is the very accurate and faithful account which our author gives of the symptoms of this disease:—

"The ulceration of the articular cartilages occurs at any period of life, but principally in children, or in adults under the middle age. Of the whole number of those who have come under my own observation, labouring under this disease, not more than about one-fifth were above thirty years of age; the youngest was an infant of a year old; the oldest was a woman of sixty. As the knee is more liable to inflammation of the synovial membrane, so is the hip more liable than other joints to ulceration of the cartilaginous surfaces. In general the disease is confined to a single joint; but occasionally two or three joints are affected in the same individual, either at the same time or in succession. Sometimes the patient traces the beginning of his symptoms to a local injury; but for the most part no cause can

be assigned for the complaint, and often the cause to which it is attributed appears to be imaginary rather than real.

“ Where the hip is affected, the only symptoms met with for some time are pain, and a slight degree of lameness in the lower limb. The pain at first is trifling and only occasional; afterwards becoming severe and constant. It resembles a good deal the pain of rheumatism, since it often has no certain seat; but is referred to different parts of the limb in different individuals, and even in the same individual at different periods. As the disease advances, the pain becomes exceedingly severe, particularly at night, when the patient is continually roused from his sleep by painful startings of the limb. Sometimes he experiences some degree of relief from the pain in a particular position of the joint, and in no other.

“ As the pain increases in intensity, it is more confined in its situation. In the greater number of instances it is referred to the hip and the knee also, and the pain in the knee is generally the most severe of the two. At other times there is pain in the knee, and none in the hip. Wherever the pain is situated, it is aggravated by the motion of the joint; but it is aggravated in a still greater degree by whatever occasions pressure of the ulcerated cartilaginous surfaces against each other. Hence the patient is unable to support the weight of the body on the affected limb; and if he be placed on an even surface, in a horizontal position, and the hand of the Surgeon be applied to the heel so as to press the head of the femur against the concavity of the acetabulum, violent pain is the consequence; although this be done in so careful a manner that not the smallest degree of motion is given to the hip-joint. This circumstance is well deserving of attention; and no one should attempt to give an opinion as to the nature of a disease connected with the hip, without having made an examination in the manner which has been just described.

“ When the disease has existed for some time, the nates undergo a remarkable alteration in their form. They become wasted and less prominent: so that instead of their usual convexity, they present the appearance of a flattened surface: they are flaccid to the touch, and hang more loosely towards the lower edge; and they have the appearance of being wider than those of the other side.*

Mr. Brodie then goes on to remark on another symptom of this affection, namely, the alteration which is observable in the length of the diseased limb. The apparent elongation of this limb is “ produced by the position of the pelvis being altered in such a way, that the crista of one ilium is visibly

* This alteration in the appearance of the nates was first pointed out by Mr. Ford, in his very admirable Treatise on the Disease of the Hip-Joint. It is not, however, absolutely diagnostic of the affection under notice, since it occurs in some other affections in which the muscles of the part are necessarily rendered quiescent. It is of importance also to recollect, that this appearance of the nates only takes place after the disorder has existed for some time.—REV.

depressed below the level of that of the other*.” Such depression being occasioned by the patient extending the diseased limb forward, in order to touch the ground without pressing his weight upon it, the whole weight of the body being instinctively made to rest on the sound limb. “This inclination of the pelvis is necessarily attended with a lateral curvature of the spine, and hence it happens that one shoulder is higher than the other, and that the whole figure is in some degree distorted.” In the advanced stages of the disease the affected limb becomes not only in appearance, but actually shortened, and this circumstance is of easy explanation, since, when the head of the thigh bone is destroyed by ulceration, there is nothing to prevent the muscles from pulling that bone upwards. Indeed the head of the femur becomes often lodged on the dorsum of the ilium, so that the same effect is produced as in a dislocation of the hip upwards and outwards.

As it will always prove of the utmost importance to distinguish the complaint now under notice from inflammation of the synovial membrane, genuine white swelling, or merely violent sciatica, we shall present to our readers the following points of diagnosis in Mr. Brodie’s own words : —

“The ulceration of the cartilages of the knee differs with respect to its symptoms, from inflammation of the synovial membrane, in this; that the pain in the former is slight in the beginning, and gradually becomes very intense, which is the very reverse of what happens in the latter. But there is another circumstance which forms a remarkable distinction between the ulceration of the cartilages, and most other diseases to which this joint is liable. The pain in the first instance is unattended by any evident swelling; which comes on, never in less than four or five weeks, and often not until several months have elapsed from the commencement of the disease. The reason of this is too manifest to require explanation, and it is equally unnecessary to point out the importance of it, as affording the means of making a more ready diagnosis. We must not indeed conclude indiscriminately, whenever there is a slight pain in the knee, unattended by swelling, that the cartilages are in a state of ulceration, since this symptom may equally arise from inflammation of the bones themselves, of the ligaments, of the fatty substance of the joint, or from simple nervous affection; and instances will occur to every Surgeon, where there is reason to believe that the above-mentioned symptom arises from one or other of these causes. But when the pain continues to increase, and at last becomes very severe, when it is aggravated by the motion of the

* John Hunter, it is known, was the first to propose this explanation of the apparent lengthening of the diseased limb, under the circumstances supposed. — REV.

joint, *and by the pressure of the articulating surfaces against each other*; and when after a time a slight tumefaction takes place, such as I shall presently describe; we may conclude that the disease consists in an ulceration of the cartilages; and in all such cases, which have come under my own observation, their subsequent progress, and the morbid appearances presented by dissection, where an opportunity has occurred of observing them, have fully justified this conclusion.

“ The swelling which attends this disease in the knee, differs from that which occurs in either of those of the synovial membrane, which I have formerly described. It arises from a slight degree of inflammation having taken place in the cellular membrane external to the joint, in consequence of the disease within it. The swelling is usually trifling, appearing greater than it really is in consequence of the wasting of the muscles of the limb. It has the form of the articulating ends of the bones; that is, the natural form of the joint. No fluctuation is perceptible, as where the synovial membrane is inflamed; nor is there the peculiar elasticity which exists where the synovial membrane has undergone a morbid alteration of structure.”

It will be noticed, that we have laid particular stress, both in the present and previous extract, upon the circumstance of the especial pain which results from that kind of upward pressure of the limb which brings the articulating surfaces in contact; that is, we have printed those lines in italics which refer to this mark of cartilaginous disease, since it is perhaps the most distinctive of any that can be pointed out. When inflammation occurs in the synovial membrane, or in any other portion of the joint, it is easy enough to conceive that motion must cause pain; but the pain in cases where the cartilages are not the seat of the morbid processes, is as much or more aggravated by rotating, than by pressing the limb upward.

This cartilaginous disease of the joints is for the most part tedious. Irritation and consequent pain will exist sometimes for two or more years, with only a very slight degree and extent of ulceration. Mr. Brodie mentions one instance in which pains had lasted a year without even attracting much of the patient's attention. “ In this case (he says) no pus was formed in the joints, and the ultimate recovery was complete without the smallest detriment to the motion of the limb. Sometimes, however, the progress of the disease is much more rapid. There was a patient in St. George's Hospital, in whom, in the course of four months, the destruction in the head of the femur and acetabulum was such as to occasion a real shortening of the limb to the extent of an inch.”

From the small degree of vascularity possessed by cartilage, Mr. Hunter imagined that the disease in question

originated from the vessels of the contiguous part of the bone acting upon the vessels of the cartilages. Mr. Brodie, however, is of opinion, that cartilaginous ulceration occurs from "the action of its own vessels;" and he substantiates this opinion by the recital of two cases in which dissection proved that the layer of cartilage next the bone was in a healthy state in some parts, while it was ulcerated and absorbed in the part next the cavity of the joint.

On the Treatment of the Cartilaginous Affection. Rest is one of the principal ingredients in the remedial process. "The keeping the limb in a state of perfect quietude, is a very important, if not the most important circumstance to be attended to in the treatment." It is only in this kind of articular disease, Mr. Brodie tells us, that he has found caustic issues of service, and in this they are most unequivocally beneficial. "Setons and blisters kept open by means of the savine cerate, appear to operate nearly in the same manner as caustic issues, and may be used with advantage in the same description of cases." Bleeding, with a view to stop ulceration, Mr. Brodie objects to. In the early stage the warm-bath, he tells us, is sometimes of service. Stimulant plasters, embrocations, and frictions, are either inefficacious, or injurious. In hip cases, blisters may be applied on the nates, round the great trochanter, and in the groin. "The hollow behind the great trochanter of the femur is in many respects the most convenient situation for caustic issues; but in some cases the application of the caustic on the outside of the hip is attended with better effects."—"When the pain is very severe, a seton in the groin is more calculated to afford immediate relief than the caustic issue; but the caustic issue can be better depended on for the production of a cure." The same general rules are applicable to the cartilaginous disease, when it takes place in other joints beside the hip. In all cases a state of most perfect quietude is indispensable. Abscess in a joint, when it happens as a consequence of cartilaginous inflammation, is almost necessarily fatal when occurring to any extent in adults, but young children do frequently recover after a considerable degree of suppuration. The early puncture of such abscess is not desirable, and partly for this reason, that it is not easy to evacuate the whole of its contents without much handling and compressing, which is always objectionable. In all these cases of cartilaginous disease early applications are of most indispensable consequence, for "the formation of even the smallest quantity of pus in the joints, in cases of this disease in the young person, considerably diminishes, and in the adult very nearly precludes

the possibility of any ultimate good being derived, except from amputation. On the other hand, where abscess has not begun to form, there is perhaps no disease among those which come under the care of the Surgeon, in which he can employ his art with a better prospect of success than this." If the patient does recover after the abscess has been formed in the joint, he seldom has the use of the parts afterwards, the bones composing the joint being united by ankylosis.

Mr. Brodie concludes this division of his volume by stating, that in some cases the synovial and the cartilaginous diseases are so combined together, even in their earlier stages, that it is almost impossible to infer from symptoms, which has been the original point for the commencement of the morbid action. We are always pleased to observe in authors a disposition to recognise and mark complicated affections; and we think it one of the most useful precepts that can be impressed on the mind of junior practitioners, that they are not to expect divisions and distinctions in diseases in the same manner that book descriptions are partly obliged to give them.

Having dismissed the consideration of those diseases, the commencement of which is in the articulating cartilages, Mr. Brodie proceeds to animadvert upon the scrofulous affection of joints which begins in the cancellous structure of the bones. It is this disease that constitutes the true white swelling, and it never takes place but in subjects of a scrofulous diathesis, which is not so absolutely the case with the other articular diseases, although it must be admitted that individuals of a strumous temperament are, *cæteris paribus*, more obnoxious than others to derangements, even in the ligamentous and cartilaginous portions of these parts. This scrofulous affection of joints is common among children, and it is very rarely indeed observed after thirty years of age. The knee is the joint most frequently, the hip and shoulder the parts least commonly attacked. Its symptoms correspond in some sort with the cartilaginous affection, *but the pain is never so severe*, and indeed is "often so slight, and takes place so gradually, that it is scarcely noticed."—"The swelling is puffy and elastic, and though usually more in degree than it is in those cases in which the ulceration of the cartilages occurs as a primary disease, it is not greater in appearance because the muscles of the limb are not equally wasted from want of exercise."

"As the cartilages continue to ulcerate, the pain becomes somewhat, but not materially aggravated. It is not severe until abscess has formed, and the parts over the abscess have become distended and

inflamed. The skin under these circumstances assumes a dark red or purple colour. The abscess is slow in its progress; when it bursts or is opened, it discharges a thin pus, with portions of curdly substance floating in it. Afterwards the discharge becomes smaller in quantity, and thicker in consistence, and at last it nearly resembles the cheesy matter which is found in scrofulous absorbent glands.

“ In most instances several abscesses take place in succession, but at various intervals; some of which heal, while others remain open in the form of fistulous sinuses, at the bottom of which carious bone may be distinguished by means of a probe.

“ The disease not unfrequently remains in this state for several months, or even for a much longer period, without the constitution being materially disturbed. In the less fortunate cases, the patient at last becomes affected with a hectic fever, under which he gradually sinks, unless the cause of it be removed by amputation. At other times a curative process begins; the sinuses close; the œdema subsides; and the patient ultimately recovers, either with or without an ankylosis; accordingly as more or less destruction of the articulating surfaces has taken place. But the cure is always tedious, unless the disease has been arrested at a very early period. It is not uncommon to see a patient with a scrofulous joint, in a state of imperfect ankylosis, with a single sinus remaining open, and waiting for many years, before even such a cure as ankylosis affords, can be said to be completed. The chance of ultimate recovery is not the same in every articulation; and I have observed, that it is much less where the disease attacks the complicated joints of the foot and hand, than when it is situated in those, which, though of a larger size, are of a more simple structure.”

With respect to the treatment, it is very properly remarked by Mr. Brodie, in the first place, that the practitioner should ever recollect the inflammation is not of a common but a specific kind, and therefore less likely to be remedied, while the constitution is more likely to be injured by abstractions of blood than in other cases. This hint we think both Surgeon and Physician would do well to recollect, while thinking of expedients to mitigate those topical irritations which are the results of constitutional predisposition. “ I have seldom (our author goes on to remark) known any benefit to be derived in these affections from the use of blisters or stimulating liniments; nor in the cases in which I have tried them have I observed caustic issues to be productive of those good effects which are so distinct in another variety of disease.” Cold lotions are occasionally serviceable; but the main point in the treatment is, that “ the joint should be kept in a state of quietude.” When abscesses are forming, fomentations and poultices may be employed; and after these have burst, such applications are to be continued or exchanged for simple dressings, as circumstances may require,

Pressure by means of stripes of linen spread with soap cerate, or adhesive plaster, may be made with advantage, when the matter of the abscess seems upon the decline, and there is a tendency shown to the curative process by means of ankylosis. Country air, especially that of the sea-coast; a nourishing and plain diet; regular habits; and steel medicines, constitute the articles of general treatment. Chalybeates are especially and conspicuously useful in these affections. It is necessary, however, to continue them for a considerable length of time, and it will often be found expedient to vary their forms. When much febrile irritation is present, Mr. Brodie recommends the substitution of the mineral acids for the steel preparations. The question of amputation our author very properly leaves to be decided, in a great measure, by the particular circumstances of the case, and the judgment of the surgeon. When the scrofulous diathesis is very decided and strong, the loss of the limb will sometimes only be a mean of transferring as it were the diseased action to another part. At other times the hectic wasting consequent upon a large suppurating surface may be arrested by amputation.

The following we extract from among the successful cases of this disease, which are to be found in Mr. Brodie's volume:—

“ William Moulds, six years of age, having a scrofulous aspect, was admitted into St. George's Hospital on the 23d of February, 1814.

“ His left knee was an inch and a half in circumference larger than the other. The swelling was puffy and elastic; without fluctuation, having nearly the form of the articulating extremities of the bones; but filling up the space on each side of the ligament of the patella. The joint admitted of considerable motion, but not of complete flexion and extension. He complained of pain, which was worst at night: but never very severe. It was somewhat aggravated by pressure.

“ His parents attributed the complaint to some trifling hurt, which he had met with a year ago; soon after which, a slight degree of pain, and tumefaction, was first observed, which had continued ever since, and had increased, particularly within the last month.

“ On his admission, with a view to the relief of the external inflammation, blood was taken from the knee by means of leeches and cupping. A cold lotion was applied; and he was directed to take ʒj of the vinum ferri, with a few drops of the tinctura ferri muriatis three times in the day. On the 3d of March the knee was bound up in stripes of linen spread with soap cerate, chiefly with a view to restrain the motion of the diseased joint, without interfering with the patient's bodily exercise.

“ March 20. The swelling was somewhat diminished; and he did not complain of pain.

“ April 1. He was in all respects better. As the former prepa-

rations of iron had begun to disagree with him, they were changed for ten grains of the carbonate of iron, three times in the day.

“ April 20. Scarcely any swelling of the joint remained: and there was no pain or stiffness. He quitted the hospital.”

“ Caries of the spine” (the next subject of our author’s investigation,) may have its origin, he tells us, “ sometimes in an ulceration of the intestinal cartilages, and at other times in a morbid condition of the cancellous structure of the bodies of the vertebræ;” and it is of consequence to keep this fact in recollection, since the probability is, that issues, which at times seem so serviceable in spinal affections, and at other times appear to be worse than useless, may, or may not, be applicable, as the disorder has, or has not been in its commencement cartilaginous. The two varieties of the disease, Mr. Brodie confesses to be of more difficult distinction in the instance of these than in that of other articulations: but, may not something, at least, be inferred in the way of diagnosis from the constitutional habits and stamina of the sufferer?

“ It is evident, that two orders of symptoms may be the result of caries of the spine:—1st, Those which are the immediate consequence of the morbid condition of the vertebræ themselves, and of the intervertebral cartilages. 2dly, Those which arise from pressure on the spinal marrow, or from irritation propagated in some way or another to this important part of the nervous system. I believe it will be found that when the disease is situated above the lumbar region, it almost constantly happens that these two sets of symptoms are combined, whereas when the vertebræ of the loins are alone affected, the latter set of symptoms are generally wanting. Perhaps this may be accounted for partly from the greater magnitude of the bodies of the lumbar vertebræ, in consequence of which a much more extensive caries is necessary to produce the same quantity of incurvation here, than elsewhere; and partly from the circumstance of the spinal marrow here terminating in the bundle of nerves belonging to the lower extremities; which possess a different structure, exercise different functions, and are probably of a less susceptible nature than the spinal marrow itself.

“ Caries of the lumbar vertebræ usually occasions a pain in the loins, which, after a longer or shorter period of time, is followed by an external abscess, showing itself in the groin, or in some other situation, and it constitutes one of the diseases, which are confounded with each other, under the name of psoas or lumbar abscess.

“ A pain, and some degree of tenderness in that part of the spine where the disease has begun; a sense of constriction of the chest; an uneasy feeling at the pit of the stomach, and of the whole abdomen; a disturbed state of the functions of the alimentary canal, and of the urinary bladder; a sense of weakness and aching, and occasional cramps of the muscles of the extremities; one or more of these symptoms, according to the part of the spine which is affected, and other

circumstances, are in most instances met with before the form of the back has undergone any alteration.

“ In the greater number of cases which have come under my observation, the curvature of the spine has been first noticed about six months after the commencement of the other symptoms. In one case only the interval was as long as two years.”

Mr. Brodie goes on to caution the young Surgeon against mistaking that curvature of the spinal column which arises from a weak condition of the muscles, or a rickety affection of the bones, from that under consideration. The curvature from mere weakness “ is always gradual, never angular; and thus it may be distinguished from the curvature arising from caries.” In the treatment of spinal disease, rest and a horizontal position are absolutely indispensable; caustic issues are sometimes abundantly useful, at other times their application does not seem to do any thing but irritate; and this want of correspondence in the effects of one and the same remedy is partly, perhaps, referrible to the principles above adverted to. All instrumental contrivances are to be deprecated beyond those which are constructed with a view “ simply to support the column of the vertebræ, and take off the weight of the head from the ulcerated surfaces,” when the patient is so far convalescent as to be permitted to resume in part the upright position. “ They ought never to be employed for the purpose of elongating the spine and correcting the deformity.”

In the next chapter some remarks are introduced on *common* inflammation of the articulating extremity of a bone; on exfoliation without any obvious cause; on the loose cartilaginous substances which are sometimes found in the joints; on fungus hæmatodes, or medullary sarcoma occurring in joints; and on the effects of gout upon the articulations. In these remarks, however, we meet with nothing of sufficient moment to justify the extension of this article, already carried far beyond our prescribed limits; and we must hasten to a conclusion by slightly adverting to the last topic of this most interesting volume, viz. inflammation of the bursæ mucosæ. The resulting disease is of course more superficial than when the affection falls upon the synovial membrane of the joints itself. Like that inflammation it is sometimes acute, but more frequently chronic. “ There is no bursa more liable to be inflamed than that between the patella and the skin;” and in this case “ a superficial observer, judging from the general form of the tumor, and the fluctuation of the fluid, without noticing the greater redness of the skin, and the circumstances of the fluid being over, instead of under the patella, might mistake the case for one of inflammation of the

synovial membrane of the joint itself." Ganglions are for the most part constituted of a species of dropsy of the bursæ mucosæ, which occurs somewhat in the same manner as the fluid is deposited from the tunica vaginalis testis, after that membrane has been the seat of inflammation. These drop-sical collections in the bursæ may continue for months or even years. In the treatment of inflamed bursæ, leeches, and afterwards blisters or liniments, are called for, with constitutional remedies according to circumstances. When the preternatural collection of fluid has become chronic, a puncture may be made of the tumor, if it does not yield to friction and blisters. Mr. Brodie tells us, from having seen the permanently remedial effects of suppuration, when that process had been accidentally produced, he has been induced to bring it on by artificial means in order to prevent the re-accumulation of the fluid; upon similar principles with those which direct the permanent cure of hydrocele. He cautions, however, against an indiscriminate adoption of this practice; and one instance he adverts to where the passing a seton through a large tumor of a bursa mucosa, situated between the scapula and latissimus dorsi muscle, occasioned death. He tells us, that if the diseased bursa be situated superficially, it may be removed with as much facility as an encysted tumor; at the same time he says, he has never performed this operation himself, nor has he ever heard of its being done by others, except on the bursa which is situated between the patella and the skin.

Thus have we endeavoured to put our readers in possession of the general substance of one of the most useful volumes that has ever fallen under our critical inspection. Mr. Brodie we think deserves well both of the profession and the public, for patient investigation and the display of pathological acumen. The half dozen engravings which are introduced at the end of the book, though perhaps they might have been spared in point of utility, are executed not simply with fidelity to nature, but also with a nicety and beauty that cannot fail to command universal admiration.

II.

Récherches Physiologiques et Médicales sur les Causes, les Symptômes, et le Traitement, de la Gravelle. Par F. MAGENDIE, Docteur en Médecine de la Faculté de Paris, Professeur d'Anatomie, de Physiologie et de Séméiotique, &c. &c. Octavo, pp. 91. Paris, 1818.

THE importance of the study of urinary concretions, and the imperfections of our hitherto acquired knowledge respect-

ing their formation and treatment, must be sufficiently obvious to those upon whose notice the distressing and often ungovernable symptoms to which they give rise are almost daily obtruded. We shall therefore not waste our own time, nor unnecessarily tax the attention of our readers, by declamation on such evident truths; but proceed directly to an analysis of the very creditable and scientific production which is destined to form the subject of our present article.

In publishing this work, it is the professed object of Dr. Magendie to state the result of his investigations respecting urinary calculi; and at the same time point out the application of chemical knowledge and carefully executed physiological experiments to practical medicine. The volume consists of an introductory section, containing a definition of calculous diseases and general exposition of their leading symptoms, and eleven chapters. The former offers nothing original or interesting. Of the latter, we shall attempt a faint but faithful outline. In order to preserve unbroken the thread of analysis, we think it best to refrain, at present, from all critical remarks, and state, in conclusion, any views or objections which may suggest themselves in the progress of our review.

CHAPTER FIRST. On the "Nature of the Gravel and Stones voided by Calculous Patients." Dr. Magendie here traces historically the progress of knowledge respecting the chemical constitution of urinary concretions, from Paracelsus to Marcet. All the calculi, subjected to his own examination, have *invariably* consisted of uric acid combined with a small portion of animal matter, probably the mucus secreted by the membrane of the urinary passages. The other varieties, composed of the oxalate and phosphate of lime, magnesia, and cystic oxyde, are described as being of very rare occurrence. Hence correct notions on the properties of uric acid, and the circumstances which determine its presence in the urine, are essential to a knowledge of the causes of gravel.

In the SECOND CHAPTER, these particulars relative to the uric acid are fully developed. It is the opinion of Dr. Magendie, and experiments in confirmation of it have been, some months since, detailed by him*, and are here re-produced, that the urine of man and of those animals which feed on highly azoted substances, exclusively contains the uric acid; and that its proportion varies with that of the azoted aliment which the individual consumes. Not a trace of the acid, he asserts, is discoverable in the urine of purely herbivorous

* See on this subject Mémoire sur les Propriétés Nutritives des Substances qui ne contiennent pas d'Azote. Annales de Chimie, Septembre, 1816.

animals. The obvious inference is, that there exists between the diet and the presence of uric acid in the urine, a very intimate relation.

The following is a correct sketch of the chemical composition and history of this acid. One hundred parts of it by weight, consist of—

Azote	39,16
Carbon	33,61
Oxygen	18,89
Hydrogen	8,34
	<hr/>
	100,00

When pure, it is solid, of a pale yellow colour; specifically heavier than water; destitute of taste, smell, or very evident action on tincture of litmus, and not decomposed by air. Water, at the temperature of 60° , dissolves but 1,1720 of its weight; at 212° but 1,1150, and deposits it, on cooling, in the form of small scales. It is insoluble in alcohol; and the salts which it forms with salifiable bases, are only sensibly soluble as far as the bases are so, and exist in excess; and susceptible of decomposition by almost all the acids. Finally, this acid has a very feeble capacity of saturation.

We have next a description of the principal properties of the cystic oxyde: it is semi-transparent, yellowish; and, when distilled, yields carbonate of ammonia of a fetid odour, and a heavy offensive oil such as is obtained from animal substances, but less considerable in quantity than that which results from distillation of uric acid. Like this acid, however, it seems to be principally composed of azote; and hence its formation is probably dependent on similar causes. It is but sparingly soluble in water; and not at all in the acetic, tartaric, or citric acids. It is soluble in the muriatic, nitric, sulphuric, phosphoric, and oxalic acids, lime-water, and pure potash and soda, and their carbonates. These characters constitute a farther relation between it and the uric acid.

The “Causes of Gravel” occupy the **THIRD CHAPTER**. In order to ascertain these, it is necessary to inquire into the circumstances which determine the separation of the uric acid from the urine, wherein ordinarily it remains dissolved.

From what has already been advanced respecting the solubility of the acid in water, it will appear that the urine of man, in health, being about 86° , can only dissolve 1,1500 of its weight. This granted, the following are the principal, if not the sole causes, at present known, which, by diminishing the solvent property of the urine with respect to the acid, may produce urinary concretions.—1st. Increase of the quantity of uric acid, that of the urine remaining unchanged, or not

suffering a proportionate increase. 2d. Diminution of the quantity of urine, that of the acid continuing the same, or not proportionately diminishing. And, 3d. Reduction of the temperature of the urine, its quantity or nature remaining unaltered, or suffering the modifications above indicated.

CHAPTER FOURTH. Among the "Circumstances which increase the proportion of uric acid and thus contribute to the production of gravel," a sumptuous fare, composed of animal substances, and habits of indulgence, occupy a conspicuous rank. A sedentary life, and advanced age, are also favourable to its formation. As strikingly illustrative of the influence of regimen upon it, Dr. Magendie cites the case of a commercial gentleman, who, exposed to great and repeated vicissitudes of fortune, was invariably tormented with gout and gravel whenever opulence brought with it the means of sensual enjoyment, and was as constantly forsaken by them when the luxuries of the table were no longer accessible. Persons, moreover, of commonly temperate habits, are observed, a few hours after taking an inordinate meal, to discharge high-coloured urine from which uric acid is very copiously deposited.

So long as the quantity of urine is sufficient to hold in solution the uric acid, the augmentation of the latter is not productive of inconvenience; but the proportion of urine becoming inadequate, concretions are speedily developed.

The "Circumstances which augment or diminish the quantity of Urine, and hence favour or oppose the formation of Gravel," are reviewed in the FIFTH CHAPTER; but, as these circumstances are presently to be recapitulated, it only needs here be remarked, that a regimen composed of vegetable substances, with water, beer, cider, or the weaker wines, has a singular effect in promoting the urinary secretion; while in those who employ an animal diet with strong wines or spirituous liquors, its quantity is invariably small: and even weak fluids, when taken warm and consequently operating upon the skin, will, by exciting an increased flow of perspiration, induce a similar result. Herbivorous animals constantly discharge a much larger quantity of urine than carnivora of equal bulk; and in the latter, when restricted to a regimen exclusively vegetable, this secretion is sensibly increased. By contrasting the urinary discharges of the rabbit and of the cat, and appealing to his well known experiments in which dogs were confined to a regimen of sugar and water, Dr. Magendie believes that the preceding propositions may be satisfactorily established.

Some other causes are here adverted to; but these, the recapitulation will comprehend; and the SIXTH CHAPTER,

upon the "Influence of the Temperature of the Urine on the developement of Gravel," may be briefly dismissed by remarking, that in advanced age the temperature of the human body, and consequently that of all its fluids, suffer a very sensible reduction; and that probably the action of severe and long-continued cold on the surface, may also, by exercising a similar influence, contribute to the production of urinary concretions.

In the SEVENTH CHAPTER, other "particular Causes of Gravel" are reviewed. As some individuals, who, from their age and habits of dietetic indulgence, would seem predisposed to the invasion of calculous diseases, entirely escape; and as others, in situations and circumstances diametrically opposite, occasionally suffer from them; there must exist some unknown causes capable of facilitating the solution of uric acid, even when present in excess in the urine, and, consequently, of producing its separation when not secreted in an inordinate proportion. Such, at least, is Dr. Magendie's explanation of a statement made by Dr. Scudamore* respecting the frequent and exclusive prevalence of calculous disorders among the indigent and almost wholly *herbivorous* inhabitants of Tunbridge and Lewes; and of the fact, acknowledged by himself, that they sometimes occur in very temperate persons affected with flatulence, acidity, pyrosis, and other signs of disturbed digestion, and have even been known invariably to follow the dietetic employment of salad and raw fruits. This is a circumstance rather unfortunate for the character of consistency which the theories of a philosopher ought to sustain. But we have promised not to disturb the Professor in his azotic dreams.

The opinions of British writers respecting the dependence of calculous complaints on a deranged state of the stomach and liver, or intestinal acidity, are decried by Dr. Magendie as unscientific, and unworthy of men signalized by their progress in the paths of experimental philosophy. The indigestion frequently attendant on these diseases should, he thinks, be regarded rather as a secondary affection, of simultaneous origin, than as either cause or consequence of the formation of urinary concretions: that they are, in fact, co-existent effects of other causes.

It has long been remarked that the inhabitants of temperate and humid countries are extremely prone to the attacks of gravel; while those of the cold and equatorial regions enjoy a signal immunity from it. Calculous diseases,

* See Dr. Scudamore's masterly Treatise on the Nature and Cure of Gout.

for example, are of very rare occurrence in India. How far then does climate, it may be inquired, influence their production? In reply to this question Dr. Magendie affirms, that such difference is referrible not so much to atmospheric peculiarities as to the nature of the aliments which the people commonly employ; and he strengthens his argument by an observation of M. Orfila respecting the excess of uric acid in the urine of the inhabitants of Majorca, who subsist principally on fish and other highly seasoned animal substances, and strong spirituous liquors, and their consequent subjection to calculous disorders*.

To the dietetic employment of hard waters, and culinary salt, and the ingestion of fruit stones, was the formation of urinary concretions once very commonly ascribed. The fallacy of such crude notions, it were in this enlightened age almost needless to expose. There exists not between the elements of these concretions, and muriate of soda, or the ligneous substance constituting the envelope of certain fruits, the slightest resemblance. Almost equally remote is the analogy between them and the calcareous matter of the selenitic waters. These waters in fact operate as a preservative against calculous affections, and may be advantageously administered in their cure. The villagers of Arcueil, whose waters are loaded with carbonate of lime, exhibit a singular exemption from the ravages of stone and gravel.

On recapitulation of all that relates to the causes, direct or indirect, of urinary concretions, they are evidently reducible to the following heads:—1st. Mature and old age. 2d. Diet unduly nutritious, and principally composed of highly azoted substances. 3d. Deficiency of exercise, literary labour, and confinement to bed. 4th. The habit of drinking too little, whatever be the nature of the beverage. 5th. Indulgence in generous wines and strong spirits. 6th. Abundant perspirations, and all serous evacuations occurring in persons otherwise predisposed to gravel. 7th. The mischievous habit of retaining the urine long in the bladder. And, 8th. Particular causes, the effects of which cannot be

* Do not many of the nations of the more northern and arctic regions subsist principally on fish and other animal substances? And does not the intense cold to which they are constantly exposed, by its evident influence on the temperature of the urine, favour the precipitation of the uric acid, and consequently the developement of calculous diseases? How then happens it that such diseases are so rare among them as is reported by travellers, and acknowledged by Dr. Magendie?—REV.

mistaken, although their mode of operation is at present inexplicable.

The preceding remarks, it is obvious, are only applicable to the concretions formed of uric acid. The particular causes of those which consist of the phosphate or oxalate of lime, or cystic oxyde, are utterly unknown. Happily, however, these varieties are, comparatively to the former, of very rare occurrence.

“Remarks on the Symptoms of Gravel, and the situations where the concretions form,” compose the EIGHTH CHAPTER. It contains nothing new on the symptomatology or diagnosis of calculous affection.

CHAPTER NINTH. “Curative indications, and general Remedies in the Treatment of Gravel.” The following are the principal curative indications which present themselves in this disease;—to diminish the quantity of uric acid secreted by the kidneys; to augment the secretion of urine; to prevent, by saturating it, the *solidification* of the uric acid; and, the concretions once formed, to favour their discharge, and attempt their solution. We shall pass in successive but rapid review, the means whereby it is proposed to accomplish these four indications.

1. General abstinence in the consumption of food, and restriction to small quantities of flesh meat, and other alimentary substances abounding in azote; or, in severe cases, the utter prohibition of them, and of strong wines and spirituous liquors. For those who consume animal food at breakfast, it will suffice to discontinue this practice. Others should be directed to reduce the quantity taken at dinner. Bread, particularly that made of rye, pastry, farinaceous and green vegetables, rice and sugar, may commonly be allowed without limitation, except, indeed, pastry and wheaten bread, which contain azote in considerable quantity. Several cases are mentioned in illustration of the efficacy of this mode of treatment; but when, from the number or volume of the concretions, the disease assumes an unusually obstinate or severe form, it will be necessary to have recourse to more energetic measures.

2. The most simple method of increasing the secretion of urine consists in the copious ingestion of aqueous and diuretic fluids; and a complete cure of calculous affections has sometimes been accomplished by the mere adoption of this easy practice. It signifies little what be the nature or composition of the beverage; for all vegetable infusions and mineral waters, and other boasted specifics in gravel, are probably indebted for the reputation which they enjoy to their diluent properties. Such, however, as are most congenial to the taste and stomach of the patient, should be

preferred. In very severe cases they may be drank to the amount of five or six quarts daily. The only inconvenience to be dreaded from this practice is the debilitating influence which it sometimes exerts on the digestive organs. Such inconvenience may yet be frequently obviated by the administration of iced drinks. Wine and spirits should only be allowed in a largely diluted form.

3. The preceding means proving inadequate to prevent the *solidification* of the uric acid, other measures, suggested by chemical and physiological knowledge, must be resorted to. These consist in saturating the uric acid with earthy or alkaline bases, so as to form the various urates; a class of salts much more soluble than uric acid itself. The substances in question are pure potash, soda, lime, magnesia, and their carbonates, with excess of base. Their respective doses and modes of administration are too well known to require description here. It is requisite, however, that they should be administered in such quantities, and so perseveringly, as to impart a decidedly alkaline character to the urine. Mere saturation of the uric acid will not suffice; for the urates are only soluble in an excess of their respective bases, and may be decomposed by the weakest acids. Thus, if there exist not an excess of alkali in the urine, the urates might be precipitated, and form a new species of concretion quite as troublesome as the more ordinary kinds. No exclusive preference can be given in practice to any of the varieties of alkali above mentioned. Any one of them not agreeing, or after a time ceasing to agree with the stomach, some other must be substituted for it. And it is essential to the permanent success of these remedies in calculous diseases, that the diet should be revolutionized, and all the causes favourable to their developement be obviated in the way which has before been pointed out.

4. The measures recommended by Dr. Magendie to be pursued in the expulsion of urinary calculi, or in the attempt at their dissolution, are such as experience, or the perusal of the preceding pages, would naturally suggest to every intelligent practitioner. When the discharge of the gravel is effected with facility, and the symptoms are consequently slight, the copious ingestion of pure water, or other simple aqueous fluid, will generally be sufficient to remove them. The evacuation of the smaller calculi may also be expedited by exercise on horseback, or in a rough carriage, and occasional emetics, which latter have, moreover, the effect of relieving the digestive organs from the embarrassment so frequently attendant on these diseases. But such measures are obviously improper when a calculous attack is accom-

panied by severe pain, fever, vomiting, stranguary, and other phenomena, indicating the presence of high constitutional irritation and disturbance. Under these circumstances, abstinence, local and general blood-letting, fomentations, and the warm-bath, may be beneficially employed. And if, on the decline of these active symptoms, the expulsion of one or more concretions do not take place, it will be proper, with a view of determining this important event, to prescribe a continuance of the bath and fomentations with diuretics, dry frictions on the loins and abdomen, employed in such a direction as to favour the descent of the calculus from the kidney, active exercise, and repeated emetics. If there be reason to suppose that the calculus is arrested at the inferior extremity of the ureter, or retained in any excavation of the bladder, its extrication should be attempted by the introduction of a sound into this organ, or of a finger into the rectum*. The removal of a stone impacted in the urethra may be accomplished by copious administration of weak fluids, oily injections into, or methodical pressure upon the canal, or, finally, by a surgical operation. All the practicable means of effecting the expulsion of calculi having failed of success, it only remains to attempt their dissolution; and this, obviously enough, if attainable, will, according to the views and doctrines of our Professor, be accomplished by a prohibition of azoted alimentary substances, and the judicious employment of alkaline remedies. Such treatment, even if the main object of its institution be not attained, will at all events tend greatly to palliate the sufferings of the patient.

The TENTH CHAPTER, on the "Empirical Treatment of Gravel," relates merely to the occasional efficacy of purgatives, rhubarb, small doses of magnesia, cinchona, cold and sulphureous baths, country air, change of residence or occupation, and powerful moral affections, in this disease. While allowing the notorious fact of their beneficial operation, Dr. Magendie finds himself utterly at a loss to explain, consist-

* No mention is here made of a method which has been judiciously recommended, and often successfully employed, with a view of promoting the expulsion of a calculus, after its descent from the ureter into the bladder, ere by residence in the latter organ, its volume, and consequently the difficulty of its evacuation, have been increased. This method consists in placing the patient's body, and causing him as much as possible to keep it in that position, which will bring the internal orifice of the urethra into the most depending situation; and meanwhile increasing the urinary secretion by the copious exhibition of tepid and diluent fluids. — REV.

ently with the doctrines which he has been broaching and the theory which he seeks to establish, this stubborn phenomenon.

“ The Treatment of Gravel when the Concretions are not formed of Uric Acid,” constitutes the subject of the ELEVENTH and last CHAPTER. Ignorant of the causes which determine the formation of calculi composed of cystic oxyde, of oxalate or phosphate of lime, Dr. Magendie professes himself incapable of pointing out any fixed or scientific plan of treatment for their removal.

As the cystic oxyde, however, is a highly azoted substance, and hence probably indebted for its origin to the influence of the same causes which produce the uric acid; and as it is, moreover, soluble in the alkalis and their carbonates; the treatment which is so successfully employed against uric acid concretions might also be very plausibly instituted for the removal of the former variety. Experience itself can alone determine the result.

From the employment of the mineral or vegetable acids against urinary concretions composed of phosphate of lime, Dr. Magendie has never witnessed any beneficial result. On the other hand, the morbid deposition has appeared to be augmented by their use. The only method then to be pursued in such cases, must have for its object the maintenance of an abundant urinary secretion in order to favour the dissolution of the salt, and the prevention of the uneasiness and debility invariably attendant on the affection.

Neither theory nor empiricism, concludes Dr. Magendie, has yet indicated anything relative to the treatment of that rare variety of concretions which are composed of oxalate of lime.

Here the volume closes. During our examination of it we have cursorily noticed the traces of overweening attachment to a favourite theory, and slightly glanced at some inconsistencies which it displays. To the correctness of the learned author's experiments and deductions respecting the influence of azote in the production of uric acid, our own observation, we must candidly declare, furnishes great and almost insuperable objections: and this, it will be seen, constitutes the foundation-stone both of his theory and his book. Yet, while questioning the principle of its operation, we are by no means disposed to doubt the success of the practice which he inculcates. The same end may unquestionably be attained by very opposite means. And we can positively assure Dr. Magendie, that we have repeatedly seen all the phenomena of gravel subdued, and the inordinate secretion of uric acid speedily reduced, by perseverance in a diet con-

sisting of plain *animal food*, sea biscuit, rice, potatoe, and other farinaceous vegetables, with a moderate allowance of white wine or diluted brandy; and from which animal *fat* and oils, *fruit, salad*, and other *green vegetables*, sugar, bread, pastry, and *all alimentary substances prone to fermentation in the stomach*, have been rigorously excluded. The success of this plan is greatly expedited by the occasional prescription of magnesian purgatives, and the administration of the solution of pure potash (the *liquor potassæ* of the London Pharmacopœia), largely diluted, to the amount of two or three drams daily*.

Unable, at present, to enter into a comprehensive detail of our opinions and experience on this very important subject, we shall take an early opportunity of claiming the attention of our readers, and, we trust, that of Dr. Magendie also, to their more full developement and illustration.

An English translation of Dr. Magendie's interesting little work, is, we are glad to observe, already announced; and we earnestly recommend professional men not merely to purchase but to peruse it. The scientific views which it developes, and the spirit and ardour of research which it displays, while they carry reproof to the heart of the indolent, cannot fail to stimulate and instruct the zealous. We are, indeed, no strangers to the obloquy and neglect with which, in this country, foreign medical literature has too commonly been treated. But notions, thus illiberal and contracted, are, we would fain hope, rapidly giving way to more correct and enlightened views. Nor shall we ever cease most loudly to deprecate and deplore an indulgence in prejudices so incalculably hostile to the best interests of science, and alike disgraceful to the intellect and to the heart whence they emanate, and wherein they are suffered to exist.

CORRESPONDENCE WITH THE REVIEWING DEPARTMENT.

WE have received a letter of remonstrance, signed "Members of the Committee of the City of London Truss Society," on account of an allusion which was made in our last Number

* Few Practitioners are seemingly aware of the extent to which this admirable medicine may be given, not only with impunity, but with the most decidedly beneficial effects. After several years' extensive trial of its powers, we have had no reason to complain of the pernicious consequences which are commonly attributed to its large or long continued employment. A similar preparation of *soda* would, we have no doubt, prove a valuable acquisition to the Pharmacopœia. — REV.

to a sermon preached in behalf of that excellent Institution. In this letter we are charged with unjust conduct towards the preacher, and with alluding improperly to the charity for which he preached : to both of which accusations we plead absolutely and unconditionally not guilty : nay, the very showing of the letter fully bears us out in the propriety of our strictures. The thing, however, was alluded to *en badinage*, and we are sorry that it should be taken up by any persons or party in a serious manner. Towards the particular individual concerned we bear the highest respect, but we have often lamented, no, laughed at his wrong-headedness on medical topics ; and with respect to the Institution, the cause of which he so ably and eloquently advocated, so far from wishing to do it the smallest injury, we do not hesitate to express it as our most sincere conviction that *there is not a charity in the metropolis more worthy of EVERY support* : but let not one good thing be lauded at the expense of another ; and let it be recollected, that it is quite as much an interference with nature to place a truss upon a protruded intestine, as it is to administer a cathartic in a constipated state of the bowels, or to withdraw blood in order to avert the consequences of inflammation. The fact is, that art must interfere with nature when nature commits aberrations ; and Surgeon and Physician in this respect are precisely in the same predicament. At the same time it is for them both to be careful, lest, in wishing to do what is necessary, they proceed too far ; and it behoves them likewise to indulge a mutual good-will and esteem for each other.

N. B. We have been obliged to abandon our design of presenting a slight retrospect of the chemistry of 1818 in our present Number, on account of the unexpected press of other matter. Our engagement on this head we shall endeavour to fulfil in the February Number, when we shall, at the same time, give a general nosological synopsis of the year with the accompanying meteorological remarks.

PART III.

SELECTIONS.

On the Action of Sulphurous Acid Gas on Sulphuretted Hydrogen Gas. By THOMAS THOMSON, M.D. F.R.S.

It was first observed by Mr. Kirwan, that when sulphuretted hydrogen gas was mixed with sulphurous acid gas, the bulk of

the two gases diminishes, and a quantity of sulphur is deposited on the sides of the jar. He found that five measures of sulphurous acid and six measures of sulphuretted hydrogen, when thus mixed, were reduced to three measures*. On turning to Messrs. Aiken's Dictionary of Chemistry and Mineralogy, published in 1807, I find exactly the same experiments related as those previously given by Kirwan in his paper "On Hepatic Air." I conceive, therefore, that these gentlemen did not make any experiments on the subject themselves; but simply adopted Mr. Kirwan's results; though the want of a reference to that gentleman might at first lead to the notion that the experiments related were their own. Thenard, in his "*Traité de Chimie*," vol. i. p. 539, informs us, that the action of sulphurous acid gas on sulphuretted hydrogen gas has been fully examined; that the two gases decompose each other reciprocally, and form water and sulphur; that the action is instantaneous, if the gases be moist; but very slow if they be dry; and that rather more than two parts of sulphuretted hydrogen are requisite to decompose one part of sulphurous acid.

These were all the circumstances respecting the action of these two gases on each other which I could find in chemical books at the time that I was employed in preparing the fifth edition of my System of Chemistry for the press. As they did not appear at all satisfactory, I found myself under the necessity of omitting all attempts to explain this action in my System, and to place the fact among the list of subjects which required further investigation; of which I found myself under the necessity of drawing up a pretty copious list. These topics I propose to investigate in succession; and I shall lay the result of my experiments occasionally before the readers of the Annals.

The gases employed by Kirwan were probably not absolutely pure. He did not examine with sufficient care the volumes of the two gases requisite to produce the greatest condensation; nor is his account of the properties of the residual gas sufficient to enable us to understand its nature. There is the same want of precision in the account given by Thenard. According to him, rather more than two volumes of sulphuretted hydrogen are decomposed by one volume of sulphurous acid gas, and the result is water and sulphur. In these two gases the weight of the atom is just double the specific gravity (supposing the specific gravity of oxygen gas to be unity). We may, therefore, substitute atom for volume.

* Phil. Trans. 1786, p. 118.

Sulphurous Acid Gas with Sulphuretted Hydrogen Gas. 63

	Sulphur.	Atoms.
2 atoms sulphuretted hydrogen contain	2 atoms	+ 2 hydrogen.
2 atoms sulphurous acid contains	1	+ 2 oxygen.

From this it is obvious, that if the two gases decompose each other, and form water and sulphur, they will be completely condensed when we mix two volumes of sulphuretted hydrogen with one volume of sulphurous acid; proportions which do not tally completely with the statement of Thenard.

On repeating the experiment over mercury with gases perfectly pure and sufficiently dry, I found that the two gases are completely condensed, and lose their gaseous state entirely when we mix three volumes of sulphuretted hydrogen gas with two volumes of sulphurous acid gas. Two volumes of the former, when mixed with one of the latter gas, did not undergo complete condensation. The substance formed was quite dry; and I could not separate any moisture from it by the application of heat, or by any other method which I could think of. Hence we have no experimental proof of the formation of water; nor is theory more favourable to the notion. Let us substitute, as before, atom for volume, that we may judge of the elements which have acted on each other.

	Atoms.	Atoms.
3 atoms of sulph. hydrogen contain	3 sulphur	+ 3 hydrogen.
2 atoms sulphurous acid contain	2 sulphur	+ 4 oxygen.

So that there are present three atoms of hydrogen and four atoms of oxygen. Were these bodies to unite and form water, it is obvious that there would remain one atom of oxygen gas uncombined, which would amount in bulk to the fourth part of the sulphurous acid gas, or half a volume. In my experiment I mixed over mercury twelve cubic inches of sulphuretted hydrogen with eight cubic inches of oxygen gas. If Thenard's statement were accurate, namely, that water is formed during the action of these two gases on each other, the residual oxygen gas would have amounted to two cubic inches; whereas there was no residue, except an insignificant bubble of common air not larger than a pea.

I think after the preceding detail there cannot be a doubt that the hypothesis of Thenard, that, when these two gases are mixed, they are converted into water and sulphur, is inaccurate. In reality, the two gases unite together and form a compound, which has hitherto been mistaken for sulphur, though it possesses properties somewhat different from that combustible substance.

Its colour is orange-yellow, without any mixture of the greenish tinge which distinguishes sulphur. It is not tasteless, like sulphur, but gives a sensibly acid impression to the tongue: this impression becomes at last hot, or peppery, and continues

in the mouth for a considerable time. When the dry compound is applied to paper stained blue with litmus, it does not produce any sensible change on it; but if we moisten the paper ever so little, it is immediately rendered red by it. Hence I conceive that this compound possesses acid properties. But it is an acid that cannot be applied to any useful purpose in chemistry, as it is decomposed by all liquid bodies that I have tried; namely, water, alcohol, nitric acid, sulphuric acid; and as it does not sensibly unite with the salifiable bases when presented in a dry state. The acid which gives the red tinge to vegetable blues is neither the sulphuric nor sulphurous; for when the compound is agitated in barytes water, no immediate precipitate takes place; though if we boil the mixture, a dirty grey precipitate at last falls.

When the compound is heated, it becomes soft and ductile; but requires for fusion a higher temperature than sulphur. But if the heat be continued, a kind of effervescence takes place, and the compound is converted into common sulphur, which burns in the usual manner.

When the compound is agitated with water, that liquid becomes milky, acquires a slightly acidulous taste, and a quantity of common sulphur is speedily deposited. The very same decomposition is produced by alcohol.

With potash it does not combine unless water be present, and in that case nothing is formed but common sulphuret of potash.

I have tried the action of various other re-agents upon this compound; but the phenomena presented were so little remarkable that they seem scarcely entitled to be related.

This is, perhaps, the first acid compound hitherto observed which contains both oxygen and hydrogen united to a combustible basis. Though of little importance in a practical point of view, it is of some little value as far as the theory is concerned; for it possesses the properties of acidity in a very weak degree, so much so that I have not been able to succeed in uniting it with any salifiable basis. This, I think, is a sufficient proof that Dr. Murray's notion, that the greatest degree of acidity is given to bodies by the joint union of oxygen and hydrogen, is not countenanced by chemical facts, nor consistent with the phenomena of the science.

I have not given this new compound a name, because it is not likely ever to be employed for any useful purpose. Perhaps the term *hydrosulphurous acid*, though not quite correct, might be applied to it without much impropriety.

(From Thomson's *Annals of Philosophy*.)

PART IV.

FOREIGN MEDICAL SCIENCE AND
LITERATURE.

ANATOMY AND PHYSIOLOGY.

I. Memoir on the Nervous Ganglia of the Nasal Cavities.—

The intimate connexion which exists between the sensations of taste and smell, must have been noticed from the earliest periods of human observation. The powerful influence which certain substances applied either to the pituitary or palatine membrane are known to exert on the adjacent organ, presents a sufficiently striking illustration of this fact: yet are we not aware that it has hitherto attracted, except in a very desultory way, the notice of the Physiologist, or been elucidated by his researches. By demonstrating that such relations of the olfactory and gustatory organs are dependent on the presence of certain nervous ganglia, and that these ganglia communicate as well with each other as with various ganglia in the vicinity, Dr. Cloquet*, of Paris, hopes to establish a fact, alike interesting to anatomy and physiology. The following is an outline of the description into which, with this view, he has minutely entered.

The anterior palatine foramen, opening on the palatine vault immediately behind the two middle incisor teeth, and bifurcating as it ascends in order to communicate with each nostril by a distinct orifice, must be well known and recollected by even the most superficial anatomist. From the interior of these canals, two yet smaller branch off to the right and left, but are interrupted in the middle of their course and replaced by others. Their superior opening, perfectly distinct from the orifices of the palatine canal, exists at the point of union between the vomer and superior maxillary bones. It has long been disputed by anatomists whether the pituitary membrane lines or contributes to close the principal passages of this canal. Cuvier, and Jacobson, a Danish anatomist, have, however, recently decided that this orifice, although existing in other mammifera, is deficient in the human subject and the horse; and that principally in herbivorous animals the adjacent region of the nasal cavities is occupied by a peculiar organ liberally supplied with nerves, and

* Nouveau Journal de Médecine, Juillet, 1818.

probably conferring on its possessor some faculty not enjoyed by man, as that of distinguishing the poisonous from other plants.—In the prosecution of his researches on this point, Dr. Cloquet has discovered that there exists in the anterior palatine canal of the human subject, at the point of bifurcation of its two branches, a small reddish, fungus, rather hard mass, buried in adipose cellular structure, and most commonly of an ovoid form. It is a real nervous ganglion; and from its larger extremity, which is turned upward, sends off to the spheno-palatine ganglion of Meckel the two nervous filaments discovered by Cotugno, and named by Scarpa the naso-palatine: hence these nerves have a different course from that commonly assigned to them. The smaller extremity of the ganglion furnishes one or two filaments which pass through the small palatine canals to the palatine vault, where they anastomose with the branches of the palatine nerve. Thus the naso-palatine ganglion, as it is termed by Dr. Cloquet, communicates with Meckel's ganglion, both by the naso-palatine and by the proper palatine nerve.

In the inferior animals this ganglion is frequently more voluminous than in man, and in the ruminantia is particularly developed. On this account the peculiarities which it presents in the sheep are very minutely traced by Dr. Cloquet, previously to his proposed description of it in the other classes. Having thus established the connexions of the naso-palatine with the spheno-palatine ganglion, he next proceeds to demonstrate the disputed existence of the latter, and its connexions with the other ganglia of the head.

The spheno-palatine ganglion, first described by Meckel, is situated externally to the spheno-palatine foramen; small but variable in size, reddish, somewhat hard, triangular or cordiform; convex on its external, and flat on its internal surface, and so buried in the adipose substance of the pterygo-maxillary fissure, that its developement requires considerable address, and it is frequently overlooked by anatomists. From this ganglion, three, four, or five nerves are sent off to the pituitary membrane. They pass to the nasal fossæ through the spheno-palatine foramen, near the posterior extremity of the middle spongy bone. It also distributes nerves to the palate and neighbourhood of the pharynx. After having specified various reasons for believing that the spheno-palatine is absolutely analogous, both in structure and function, to the other nervous ganglia, Dr. Cloquet concludes by observing, that from these various communications of the nerves of the mouth and nasal cavities, the naso-palatine ganglion may be reasonably supposed to contribute to the production of the sympathetic phenomena which connect the senses of smell

and taste; and that it explains, to a certain point, how some substances, applied either to the palate or nasal membrane, reciprocally affect the other organ.

PATHOLOGY (INCLUDING MORBID ANATOMY) AND
PRACTICE OF MEDICINE.

II. *Cases of Tetanus**.—Notwithstanding the rapid progress which has been made in pathological anatomy within the last few years, it is yet much to be regretted that professional men, even the most zealous in the prosecution of it, have too commonly restricted their inquiries to the condition of the various organs contained in the cranium, thorax, and abdomen, of the subject under examination; while that important viscus, the spinal marrow, from whence almost every part of the human body derives its principal supply of nerves, and the morbid alterations of which must, consequently, develop the most interesting and instructive views in general pathology, has been consigned to utter forgetfulness or neglect.

Dr. Franck, uncle of the Physician by whom the cases about to be detailed have been communicated, first excited, by the publication of a memoir upon this subject†, the attention of Practitioners to it: and from that period the examination of the vertebral canal has been very commonly practised in Germany, Italy, and, we may now add, France and Britain. Hence medical literature has been enriched by contributions of high practical value, respecting the pathology of the spinal chord. Professor Racchetti‡ has recently published, at Pavia, a most interesting monograph on the various diseases of this organ; and a work of inferior extent and importance on the same subject has been given to the world by Mr. Copeland||.

It is unfortunately true, that no positive knowledge respecting the seat of tetanus has hitherto been acquired. Several Physicians of great ability and experience have indeed suspected that it may exist in the spinal marrow: and this presumption seems at length to have been almost converted into certainty, at least as far as regards vulnerary or symptomatic tetanus. In the hope of thereby rendering a service to Practitioners, Dr. Franck proceeds to record two cases of

* Bulletin de la Société Médicale d'Emulation. Juillet, 1818.

† De Vertebralis Columnæ in Morbis Dignitate. Pavia, 1791.

‡ Della Struttura, delle Funzioni e delle Malattie, della Midolla Spinale, &c. 8vo. Milan, 1816.

|| Observations on the Symptoms and Treatment of Diseased Spine. 8vo. 1815.

tetanus, which have been observed and described by Professor Brera in a communication delivered, in 1816 and 1817, to the clinical school of the University of Padua.

The first case occurred in a female, aged twenty-two. The affection assumed a nervous character. Various remedies were prescribed in vain. The patient died after a fortnight's suffering. On dissection, the thoracic and abdominal viscera were found drenched with suppuration. The spinal marrow was softened, and very deeply diseased. The morbid condition of the internal organs was probably dependent on the spinal lesion.

A young man, aged nineteen, was the subject of the second case. He had received a contusion on his right thumb; and twelve days afterwards became sensible of a stiffness in the lower jaw. From negligence and imprudent exposure to the air, the difficulty of motion of the jaw became aggravated, and the whole body affected with rigidity. The patient was conveyed to the clinical school in a state of universal spasm and contraction of the facial muscles. He was, moreover, affected with cold perspirations and pains all over the body, but principally in the lumbar region, and along the vertebral column. The face was red, and the pulse contracted. Under a conviction of the existence of inflammation of the spinal marrow, one hundred and twenty leeches were applied along the vertebral column; and the prussic acid was administered. After the abstraction of the blood there was a sensible diminution of the spasms; but they soon recurred with increased violence, and were followed by paralysis and death.

Examination of the body proved of the highest importance as far as regards the theory of the disease. The spinal marrow was in a state of decided inflammation, exclusively, however, about the origin of the cervical nerves, and not in the slightest degree implicating the other portion of the organ, or the cerebellum. The inflammation, in fact, *was confined to the right side of the spinal marrow, obviously corresponding with the hand upon which the injury had been inflicted.* Several other remarks on tetanus may be seen in the work of Professor Brera*.

III. *Obstruction of the Thoracic Duct.*—That this important little vessel is much more frequently the seat of obstruction, and consequently of fatal disease, than is generally suspected, we have long entertained an opinion. And if minute examination were instituted in those cases of gradual emaciation, unattended by any of the symptoms of pulmonary

* Prospetto de Risultamenti Ottenuti nella Clinica Medica dell I. R. Università di Padova, nelle 1816-1817.

or intestinal affection, which almost daily occur, we have no doubt that this fact would be established as clearly as any one at present comprehended within the pale of pathological science. The following case, recently reported by a German writer, Dr. Hopfengärtner, of Stutgard*, presents great interest in its connexion with this subject, and is alike curious and valuable as a record of morbid anatomy.

In one of three instances of obstruction of the thoracic duct described by Mr. Astley Cooper, the vessel was found filled, in its whole length, by a cheese-like mass. A similar substance apparently forms in the lymphatic vessels near large lymph-abscesses. But Dr. Hopfengärtner had not seen a sufficient number of such cases to be enabled to form a decisive opinion concerning the relation of this phenomenon to the origin and progress of the abscess. Anatomical inspection is, he observes, in these cases, beset with many difficulties, which he has not yet had an opportunity of solving so satisfactorily as to attain any accurate conclusions on the subject.

The patient to whose history we have adverted, a boy aged eight, was admitted into Stutgard Hospital on account of obstinate tinea. His spine was very much distorted; and he was so greatly emaciated as rather to resemble a skeleton than a living body. Abandoned from birth by his parents, he had been subjected to the mal-treatment of needy and negligent relations. Destitute of sufficient covering and of bed, the poor creature had suffered dreadfully, during the preceding hard winter, from the inclemencies of the season. For several months past, a little bread and brandy had constituted his only nourishment. He some time since had been seized with incessant vomiting: his fæces were scanty; and all his joints so stiff that he was nearly incapable of motion. The pulse was small and rapid; the temperature of the surface reduced; and the appetite for food insatiable. After three months' perseverance in the employment of the tepid bath, nutritious diet, and external remedies, the boy was much improved in strength, appearance, and the use of his limbs; and in the commencement of winter he left the hospital. Attention to his moral and physical education was not neglected; and for a whole year he remained well. About the close of the following winter, a tumor, with evident suppuration, was observed at the inferior angle of the left scapula, and increased, within a short time, so as to reach the tenth rib. Upon incision, there escaped a considerable quantity of lymph,

* Journal der Praktischen Heilkunde, 1817. XLIV. Band. VI. Stuck.

mixed with cheesy flakes. The discharge was kept up by the introduction of a seton, and the patient supported by nourishing food and cinchona. Emaciation excepted, he was now perfectly well. The discharge, after gradually diminishing, completely ceased in August. But the cavity of the abscess was found, on the introduction of the probe, to be quite as large as in the commencement.

The cessation of the discharge was followed by violent vomiting and diarrhœa; and the patient sunk rapidly, without the presence of any decided febrile symptoms. After some days these phenomena subsided, and a fresh abscess formed below the first. It soon broke spontaneously, and gave issue to a small quantity of lymph. The patient grew daily weaker; his respiration difficult and pulse accelerated. On the 24th of August he was suddenly seized with convulsions, which, after continuing twenty-four hours, terminated in death on the evening of the 25th. Till the convulsive seizure, the patient had retained his recollection unimpaired. During the last four days, camphor and snake-root had been largely administered.

Upon dissection, on the 26th, the surface of the body was found covered with livid spots; but there were no marks of putrefaction. The vessels and sinuses of the dura mater were distended with black blood; and the vessels of the pia mater, even in their minutest ramifications, were most unusually gorged. The brain felt considerably indurated; and the convolutions lay so closely together as to give to the whole a turgid appearance. The substance of the brain itself, and that of the cerebellum, displayed no organic lesion. The lateral ventricles contained about four ounces of limpid fluid. The left lung was universally adherent to the costal pleura, and connected to the pericardium and diaphragm by a thick cellular structure. The lung itself possessed but half of its natural volume; and was compact, of a dark red colour, gorged with blood, but not tuberculated. The right was perfectly sound. An intimate adhesion subsisted between the pericardium and the heart. Its separation having been carefully effected, the surface of the heart itself was seen covered with numerous white tubercles of the size of a lentil. The adhesion had been formed by a thick red cellular structure. The proper membrane of the heart was thicker than common, and from it the white tubercles projected. The heart itself was in a natural state. After the complete removal of the thoracic viscera, a white mass, of the volume of a pigeon's egg, first presented itself: it was situated close to the vertebral column on the left side, about two fingers' breadth above the diaphragm. The cellular membrane was

now carefully detached, and the following appearances were observed:—From the left rib a white mass of the thickness of a finger descended close by the spine to the diaphragm. It was in several parts tuberculated, and the largest prominence formed the mass which has just been described. From this mass several branches of variable thickness and length went off to the ribs. One of these, after having perforated the intercostal muscles, terminated in the cavity of the abscess. The whole of the mass, both trunk and branches, was invested with a delicate transparent membrane. From the point where this mass terminated above, *the membrane in question was continued in the form of an empty canal to the left subclavian vein*: yet the injection of air from the canal into the vein, or in the opposite direction, was utterly impracticable. The mass itself resembled in colour and consistence coagulated albumen, and imparted a greasy sensation to the finger. The cavity of the abscess extended over the whole left part of the back, from the inferior angle of the scapula to the sacrum. It had merely a covering of skin, and contained but a very small quantity of thin pus. Its parietes displayed a livid appearance. The spine was very much curved to the right. The left ribs were completely flattened, but those of the opposite side unusually arched. The right cavity of the thorax was about twice as large as the left. The volume of each lung corresponded to the space of its containing cavity. Nothing particular was remarked in the abdomen. The omentum was much wasted, and the bladder distended with urine. The rectum contained some indurated fæces.

IV. *Employment of the Prussiate of Quicksilver.*—Some intimations published by Professor Chaussier, respecting the anti-syphilitic properties of this substance, which he considers as preferable to every other mercurial preparation, seem first to have excited the attention of a Spanish Physician, Dr. Salamanca, to the remedy. And the facts detailed in his “*Observations on the Utility of Prussiate of Mercury in Obstinate Syphilis, and other Lymphatic Diseases**,” tend strongly to support the opinion of the Parisian Professor. We shall transcribe two out of the six cases here recorded, as sufficiently illustrative of the employment and operation of this powerful compound.

First Case.—The subject of this was a merchant of Gibraltar, aged 34, of highly bilious temperament and extreme irritability. For two years he had suffered from

* Observaciones Medicas sobre la Utilidad del Prussiato de Mercurio, &c. Bulletin de la Société Médicale d’Emulation. Août, 1818.

a syphilitic taint, for which mercurial frictions had been twice unsuccessfully prescribed. Besides pains of the bones, aggravated at night, there existed signs of congestion of the liver. Other mercurial preparations, venesection, cinchona, and opium, had proved equally unavailing. The patient, disappointed of relief, and sensible of his increasing debility, resorted to Dr. Salamanca; who finding the disease accompanied with considerable emaciation, hectic fever, cough, colliquative sweats, a lateritious condition of the urine, and tumefaction in the region of the liver, requested a consultation with two other Physicians. The malady was pronounced to be an incurable hepatic phthisis. Yet Dr. Salamanca, in order to satisfy his patient, prescribed tonics, opium at night, and a blister on the right hypochondrium. Perseverance in this plan for some days was productive of relief. The cough and fever yet continuing obstinate, Dr. Salamanca directed his patient to take in a little water every morning one table-spoonful of a solution of four grains of prussiate of quicksilver in six ounces of distilled water; at noon, decoction of cinchona and guaiacum was exhibited; and at night opium with benzoic acid. The first six days the mercurial solution excited bilious vomiting; but subsequently it operated only by stool. After submission to this treatment for nearly a month, the fever began to remit during long intervals; the cough diminished, and was attended with sero-purulent expectoration; and both these, and all the other symptoms finally yielded to the plan, assisted by the repeated application of blisters. The patient returned to Gibraltar perfectly recovered.

Fourth Case.—A young lady, aged fifteen, had for four years been affected with scrofulous ulcerations of the neck. Mercurials, tepid and mineral baths, carbonate of soda, muriate of barytes, and other remedies, had been tried without effect; when Dr. Salamanca prescribed a solution of four grains of prussiate of quicksilver in eight ounces of distilled water, one table-spoonful of which was to be taken every day fasting. For the few first days slight vomiting was induced, but shortly afterwards the ulcers began to yield a more copious lymphatic discharge, and three out of five were soon completely cicatrized. The cure was accomplished in four months. The lady almost immediately married, and one of the two children which she has borne, displayed the traces of a similar affection; but at the period of Dr. Salamanca's communication the tumors were disappearing under the use of the prussiate of quicksilver in minute doses. The Spanish Physician has also prescribed this remedy with signal success in

confirmed, and otherwise incurable herpetic and psoric complaints.

MEDICAL JURISPRUDENCE.

V. *Cases of Asphyxia.* — Under the present section we may properly introduce a very interesting account of the asphyxia of privies, which has lately been published in one of the French journals*.

Three masons employed in repairing a privy which had been emptied about a fortnight, were in the act of clearing out some water accumulated in it, when a large additional quantity rushed suddenly upon them, and gave out effluvia so extremely offensive as to suffocate one of the men, who had been removing a stone at the point from whence it issued. He struggled for some time in the mud before he became insensible. A comrade in the attempt to rescue him, fell also. The father of the first, witnessing the danger of his son, ran to give assistance, and shared the fate of his predecessor. All three were speedily extricated, and conveyed at nine o'clock in the morning to the Hotel Dieu.

The first brought in was the weakest of the two younger men. He was the first who fell into the privy, and was the last extricated. He was aged 21, and of good constitution. On examination he was found wholly void of consciousness, sense, and motion. The body was cold; lips violet; and countenance livid. A bloody froth issued from the mouth. The eyes were dim, and the pupils immoveably dilated. The pulsations of the radial artery were small and frequent; those of the heart irregular and tumultuous; respiration short, difficult, and convulsive; and the limbs relaxed. The patient, exposed on a bed to the air, was made to inhale oxygenated muriatic acid gas, which produced a momentary excitement. A vein was opened in both arms successively, the first not yielding a sufficient quantity of blood. After this the pulsation of the heart became more regular, and the pulse somewhat developed. Respiration also was less difficult; but the surface continued cold, and the face livid. Frictions were now employed on the trunk and extremities; and an ethereal draught administered. The mouth ceased to foam; the exhaustion was less menacing; and the patient uttered at times a plaintive sound. Soon afterwards he became violently agitated, and continued so for two hours; in consequence of which the cold bath, with cold affusions, was had recourse to. Immersion seemed at first to aggravate the symptoms. Respiration grew very difficult; the

* Nouveau Journal de Médecine. Avril, 1818.

motions more violent; the face pale. The brachial vein bled afresh to a very large amount. The patient was conveyed in a state of syncope, cold and motionless, to his bed. The pulse was scarcely perceptible; respiration panting. After some hours he revived, and frictions with warm cloths were employed. The pulse then rose; the skin became warm and covered with a genial moisture, and the eyes half unclosed: yet respiration continued short and tight. At four o'clock the pulse was calm and regular, and the skin in a favourable state. Sinapisms applied to the feet at night produced active stimulation. The patient passed a tranquil night, and at three o'clock in the morning consciousness returned. From that time all the symptoms subsided, and restoration was complete on the third day.

The father, a strong man, aged 60, had been much less severely affected; and by the assistance of a draught speedily administered, had voided the water previously introduced into his stomach. His senses had been retained; but the whole body, and particularly the thoracic muscles, was agitated by convulsive motions. The jaws also were at times affected with spasm; skin cold; respiration irregular, and pulse much embarrassed. There was no frothing at the mouth, but frequent inclination to vomit. After two hours the spasms had subsided, and the pulse became regular; yet the nausea continued. By the employment of a large dose of ipecacuanha, a sulphuric acid potion, and a glyster, all the symptoms were on the morrow dissipated.

The third patient, aged 19, of a decidedly bilio-sanguineous temperament, with short neck, capacious chest, and muscles strongly marked, displayed the following phenomena. His agitation was extreme. All the muscles were affected with severe but transient contractions, succeeded by spasms, with curvature of the trunk backwards. He seemed to suffer acute pain; and his cries resembled the bellowing of a bull. The face was less pale than in the subject of the first case; the pupil dilated and immoveable, and the mouth filled with white froth. Respiration was convulsive; the action of the heart disordered, and the skin cold. Inhalation of oxygenated muriatic acid gas produced a powerful effect. A vein was opened in the arm, and the flow of blood was with difficulty suppressed. The motion and vociferation of the patient were such as to require confinement. An hour afterwards the cold-bath was employed; and a sort of stupor succeeded every act of affusion. Otherwise, the effects were similar to those experienced in the first case. The calm which ensued was of short duration, and the cries and contortions soon recommenced. Respiration became

laborious and interrupted; the pulse thread-like, and of incalculable rapidity. In an hour afterwards the whole body was hot, although covered with perspiration. The face grew pale; the pulse weaker; the agitation gradually subsided; and in about two hours the patient died without having recovered his consciousness. — On dissection, forty hours after death, (the weather being then stormy) the head and trunk were already putrid; the skin bluish, and elevated by gas. The blood contained in the various cavities was black and fluid. The brain was greenish and tender. The bronchiæ displayed a red colour, progressively deepening as their minute divisions were traced. The posterior part of the lungs was gorged with black blood; but the organ was generally crepitous. The stomach presented traces of recent irritation, and several signs of irritation of a more remote date. The intestinal canal was greenish. The liver of a greenish black colour, was in a state of congestion. All the viscera exhaled the smell of putrid fish. The internal membrane of some of the larger vessels was of a bright red colour. Several of the persons present at the dissection were subsequently affected with lassitude, stupor, sleeplessness, and violent cholic.

Another interesting case of asphyxia by the gas extricated from stagnant water, has likewise been communicated by Dr. Chomel*. We have not room to transcribe the particulars. Suffice it then to observe, that the subject of it, after having lain in a well three quarters of an hour without sense or motion, was drawn up in a state of apparent death; that he presented symptoms very nearly resembling those described in the preceding cases; and that by the employment of venesection, inhalation of oxygenated muriatic acid gas, stimulant injections, an emetic which operated only by stool, an ethereal mixture, and sinapisms to the lower extremities, he was restored on the third day.

SURGERY.

VI. *Extirpation of the Parotid Gland.* — To those who correctly know, and will take the trouble calmly to review, the situation and connexions of this gland, its removal by the knife must really seem an enterprise of no common difficulty and peril. Several enlightened Surgeons have even gone so far as utterly to deny the practicability of such an operation. That it has, however, more than once been actually and successfully accomplished, the splendid page of British Surgery affords evidence sufficient to convince the most incredulous†.

* Nouveau Journal de Médecine. Juillet, 1818.

† For farther information on this subject, see the Medico-Chirurgical Journal, Vol. I. page 457.

A case, purporting to be of a similar description, has lately been published by M. Degland*; but whether in this instance the parotid itself were really extirpated, may be very fairly questioned. A swelling, of the volume of a nut, arose on the region of the right parotid gland, in an aged female, and gradually acquired the volume of a small hen's egg. It was hard, circumscribed, indolent, and *but little moveable*. Considered cancerous by M. Degland, it was cut out apparently with almost as little hæmorrhage as ceremony. But the particulars of the operation are very imperfectly detailed. The tumor after excision presented an *ovoid figure*; and, on being cut into, gave issue to a yellowish, syrup-like, inodorous fluid, partly accumulated in the centre, and partly diffused through its substance. In colour and consistence it resembled the cartilages of the lumbar vertebræ. The wound was cicatrized in twenty-six days. The figure of the mass removed, its previous mobility, its anatomical character, the nature of the contained fluid, the neglect of any mention of the parotid duct,—all conspire to show, that instead of the parotid, a diseased lymphatic gland, mistaken for it, had probably been here removed. We hardly need add, that the parotid is of a *triangular* form, and *completely immoveable* even in a healthy state. It will, moreover, be recollected, that an absorbent gland, extremely prone to morbid enlargement, lies imbedded in the centre of the parotid; and we doubt not but that M. Degland, if he had examined the part on which he had operated with sufficient attention, would have found the latter untouched, but reduced in bulk, like all other organs when subjected to continual pressure. We have been induced to notice the preceding case, as well with a view of reprobating the careless and unsatisfactory manner in which the disease and operation are described, as of impressing on the minds of Surgeons the practicability of extirpation of a diseased parotid gland with perfect safety and success.

VII. *Bronchocele*.—Professor Walter, of the university of Landshut, has lately published, respecting the treatment of bronchocele, a pamphlet† which merits particular attention. He distinguishes the affection into four different species. In the first, which he names *aneurismal bronchocele*, the arteries, veins, and capillary vessels, are alike dilated. The second, or *lymphatic bronchocele*, seems to depend upon the effusion of coagulable lymph into the cellular structure of the thyroid gland. *Scirrhus* and *inflammatory bronchocele*, constitute the third and fourth divisions. Professor Walter's monograph is devoted exclusively to a consideration of the aneurismal

* Nouveau Journal de Médecine. Juillet, 1818.

† Bulletin de la Société Médicale d'Emulation. Juillet, 1818.

species; and the following is one of the cases therein detailed:—A man, aged 24, had an enormous aneurismal bronchocele, which impeded both respiration and deglutition. The Professor made an incision one inch and a half in length at the point where the left superior thyroideal artery was seen to pulsate. A second incision, cautiously practised, laid bare the vessel; and after several smaller arteries had been secured, a ligature was passed round it. At the expiration of a fortnight, the left portion of the tumor was reduced at least one-third in volume. The ligature of the opposite artery was accomplished on the 17th of June, but in consequence of the vessel being covered by the enlarged thyroid gland, the operation occupied three quarters of an hour. On the 15th of July the patient left the hospital. At that time he swallowed with facility; and the bronchocele, sensibly reduced, hung down in the form of an empty sack. Two years afterwards, the Professor learned that the subject of this operation had entered into the army.

The result of this experiment is certainly calculated to counteract the unfavourable impression left upon the minds of Surgeons by the failure of a similar attempt made some years since in one of the London hospitals*; and would, doubtless justify its repetition in any instance where the bronchocele, by its pressure on the œsophagus or trachea, menaced fatal consequences. In the unfortunate case to which we have alluded, death took place from secondary hæmorrhage. We have no doubt that, if it were necessary, one or both of the inferior thyroideal arteries might also be tied by any Surgeon correctly acquainted, as all Surgeons ought to be, with the relative anatomy of the parts upon which he was operating.

MIDWIFERY.

VIII. *Cæsarean Operation.*—Examples of the success of this daring and terrible operation have hitherto been so rare among us, that we feel great anxiety to collect, and consider it our duty to record, every well authenticated case, of recent occurrence, where the fortitude of the patient, and the zeal and intrepidity of the Surgeon, have been crowned with the recompense which they so eminently merit. The two cases about to be transcribed are of this gratifying description. The last, although, strictly speaking, rather a case of gastrotomy than of Cæsarean operation, will be read with peculiar interest.

* This case, if we mistake not, is mentioned in Mr. Hodgson's admirable Treatise on the Diseases of Arteries; but we are unable, at this moment, to refer to it. — EDIT.

The subject of the first history* to be noticed, was a woman, aged 32, of very diminutive stature, the aperture of whose pelvis measured but two inches in the antico-posterior direction, and three in the oblique. The waters had been discharged twenty-four hours, and the infant displayed evident signs of life. The operation was performed in the following manner by Dr. Mergault:—A longitudinal incision of five inches was made on the right side of the abdomen, about two inches above the umbilicus. The muscles, peritonæum, and uterus, were successively incised in the same direction. The wound of the uterus corresponded with the insertion of the placenta, which, consequently, was divided by the scalpel. The hand was then introduced into the uterine cavity, and the child seized by the feet, and extracted living. The placenta was afterwards removed, and the uterus cleared from its contained coagula. The wound, its edges being supported in contact by three sutures, was dressed in the usual manner. The state of the woman continued for some days favourable; but from the fifth to the sixth abdominal pains came on accompanied with fever. An ichorous and offensive pus issued in abundance from the vagina and the wound. During a fortnight's continuance of these symptoms, the cinchona was administered. In order to facilitate the escape of the pus, the inferior angle of the wound was subsequently dilated. From this period the woman rapidly improved; and was, on the fiftieth day, perfectly re-established.

The other case occurred last year at Parma, and has been communicated to the Société Médicale d'Emulation by Dr. Franck, whose name will be received as a sufficient pledge of the authenticity and correctness of the ensuing narrative†:—A woman, aged 28, was seized with labour of her fifth child on the 28th of August. About midnight the child had descended within the pelvic cavity. The membranes were yet unbroken; when, after a most violent pain, the child's head suddenly retreated, and the woman experienced dreadful agony and vomiting. The Surgeon in attendance mistaking the nature of the case, recommended delay. About six o'clock A. M. two other gentlemen were summoned, and after hearing what had passed, and examining the abdomen, were convinced that the child had escaped transversely into that cavity, between the stomach and umbilicus. The uterine orifice was closed in the same way as it commonly is six hours

* Recueil periodique de la Société de Médecine de Paris. Juillet, 1818.

† Bulletin de la Société Médicale d'Emulation. Juillet, 1818.

after delivery. The operation of gastrotomy was now determined on as the only resource, and performed at eight o'clock by Ceceoni, Surgeon to the hospital, in the presence of several other professional gentlemen. The situation of the child having been correctly ascertained, with its head near the liver, and its feet in the left hypochondrium of the mother, an incision to the extent of five inches was made in this region. On penetrating into the abdominal cavity a quantity of bloody water rushed out. The intestines being cautiously confined by the assistants, the operator found without difficulty both feet of the child in succession, and thus accomplished its extraction. It was of the full grown size, but dead. The umbilical chord and placenta were afterwards removed. The wound was then united by suture, but with the precaution of leaving an aperture in a situation favourable to the discharge of any fluid.

The lochia made their appearance naturally. No untoward symptom supervened. The abdominal wound was completely cicatrized in three weeks, and shortly afterwards the woman's health was quite restored. Had the nature of the accident been ascertained a few hours earlier, and the operation been promptly executed, it is highly probable that the child would have been saved, as in the preceding case.

BOTANY.

IX. *New Substitute for the Cinchona.*—The ensuing is a correct sketch of the statement respecting a new kind of febrifuge bark, which has lately been published by Drs. Virey* and Cloquet†, in two of the French journals. M. Bose, member of the Academy of Sciences, has received a specimen of it from M. Hubert, botanist at the isle of Bourbon.

The substance in question, the bark of a shrub, is indiscriminately employed by the negroes of Madagascar, and the creoles of the other African islands, against the fevers so common in those southern latitudes. It is both administered internally in decoction, and applied to the temples and hands in the form of powder moistened with vinegar.

This bark is rolled up like that variety of *cinchona cordifolia* which comes from Loxa. Its epidermis is fawn-coloured, and covered in patches with specks of a yellow farinous matter, but less abundantly than that of the *Angustura ferruginea*. The texture of this epidermis, about one line in thickness, is granular, its taste bitter and aromatic. The more internal part of the bark, or liber, is of a reddish-brown colour, and of a singularly bitter and pepper-like taste, with somewhat of

* Journal Universel des Sciences Médicales. Août, 1818.

† Nouveau Journal de Médecine. Septembre, 1818.

the sweetish flavour of liquorice root. It presents, upon fracture, no resinous appearance.

The shrub which yields this bark grows very common in Asia and the African islands. It was first figured by Van Rheede, in his *Hortus Malabaricus*, under the name of the *Kaka-Toddali*. From Linné and Willdenow it has obtained the respective titles of *paullinia Asiatica*, and *scopolia aculeata*; and Jussieu has lastly called it *Toddalia*, from the designation which it bears on the coast of Malabar. It is a small, prickly, bushy shrub, and may be readily recognised by its flowers, in axillary panicles, composed of a calyx divided into five teeth, corolla pentapetalous, stamina five, styles and stigmata three. The fruit is a berry of the size of a pea, containing five dry oval seeds. It is wrinkled, and full of volatile oil, resembling that of orange-peel. The leaves are alternate and dull, and covered, like those of the *Hypericum perforatum*, by minute translucent points. They are oval, lance-shaped, somewhat serrated, and even, like the stems and branches, armed with prickles. Hence, this shrub must belong to the class Pentandria, and order Trigynia, and to the natural family of *Terebinthaceæ* (of Jussieu) not far from the *brucea*, the astringent bark of which is also febrifuge and anti-dysenteric. The bark of the *root* is almost exclusively employed by the negroes.

Dr. Cloquet states, in conclusion, that he has lately received from Senegal a root almost completely resembling that of the *Toddalia*, and employed by the inhabitants for a similar purpose. The principal difference consists in the greater size and strength of the Senegal root. But no botanical notice having been sent with the latter, the plant from which it was obtained cannot, at present, be satisfactorily determined.

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

ARSENIC TAKEN WITHOUT INJURY.

THE object of this communication is to diffuse more generally the opinion that charcoal is eminently an antidote to arsenic: from our knowledge of chemistry we have reason to expect it should be, but we ought not to trust to theory without some experience.

Mr. R—— took last evening, through mistake, a considerable quantity of arseniate of potash; he had previously been visited with a severe pain in the head; from uncommon exertion during the day,

and had taken his supper immediately upon the top of the dose of arsenic: some suspicions were now excited, and assistance sent for, which fortunately was near.

Found him with a quick pulse, considerable prostration of strength, a sense of heat over the whole body, pricking in the limbs, the head-ach gone, a disagreeable dry sensation in the throat, and some degree of anxiety, as might be expected.

Gave twenty-five grains of sulphate of zinc, which produced a very little sickness: after waiting fifteen minutes, gave, at short intervals, twelve grains more, together with half an ounce of pulverized charcoal, suspended in a teacup of water: no sickness produced, but the heat and pricking were no longer felt, and the pulse became inoderate.

Ordered half an ounce of charcoal and water as before; a tablespoonful of which to be given every fifteen minutes: an ounce of oil. ricini, to be repeated at an interval of four hours, should not the first quantity operate; and left him for the night.

Found this morning that he has slept comfortably most of the night, has taken two ounces of oil, which has operated profusely and frequently; has no thirst or sickness at stomach; pulse slow and regular; tongue swoln and pale, but lively at the margin; countenance good, and he will be able to attend to his ordinary business shortly.

Conclusions. — That the charcoal was the only agent in counteracting the effects of the poison; and was the cause, together with the torpor of the stomach, of his not puking from thirty-seven grains of white vitriol.

That the dose of vitriol retained in the system must have produced an uncommon paroxysm of thirst, had it not been for the exhibition of carbon; and therefore that all metallic oxides must be inert, when given with the medicine.

That with a view of inverting the action of the stomach, vegetable emetics, and not mineral, should be resorted to, such as oxymel of squills, ipecacuanha, apocynum androsæmifolium, lycopodium, selago, and, above all, the distilled water of ranunculus flammula, the operation of which is said by Dr. Withering (a respectable writer) to be immediate.

Note. — There are two varieties of r. flammula, but both frequent the same soil, and consequently possess the same properties. The virtues of this plant (r. f.) ought to be investigated; the sensible qualities are such as to deserve attention; and the name of Dr. Withering ought to be sufficient to give it a place in the materia medica.

(From the Philosophical Magazine.)

NOTICES OF LECTURES.

Mr. Taunton will commence his next Course of Lectures on Anatomy, Physiology, Pathology, and Surgery, on Saturday, January 23, 1819.

Dr. P. M. Latham and Dr. Southey will begin their Course of Lectures on the Practice of Physic on Monday the 25th of January next, at the Middlesex Hospital, at Nine in the morning.

Mr. Mac Kenzie will begin his next Course of Lectures on the Diseases and Operative Surgery of the Eye, on Monday the 1st of February, at a quarter past Ten in the morning. The Course will be continued for two months, on Mondays, Wednesdays, and Fridays, at 16, Newman Street, Oxford Street.

Mr. Curtis will commence his next Course of Lectures on the Anatomy, Physiology, and Pathology of the Ear, on Thursday, January the 7th, at the Royal Dispensary for Diseases of the Ear, Carlisle Street.—For particulars, apply to Mr. Curtis, at his House, No. 2, Soho Square.

Dr. Weatherhead will deliver, in January next, a Course of Lectures on the Congenital Mal-formations, and Morbid and Accidental Distortions of the Bones; whether originating in Utero, or as the consequence of Rickets, Mollities Ossium, Spina Bifida, Scrofulous Affections of the Knee and Hip-joints, &c.—The particulars to be had at Dr. W.'s House, No. 18, Upper Montagu Street, Montagu Square.

LECTURES ON THE PRACTICE OF PHYSIC.—Dr. C. F. Forbes, Deputy Inspector of Military Hospitals, Physician to His Royal Highness the Duke of Kent, Senior Physician to the Surrey Dispensary, Physician to the Royal Westminster Infirmary for Diseases of the Eye, &c. will commence a Course of Lectures on the Practice of Physic, on Wednesday, January 21st, at Nine o'clock in the morning, at the Royal Westminster Eye Infirmary, Mary-la-bonne Street, Golden Square. Terms of Attendance:—Single Course, Three Guineas; Perpetual, Five Guineas.—Medical Officers of the Navy, the Army, and the Ordnance, will be admitted to attend these Lectures on presenting a recommendation from the heads of their respective departments to Dr. Forbes, at his House, No. 25, Argyll Street, before Nine o'clock in the morning.

LITERARY NOTICES.

In the press, *Laurentii Io. Rubi Epistolarum Edinburgensium, Libri III.* written during three Years' attendance on the Medical Institutions of that City; and calculated to illustrate, among other matters, the System of Medical Education pursued there, the Habits of the Students, and the General Process of Graduation in that University.

The second volume of the Transactions of the Association of Fellows and Licentiates of the King's and Queen's College of Physicians in Ireland, is just ready.

A second volume of the Dublin Hospital Reports will appear shortly.

A Treatise on Midwifery, enforcing New Principles, which tend materially to lessen the Sufferings of the Patient, and shorten the Duration of Labour. By John Power, Accoucheur, Member of the Royal Medical Society of Edinburgh.

An Account of the Epidemic and Sporadic Disorders which prevailed this year, 1818, at Rochester, and near it. By Walter Vaughan, M.D., Licentiate of the Royal College of Physicians of London. 8vo.

Illustrations of the Power of Compression and Percussion in the Cure of Rheumatism, Gout, and Debility of the Extremities; and in promoting General Health and Longevity. By William Balfour, M.D. Author of "A Treatise on the Sedative and Febrifuge Powers of Emetic Tartar, &c. &c."

Just published, Elements of Medical Logick; illustrated by Practical Proofs and Examples. By Sir Gilbert Blane, M.D., Physician to the King, &c. &c. 8vo.

Practical Illustrations of the Progress of Medical Improvement for the last Thirty Years; or, Histories of Cases of Acute Diseases, as Fevers, Dysentery, Hepatitis, and the Plague, treated according to the Principles of the doctrine of Excitation, by himself and other Practitioners, chiefly in the East and West Indies, in the Levant, and at Sea. By Charles Maclean, M.D., &c. 8vo.

Illustrations of the Power of Emetic Tartar in the Cure of Fever, Inflammation, and Asthma; and in preventing Phthisis and Apoplexy. By William Balfour, M.D., Author of "A Treatise on Rheumatism, &c."

Edward Percival, M.B., M.R.I.A., &c. is preparing for publication, Practical Observations on the Pathology, Treatment, and Prevention of Typhus Fever.

Dr. Baron, of Gloucester, formerly President of the Royal Medical Society of Edinburgh, has in the press, an Inquiry respecting some of the Diseases of the Serous Membranes of the Abdomen and Thorax; together with Observations illustrative of Disorders of the Mucous Surface of the Alimentary Canal, with five Engravings.

Remarks on the Prevailing or Epidemic Fever, commonly called Typhus. By W. Oglevie Porter, M.D., Physician to the Clifton Dispensary, &c. Octavo.

Dr. Clutterbuck will shortly publish some brief Remarks on the subject of the Prevailing Epidemic.

We have been very much gratified by the receipt of a small publication, entitled "THE MEDICAL INTELLIGENCER," issued from the house of Messrs. Burgess and Hill, Great Windmill Street.—It consists of a Monthly Index to all the Medical Publications, and to those articles in the other publications which have a bearing upon medical subjects. This List the Proprietors announce their intention to publish on the 4th of every month, and to deliver it free of expense. We consider the design extremely liberal and well conceived; and hope that it will be duly appreciated by the medical Profession.

A METEOROLOGICAL TABLE,

From the 21st of NOVEMBER to the 20th of DECEMBER, 1818.

KEPT AT RICHMOND, YORKSHIRE.

D.	Barometer.		Therm.		Rain Gauge.	Winds.	Weather.	
	Max.	Min.	Max	Min.				
21	29	48	29	44	44	33	SE.	1 Cloud...
22	29	40	29	22	39	29	14 SE.	1 Sun.. 4 Rain..
23	29	35	29	24	42	35	07 SE.	1 Rain. 2 Mist... 4 Starl...
24	29	60	29	48	43	34	Calm.	1 Mist.... 4 Starl....
25	29	66	29	65	44	36	W.	1 Sun.. 3 Mist..
26	29	82	29	78	52	42	06 SE.	1 Rain. 2 Mist.. 4 Starl..
27	29	86	29	84	55	49	SSW..	1 Sun. 3 Cloud..
28	29	85	29	77	57	50	26 SW..	1 Sun.. 4 Rain...
29	29	73	29	67	57	49	SW..	1 Sun..
30	29	63	29	56	55	46	SW...	1 Sun..
1	29	62	29	50	52	32	12 S..	1 Sun.. 4 Rain..
2	29	32	29	13	44	32	04 W..S..	1 Sun.. 4 Rain.
3	29	21	29	20	46	29	31 SSW..	1 Sun.. 3 Rain... 4 Mn...
4	29	16	29	16	42	32	07 SSE.	1 Mist... and Rain.
5	29	15	29	14	44	35	06 SE.SW.	1 Mist.. & Rain. 3 S. 4 M...
6	29	09	29	—	44	37	25 SE..	1 Mist.. 2 Cloud... 4 R...
7	29	26	29	23	43	37	SE..SW..	1 Sun.. & Mist. 3 R. 4 M....
8	29	62	29	40	43	35	15 SE..SW...	1 Rain.. 2 S.. & Sbo. 4 M....
9	29	81	29	79	43	35	Vble.NbE.	1 Sun... 4 Cloud..
10	29	86	29	84	43	37	NW..	1 Cloud.. 2 Sun.
11	29	91	29	86	41	34	12 NE..	1 Cloud.. 2 Sun..& Shows..
12	29	86	29	86	41	37	05 NW.	1 Cloud.. 4 Rain.
13	29	86	29	86	42	38	NNW.	1 Cloud.. 4 Moon..
14	29	90	29	80	40	29	WNW.	1 Cloud.. 4 Moon..
15	29	65	29	63	36	29	WbN.	1 Sun... 3 Cloud..
16	29	68	29	58	40	32	SW.	1 Cloud.. 4 Moon...
17	29	47	29	34	43	39	08 SW...	1 Sun.. 4 Rain.
18	29	80	29	72	40	33	WbN..	1 Cloud... 3 Sun.. 4 Starl...
19	29	62	29	53	47	37	09 SW...	1 Sun.. 2 Cloud..
20	29	64	29	37	48	38	SW...	1 Cloud.. 2 Sun..

The quantity of rain during the month of November was 3 inches 85-100ths.

Observations on Diseases at Richmond.

The disorders under treatment this period were Amenorrhœa, Cephalalgia, Cynanche tonsillaris, Diarrhœa, Dyspepsia, Febris catarrhalis, Febris simplex, Gonorrhœa, Hemiplegia, Herpes-labialis, Menorrhagia, Obstipatio, Ophthalmia, Phthisis pulmonalis, Spasmi, Syphilis, Vaccinia, Variola, Vertigo, and Urticaria.

THE METEOROLOGICAL JOURNAL,

*From the 20th of NOVEMBER to the 19th of DECEMBER,
Inclusive.*

By Messrs. HARRIS and Co.

Mathematical Instrument Makers, 50, High Holborn.

D.	Moon	Rain	Therm.			Barom.			De Luc's Hygrom.		Winds.		Atmo. Variation.		
									Dry.	Damp.					
20			41 46 39	29 92 29 81		18 16	SE	SE	Fog	Fine	—				
21	D		41 43 39	29 81 29 74		17 15	SE	SE	Fog	Fine	—				
22			40 41 48	29 70 29 69		12 20	SE	SE	Clo.	—	—				
23			49 53 50	29 70 29 73		25 27	SW	SW	Rain	Clo.	Fine				
24		,15	52 54 49	29 75 29 98		23 25	SW	SW	Rain	Clo.	Fine				
25		,21	50 53 49	29 98 30 16		26 24	SW	SW	Clo.	—	Fine				
26		,04	52 54 50	30 19 30 27		23 27	SW	SW	Rain	—	Clo.				
27		,19	51 54 52	30 35 30 39		25 25	WSW	SW	Clo.	—	Rain				
28	☾	,13	53 55 53	30 43 30 39		25 24	WSW	SW	Clo.	—	Rain				
29		,15	56 60 50	30 29 30 23		20 21	W	SW	Fine	Clo.	—				
30		,12	53 59 50	30 19 30 13		20 25	WSW	W	Clo.	—	Rain				
1			50 48 44	30 02 29 04		16 18	SW	SW	Clo.	—	Fine				
2			45 47 43	30 00 29 85		18 15	WSW	W	Clo.	—	Fine				
3			45 49 44	29 65 29 66		19 16	S	SSE	Rain	—	Clo.				
4	☾	,13	45 51 44	29 60 29 58		21 20	SE	S	Rain	Clo.	—				
5		,11	45 50 46	29 51 29 62		10 11	SW	SSE	Fine	Clo.	—				
6		,07	49 50 45	29 60 29 51		13 17	S Va.	S. Va.	Fine	—	Rain				
7		,10	48 51 48	29 44 29 55		19 16	S	SW	Clo.	—	—				
8			51 55 42	29 76 29 98		20 21	SSW	W	Rain	Clo.	—				
9		,21	45 49 40	30 04 30 07		13 15	NE	W	Clo.	Rain	—				
10		,20	42 45 38	30 09 30 12		16 16	W	W	Rain	—	Clo.				
11		,17	39 42 36	30 10 30 16		12 16	SW	NE	Fine	Clo.	—				
12	☉		38 40 38	30 13 30 09		10 9	NE	NE	Clo.	—	—				
13			39 42 39	30 16 30 16		10 8	N	NE	Clo.	—	Fine				
14			40 41 35	30 17 30 20		13 10	NNW	NNW	Clo.	—	—				
15		,03	36 40 31	30 18 30 00		11 12	N	NE	Clo.	—	Fine				
16			32 36 25	30 03 30 16		15 17	NNW	WNW	Fog	—	Fine				
17			29 32 26	30 08 29 97		20 23	W	W	Fog	Clo.	Fog				
18			30 34 30	29 90 30 08		25 20	WSW	NNW	Fog	Rain	Clo.				
19		,09	31 33 43	30 20 30 28		21 20	S	SW	Fog	Clo.	—				

The quantity of rain fallen in the month of November is 1 inch
and 63-100ths.

A REGISTER OF DISEASES

Between NOVEMBER 20th and DECEMBER 19th, 1818.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	8		Febris <i>catarrhalis</i>	19	
Abscessio	4		— <i>Synocha</i>	30	
Amenorrhœa	9		— <i>Typhus mitior</i> ..	23	1
Amentia	1	1	— <i>Typhus grav.</i>	4	3
Anasarca	12	2	— <i>Synochus</i>	42	1
Angina Pectoris	1		— <i>Puerpera</i>	1	
Aphtha <i>lactentium</i>	7		— <i>Remit. Infant.</i> ..	12	
— <i>anginosa</i>	1		Fistula	3	
Apoplexia	5	4	Fungus	3	
Ascites	7	1	Gastrodynia	15	
Asthenia	17		Gonorrhœa <i>pura</i>	6	
Asthma	53	17	Hæmatemesis	1	
Bronchitis <i>acuta</i>	1	1	Hæmoptœ	15	
— <i>chronica</i>	6		Hæmorrhoids	6	
Cancer	3		Hemiplegia	1	
Cardialgia	3		Hepatalgia	2	
Carditis	1	1	Hepatitis	12	3
Catarrhus	51		Hernia	6	
Cephalalgia	36		Herpes <i>Zoster</i>	2	
Cephalæa	3		— <i>circinatus</i>	3	
Chorea	3		— <i>præputialis</i>	1	
Cholera	4		Hydrocele	1	
Colica	4		Hydrocephalus	1	1
— <i>Pictonum</i>	1		Hydrothorax	3	1
Convulsio	4	1	Hypochondriasis	2	
Coryza	1		Hysteria	7	
Cynanche <i>Tonsillaris</i> ..	20		Hysteritis	1	
— <i>maligna</i>	1		Icterus	2	
— <i>Trachealis</i> ..	3	2	Ileus	1	1
— <i>Parotidea</i>	1		Impetigo <i>sparsa</i>	1	
— <i>Pharyngea</i> ..	1		Ischias	1	
Diabetes	1		Ischuria	1	
Diarrhœa	36	2	Lepra	1	
Dolor lateris	2		Leucorrhœa	11	
Dysenteria	10	1	Lithiasis	1	
Dyspepsia	24		Mania	7	1
Dyspnœa	2		Melancholia	2	
Dysphagia	3		Menorrhagia	8	
Dysuria	2		Morbi Infantiles*	38	2
Ecthyma	2		— <i>Biliosi</i> *	18	
Eczema	1		Obstipatio	11	
Eneuris	2		Odontalgia	11	
Enteritis	4	1	Ophthalmia	9	
Entrodynia	4		Otalgia	2	
Epilepsia	4		Palpitatio	2	
Epistaxis	4		Paralysis	8	2
Erysipelas	8		Paronychia	2	
Erythema <i>læva</i>	3		Peripneumonia	2	
— <i>nodosum</i>	2		Peritonitis	15	
Febris <i>Intermittent</i>	5		Pertussis	11	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Phlogosis	1		Scarlatina <i>simplex</i>	4	
Phrenitis	2	1	— <i>anginosa</i>	2	
Phthisis Pulmonalis	25	7	Scorbutus	1	
Pleuritis	10		Scrofula	10	1
Pleurodyne	3		Splenitis	1	
Pneumonia	17	5	Stricture	3	
Podagra	3		Sycosis <i>menti</i>	1	
Polypus	2		Syphilis	23	
Porrigo <i>larvalis</i>	1		Tabes Mesenterica	2	2
— <i>favosa</i>	1		Tic Doloieux	1	
Prolapsus	3		Tussis, &c.	3	
Prurigo <i>mitis</i>	2		Vaccinia	25	
Psoriasis <i>guttata</i>	3		Varicella	2	
— <i>inveterata</i>	1		Variola	9	
Purpura <i>hæmorrhagia</i>	1		Vermes	25	
Rheuma, <i>acutus</i>	15		Vertigo	9	
— <i>chronicus</i>	44		Urticaria <i>febrilis</i>	1	
Rubeola	14	2	Total of Cases	1127	—
Rupia	1		Total of Deaths		68
Scabies	83				

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct head; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

It will be remarked, that the proportion of deaths in the present month's list is somewhat above the usual average, and our readers will perhaps be surprised to see the number seventeen in the fatal list against asthma. Pulmonary affections have, indeed, been of uncommon severity. Asthma, we all know, however, is somewhat of a vague term, and it is more than probable, that in the hands of many some of these alleged deaths from that source would have been registered under bronchitis.

Abortions have been rather frequent. Will any of our obstetric readers favour us with their sentiments on the best general mode of preventing the recurrence of these mishaps? A question upon which the general practitioner has frequently to decide and act.

Of typhus gravior it will be seen that the numbers are exceedingly few. Some of our readers will be surprised to learn, that it was stated but a few days since by a practitioner and professor of celebrity, and that in a large assembly, that there had not come under his notice a case of *true* typhus for the last twenty years!

A remarkable case of mental derangement, which terminated fatally, has occurred in a female, whose husband has been insane, without much intermission, for nearly two years. In the first instance, the wife was almost in all respects, as to symptoms, a counterpart of her husband, but typhoid characters supervened suddenly, and she died as if from fever. Had this melancholy case a legitimate title to the appellation of fever? Would the subject of the disease have imparted fever to another individual who should have inhaled the exhalations from her body?

One of our reporters has favoured us with the following remarks, in addition to his list:—

“ Only six cases of asthenia are numbered; but the melancholy fact is, that asthenia is very general indeed among the poor, although the diseases it

induces are more prevalent. *Cynanche laryngea* : this case is yielding to profuse bleedings and cathartics, with epispastics. The diarrhoeas noticed were consequent to fever, and in cases where cathartics had acted with unexpected violence, and in which, although the discharge was restrained, disease of the mucous membrane appeared to have been induced. The single case of scarlatina was well defined; the contagion appearing to be completely washed away as it were by free ventilation."

MONTHLY CATALOGUE OF BOOKS.

Murray's System of Chemistry, New Edition. 4 vols. 8vo.

Magendie's Researches on Gravel; translated from the French. 12mo.

Dr. W. S. Hallaran's Practical Observations on the Causes and Cure of Insanity. Second Edition, materially Enlarged and Amended.

Sir Gilbert Blane's Elements of Medical Logick; illustrated by Proofs and Examples. 8vo.

Fyfe's Comparative Anatomy, forming a Fourth Volume to the Compendium. Second Edition. 8vo.

Dr. Maclean's Practical Illustrations of the Progress of Medical Improvement for the last Thirty Years; or, Histories of Cases of Acute Diseases, as Fevers, Dysentery, Hepatitis, and Plague: treated according to the Principles of the Doctrine of Excitation, by himself and other Practitioners, chiefly in the East and West Indies, in the Levant, and at Sea. 8vo.

Dr. Armstrong's Practical Illustrations of the Scarlet Fever. Second Edition.

NOTICES TO CORRESPONDENTS.

Communications have this month been received from Dr. Southam, Mr. Fosbrooke, Mr. Wansborough, and Mr. Harrison.

The Paper of Mr. F. we fear cannot be employed in its present shape. Would it not be better that its substance should appear as an Original Communication, with the sanction of the Writer's name?

We feel also much obliged by the communication of Mr. H.; but it is inconsistent with our plan to publish as original what has been before the public previously in any shape whatever.

We are requested to notice that the word ennuid, in Mr. Fosbrooke's Paper on Vaccination, in our last Volume, is printed ermined.—We may take this occasion to say, that the Paper in question ought to have been noticed in our Retrospect as containing some valuable observations. We are given to understand that Dr. Jenner has expressed his approbation of it.

* * * Communications are requested to be addressed (post paid) to
Messrs. T. and G. UNDERWOOD, 32, Fleet Street.

THE
LONDON MEDICAL
REPOSITORY.

No. 62. FEBRUARY 1, 1819. VOL. XI.

PART I.

ORIGINAL COMMUNICATIONS.

I.

General Remarks on the Theory and Treatment of Fistula.
By M. BRESCHET, of Paris.

THE term fistula, in its most usual signification, is made to designate a sinuous ulcer more or less deep, having callous edges, with either an external or internal opening of communication, and the discharge from which is not commensurate merely to the extent of its surface.

It is not intended in the present paper to dwell particularly on all the several circumstances which are connected in the way of cause with the production of fistulous sores. I purpose to confine myself to the consideration of their more common source, or rather to treat of fistula as a certain kind of irritation resulting from any agent which may be capable of producing it. Let us suppose then the existence of an abscess which answers to the above definition of fistula; the suppurated discharge from such abscess must necessarily be kept up by a something which has the power of generating a perpetual irritation in the tissue from which the discharge proceeds. In other words, such tissue has become the seat of an inflammation more or less violent in proportion at once to the greater or less intensity of the exciting cause, and to the degree of susceptibility by which the part affected is endowed. Now the something which has given rise to the disturbance in question is either a recrementitious or an excrementitious matter: how produced, we are not at present to investigate.

From among the several species of irritation that may thus be induced by the application of extraneous matter to any particular part, it may suffice to select as an example the phenomena arising out of the application of milk to some of the tissues of an organic body. This liquid, which Nature has destined to be the peculiar aliment of the young, is accordingly mild in its nature, in order to be adapted to that susceptibility of the digestive organs which marks the early periods of existence; and no further irritation; therefore, results from its contact with the mucous surface of the young stomach than is necessary for the process of assimilation. But this matter, thus bland and mild when received into the stomach, displays very different qualities when it is injected into the cellular substance, or in any way made to penetrate that membrane. In this case an inflammation is excited, which terminates sometimes by suppuration, and at other times by gangrene. I have confined myself in this place to the mention of milk as a cause of irritation when thus applied to a part of which it is not an appropriate stimulus; but the effects of other extraneous fluids have been rendered sufficiently familiar by the labours of modern physiologists. The most general of these effects is inflammation, of greater or less violence, which in the majority of cases terminates in suppuration: and the cause having thus been applied, it is less surprising that it should continue to act, or be susceptible even of renewal. The resulting abscess will be a longer or shorter time in making for itself an opening, either externally or in one of the internal cavities, in proportion both to the intensity of the inflammation and to the accidental situation of the affected tissue in reference to the body's surface. And the external exit or internal discharge of the pus will be sometimes effected by the powers of nature, and at other times assisted and regulated by the interference of art. The matter of the discharge itself is modified by the material which has proved its exciting cause, and in fact consists of pus mixed with such material in variable proportions; this being diverted from its natural course by the new passage which has been made for it, and which passage is more or less long and sinuous; a perpetual irritation is engendered, which proving more than equal to the prevention of the cicatrizing process in the parietes of the abscess, thus becomes the occasion of several phenomena, which I shall endeavour to treat of successively. But in the first place let us turn our attention to the particularities of the tissue that may thus become the seat of diseased action.

There is scarcely any portion of an organized body

unsusceptible of fistulous formation in some part of its substance. We observe, for instance, that these abscesses run through muscles and other fibrous structure, and occur likewise in the cutaneous, cellular, and other tissues; and with respect to the viscera we find occasionally fistulous abscesses will take place in all those organs that are parenchymatous in their structure: indeed the brain itself has been the seat of them; but my present design does not extend beyond the consideration of that particular tissue which is the more ordinary seat of these affections, not so much as it should appear from the particular affinity, so to say, between the matter producing the abscess, and the substance in which it is engendered (which might be conceived to be the case), as from the quantity in which this substance is found, together with the constitution of its texture. It is the cellular tissue to which I allude. This tissue is indeed universally distributed through the body, and forms as it were the woof of all the other portions of the organized being, entering into the composition of every organ, and furnishing a common envelope and general mean of communication. But the circumstance connected with this substance, which especially demands our attention at the present moment, is its abundance about those mucous conduits which are destined to convey particular secretions. The cellular tissue which surrounds these canals is almost destitute of fat, and thus presents a peculiar formation in reference to the functions of the part; for as the existence of adeps in these ducts would necessarily contract their calibre, and thus impede the course of their contents, Nature has provided against such accidents by the peculiarity alluded to. In some parts this tissue is disposed in the form of laminæ, which surround the actual cells, and thus constitute a kind of interfilamentous structure.

Now if we consider the effects of a constant percolation through this tissue of a matter diverted from its natural course and order, it will be easily conceived that such a change must in consequence take place in the internal economy of the system in question, that a new sort of membrane must be formed endowed with new properties. A mucous tissue is indeed thus produced in a fistulous passage; the result of an irritation become permanent; this irritation, carried to a still higher degree of intensity, in process of time comes to form an entirely new kind of tissue, and by this sort of transformation is converted into what is called callosity. I shall in this place confine myself to the consideration of the principal circumstances relative to this change, and to the physiological and practical deductions which they furnish.

We are informed by Dr. Baillie, that the celebrated John Hunter taught in his surgical lectures, that fistulæ have an internal surface analogous to a mucous membrane; such, for instance, as that which lines the urethra.* This luminous suggestion has since been more fully established as theory by the recent discoveries in pathological anatomy, and dissections of subjects who have died under these affections have proved satisfactory on the point.

In a young man twenty years of age a tumor of an indolent kind, and attended with fluctuation, was observed on the groin of the left side: this swelling had lasted some days without any alteration in the colour of the skin; it at length burst spontaneously, and an enormous quantity of foetid purulent matter was discharged. The pains which had been felt near the vertebral column prior to the appearance of the tumor in the groin, and which still continued after the bursting of the tumor, together with the appearance of the discharged matter, were sufficient indices of the caries of the vertebræ. The subject of the affection survived the opening of the abscess about two months, and the following are the appearances which an examination *post mortem* displayed.

The vertebral column was carious from the last dorsal to the second lumbar vertebra: from this caries all the way down to the external opening in the groin, a membranous canal was continued, which was about an inch in diameter. The internal surface of this canal was of a lively red colour; it was villous in its structure, and pressure caused blood to ooze from it in the same manner as from an irritated mucous membrane. This surface was also, through the whole length of the canal, covered with a purulent matter, which might be conceived to be produced in a twofold manner, viz. from the caries itself, or from the irritated membrane, brought into irritation by the passage over it of the carious discharge.

* Baillie's Morbid Anatomy, translated by Mr. Ferrall. Dr. B. remarks in a note, that "Mr. Hunter has treated of fistula, in his lectures on surgery, as possessed of a smooth glossy surface like that of the urethral membrane." We find also in Hunter's Treatise on Inflammation, &c. something analogous to this enunciation; but the statement is far from being a complete and satisfactory development of the transforming process to which we have above alluded. The following is the passage of Mr. Hunter to which we refer: "I conceive that a deep wound, proceeding to suppuration, and forming granulation or a fistula, becomes in some degree analogous to an excretory duct, having the faculty of peristaltic movement from its base to its external opening."

The membrane in question was separable from the adjoining tissue in the same manner as are other villous membranes; that of the stomach, for example. These appearances then left no room for doubt respecting the actual nature of the tissue thus newly formed, and proved its analogy with mucous structure, in the way that I shall endeavour to point out. The instance thus adduced, it may be remarked, may serve as an example of fistulous formation in general; and it will, therefore, not be necessary to multiply cases. I shall merely remark, that in some of these abscesses callosities are formed more conspicuously than in others; a difference which is referrible to the greater or less degree of irritation caused by the presence of the offending matter or liquid poured out into this new canal.

If, then, from the consideration of this single case, we extend our regards to the general rationale of fistulous formation, it will be perceived that the actual state of parts displayed by morbid dissection, justifies the inference that a new tissue is positively formed; which, as well in its organization as in its functions and properties, is analogous to a mucous membrane. I am now, then, to pursue the investigation of this accidentally formed mucous tissue, and more particularly to notice, first, its seat; secondly, the mode of its development; thirdly, its organization; and, lastly, its particular and essential functions.

(To be Concluded in our next.)

II.

A Sketch of the Medical and General Topography of Huddersfield, and its adjacent District. By J. K. WALKER, M.D. &c. &c.

(Concluded from page 450, Vol. X.)

THE remaining plants belonging to the phenogamous vegetation which I have had an opportunity of discovering in this district, will be found in the present Paper classified according to the system of Linnæus. Conscious of already having engrossed too large a share of the REPOSITORY, I had designed, as is usual, to have dismissed the subject of botany at this point, and not to have led my reader into that dark and mysterious department of the vegetable kingdom comprehended under the term cryptogamia; but the recently revived attention of the scientific world to this subject, some new glimmerings of light cast upon this obscure class, coupled with the extraordinary beauty of this group, which comprises so many and such multiform tribes, each furnishing a striking manifestation of the infinitude of creative wisdom, have induced me

to deviate from the usual practice, in submitting some account of the cryptogamic vegetation of the district. And I am the more inclined to do so from the assistance which I have received from a skilful botanist*, who has devoted himself with such singular success to this department of botany, and who has favoured me with the result of his researches, of which I have availed myself on the present occasion. If, however, I should appear to my readers to have descended to needless minutiae, in recording what in their eyes may seem very insignificant, especially a thing of such humble pretensions as muscologic vegetation, I would remind them, that this order, to which so much unaccountable neglect has hitherto attached itself, is by far the most curious, as well as the most complex in mechanism, of all the cryptogamia. It is true, indeed, that if we measure the attention due to this singular tribe by the standard of their *known* utility, the scantiness of their claim, I fear, might hardly redeem them from neglect. To the superficial observer they present confessedly very little which promises to indemnify for the labour these little beings demand; to the student of nature, however, who loves to pierce the veil which shrouds from vulgar eyes the apparent anomalies of creation, and to scan her productions of every size and feature, this unfrequented path will not be found barren. In no group, even in the phenogamous division, do we detect organs of fructification more singular or more complex. If the small size of many of this singular tribe has with some robbed them of their attraction, it is not to their want of beauty, but to the finiteness of our capacity, that the evil is to be traced. With regard to the term cryptogamia, applied in the sense it now is, it has always appeared to me a little too confined, and not a little incorrect. Whatever might be the opinion of Linnæus, it is notorious that hitherto the skill and sedulity of his followers have not succeeded in extending the system of their great master, as was once confidently predicted, throughout every department of the vegetable kingdom. Hedwig, Bridel, Smith, Hooker, and others, have indeed, by the brilliancy of their discoveries, shed much new light upon this obscure subject; much more, however, remains to be accomplished before we can draw an exact line of demarcation between cryptogamous and agamous plants. With what kind of consistency can we apply the term cryptogamia to a tribe of plants, where, after the most elaborate research, no floral organs have ever been detected? It has ever been a misfortune with the abettors of systems to generalize too indiscriminately; and perhaps it was no more

* Mr. Leland, of Halifax.

than the common parental attachment which authors bear to their system, that led Linnæus to conclude that the law of regeneration, which he was the first to detect and demonstrate in the greater part, must consequently pervade every department of the vegetable world. It was, indeed, a necessary corollary from the doctrine which he constantly maintained, that all animal and vegetable productions proceed either from egg or seed; a doctrine not borne out by facts in natural history; for how many myriads of animalcula are propagated by a different process; some by heat and putrescence; others, as the vorticellæ, e. g., multiply to an indefinite extent simply by division of the body? What reason, then, can be assigned that should exclude similar exceptions to the general law of vegetable reproduction; and why is it deemed a thing incredible that plants should be found where floral organs are absent; where, indeed, they are not wanted, because other means of propagation are provided? Has the least *well-founded* similitude to sexual organization been detected in the fungi, or algæ? if not, with what propriety can we appropriate to these the term cryptogamia; which, by its very etymology, *assumes as a datum* that such organs do exist, however they may have eluded our researches? Would not a term of greater latitude (suppose cryptogenesia, e. g.) be less liable to objection in the present crude and imperfect state of our knowledge, or at least might it not leave the question in a state of abeyance, till better evidence shall set this controverted point at rest? It has become of late a very predominant opinion that a large proportion of this class (such as the algæ, fungi, &c.) are entirely agamous, which adds to the cogency of the above arguments. Even in the genera included in the group salvinia, which, in the opinion of some botanists, *approximate the closest to phenogamous vegetation*, it is yet a matter of controversy whether the plants that rank in it have what ought to be termed pistilla or stamina. That, however, which Necker has designated in pilularia, marsilea, and salvinia, by the term besimences, (or bodies formed independent of impregnation,) has not been confirmed by the observation of others. Jussieu, e. g. has witnessed in these plants a transverse dehiscence, which he considers as anthers.

Names of Plants in the Neighbourhood of Huddersfield, continued.

TETRADYNAMIA.		2. <i>Siliquosa.</i>
1. <i>Siliculosa.</i>		158. Cardamine pratensis.
157. Thlapsi Bursa pastoris.		159. ——— amara.

157. The seeds of this plant form a favourite granary with small birds, mice, &c. 158. This has been used as a salad herb: it was for-

160. *Erysimum Alliaria*.
 161. *Sisymbrium Nasturtium*.
 162. *Raphanus Raphanistrum*.

MONADELPHIA.

1. *Decandria*.

163. *Geranium parviflorum*.
 164. *Malva sylvestris*.

DIADELPHIA.

1. *Hexandria*.

165. *Fumaria claviculata*.

2. *Octandria*.

166. *Polygala vulgaris*.

3. *Decandria*.

167. *Spartium scoparium*.
 168. *Genista tinctoria*.
 169. ——— *anglica*.
 170. *Ulex europæus*.
 171. *Anthyllis vulneraria*.
 172. *Vicia lathyroides*.
 173. ——— *Cracca*.
 174. *Orobus tuberosus*.
 175. *Ornithopus perpusillus*.
 176. *Trifolium officinale*.

POLYADELPHIA.

1. *Polyandria*.

177. *Hypericum Androsæmum*.
 178. ——— *pulchrum*.
 179. ——— *humifusum*.
 180. ——— *perforatum*.

SYNGENESIA.

1. *Polygamia Æqualis*.

181. *Tragopogon pratense*.
 182. *Sonchus oleraceus*.
 183. *Leontodon Taraxacum*.
 184. *Hieracium Pilosella*.
 185. *Prenanthes mur*.
 186. *Lapsana communis*.
 187. *Arctium Lappa*.
 188. *Carduus pratensis*.
 189. ——— *palustris*.

2. *Polygamia Superflua*.

190. *Tanacetum vulgare*.
 191. *Gnaphalium dioicum*.
 192. ——— *sylvaticum*.
 193. ——— *rectum*.
 194. *Senecio tenuifolius*.
 195. *Bellis perennis*.
 196. *Tussilago Farfara*.

merly employed as a diuretic, and latterly it has been introduced in nervous disorders, to a dram or two of the powder twice or thrice a day. 160. The leaves of this plant are very acrimonious, and are, by some writers, considered as powerfully diuretic. 161. Hoffman recommends this as useful in strengthening the viscera, and promoting the fluid secretions, &c. 162. A noxious weed in agriculture. 164. L. E. Ranked as the first of the four emollient herbs. Decoctions of the leaves are used in emollient glysters, cataplasms, fomentations, &c. 165. Fum. clavic. and officin. have both been deemed of use in obstructions of the viscera. 167. L. D. Decoctions of the tops and seeds are diuretic, and stand recommended in hydropic cases; the seeds, however, often prove cathartic. 168. The flowers have been used for a yellow dye. 171. This plant also gives out a yellow, which has been used for colouring. 180. This plant has long been celebrated as a corroborant and diuretic, and was once so esteemed as antimaniacal, as to have received the name of "*Fuga Dæmonum*." 183. Vid. Pharm. Edinb. and Lond. 187. Regarded by some as antirheumatic. Mr. Bryant, in his *Flora Dietetica*, says, that the tender stalks of this plant when boiled resemble asparagus. 190. Useful in infusions. 196. L. E. D. Useful in coughs and disorders of the lungs in general; the flowers were an ingredient in the pectoral decoction of the E. Pharm.; there is scarcely any herb more com-

197. Tussilago Petasites.
 198. Solidago Virgaurea.
 199. Chrysanthemum Leucanthemum.
 200. Anthemis nobilis.
 201. ——— Cotula.
 202. Achillea Millefolium.

3. *Polygamia Frustranea.*

203. Centaurea nigra.
 204. ——— Cyanus.

GYNANDRIA.

1. *Monandria.*

205. Orchis bifolia.
 206. ——— conopsea.
 207. ——— viridis.
 208. Epipactis cordata.
 209. ——— latifolia.

MONOECIA.

1. *Triandria.*

210. Carex dioica.
 211. ——— pulcaris.

2. *Tetrandria.*

212. Urtica urens.
 213. ——— dioica.

3. *Polyandria.*

214. Quercus Robur.

215. Betula alba.
 216. Fagus sylvatica.
 217. Carpinus Betulus.
 218. Corylus Avellana.

POLYGAMIA.

1. *Monoecia.*

219. Valantia Cruciata.
 220. Acer Pseudoplatanus.
 221. ——— campestre.

2. *Dioecia.*

222. Fraxinus excelsior.

CRYPTOGAMIA.

1. *Filices**.

223. Equisetum arvense.
 224. ——— limosum.
 225. ——— hyemale.
 226. Ophioglossum vulgatum.
 227. Osmunda Lunaria.
 228. ——— regalis.
 229. Lycopodium clavatum.
 230. ——— Selago.
 231. ——— alpinum.
 232. Polypodium vulgare.
 233. ——— Phegopteris.
 234. ——— Dryopteris.
 235. Aspidium Oreopteris.
 236. ——— Filix mas.

mon in this neighbourhood than this. 198. Fl. and fol. D. Ph. Bitter and astringent. 199. Geoffrey says that this herb, gathered before the flowers come forth, yields an acrid taste, and that it is useful as a diuretic. 200. Vid. Ph. L. E. 201. A very acrid plant, and will even blister the hands. 202. Fol. rough, bitter, and aromatic: what properties they possess are principally astringent and antispasmodic. 205. Rad. amylaceous. 213. Root, plant, and juices have been employed in hæmoptysis, hæmorrhoids, &c. 214. The common oak: fruit, bark, leaves, and cup of the fruit have all been used internally and externally for their tonic and astringent virtues. In the proportion of ʒj. to ʒiij. of axunge it is sometimes used by the poor as an ointment for piles. 222. The bark has been used in place of cinchona in intermittents, &c. 223. The E. sylvaticum also has, I understand, been gathered in Saddleworth. 227. Royal moonwort root, when boiled in water, is employed in the north of Europe like starch to stiffen linen. 229. Semina; effects absorbent. 232. Rad. taste at first sweet, then nauseous and bitter; de-

* Vide Smith's Flora Britannica.

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| 237. <i>Aspidium aculeatum</i> . | 247. <i>Pteris crispa</i> . |
| 238. ——— <i>Filix fœmina</i> . | 248. <i>Cyathea fragilis</i> . |
| 239. ——— <i>dilatatum</i> . | |
| 240. <i>Asplenium Trichomanes</i> . | 2. <i>Musci</i> .* |
| 241. ——— <i>viride</i> . | 249. <i>Sphagnum obtusifolium</i> . |
| 242. ——— <i>Ruta muraria</i> . | 250. ——— <i>squarrosum</i> . |
| 243. ——— <i>Adiantum ni-</i> | 251. ——— <i>acutifolium</i> . |
| <i>grum</i> . | 252. <i>Phascum serratum</i> . |
| 244. <i>Scolopendrium vulgare</i> . | 253. ——— <i>axillare</i> . |
| 245. <i>Blechnum boreale</i> . | 254. <i>Gymnostomum pyriforme</i> . |
| 246. <i>Pteris aquilina</i> . | 255. <i>Tetraphis pellucida</i> . |

scribed as an astringent. 239. *Polypodium cristatum* of Hudson, Withering, Hull, and many other authors; but Dr. Smith says *P. cristatum* Linnæi distinctissima species est, Siberiæ incola. 244. Sub-astringent. 246. Rad. smell nauseous; taste viscid, bitterish; effects anthelmintic

* The mosses, says an able writer, are distributed over the whole face of the globe; they abound in moist situations, and generally prefer the shade of the forest. Many grow on the stems and branches of the larger vegetables; but are not to be confounded with those noxious parasites that consume the plant to which they attach themselves; for we often find them on trees whose health is evinced by the vigour of their growth. The slender tufted fibres that compose their roots introduce themselves into the crevices of the old bark, in which there is always a greater or less deposit of vegetable mould. Their little narrow tapered pointed setting leaves collect and inhale the moisture of the atmosphere, decompose water and carbonic acid, retain the hydrogen and carbon, and reject the oxygen of the acid gas just as the leaves of other vegetables do. So far from injuring the health of the trees that bear them, in some instances they contribute to their preservation; associating in a body they close together their small delicate branches, and form those thick cushions or fenders, that, in northern regions, protect the roots and branches of the forest from the severity of the frost. Insignificant as may be the appearance of these cryptogamous beings, they are qualified to withstand every variation of season; after having defied the extremity of heat and cold they resume their verdure, and display their forms in the midst of ice and snow; nay, winter is the season when they expand. The reader will find the mosses here arranged according to the system of Hooker and Taylor.—Vide *Muscologia Britannica*.

The poor Laplanders have many uses for the mosses of which we are ignorant. Of the *polytrichum commune*, or golden maiden hair, they form beds by means of thick layers, one of which serves as a mattress, and the other as a coverlet; and Linnæus tells us that he himself often made use of such a bed, during his travels in Lapland. These mossy cushions are very elastic, so that a bed may be rolled up into a parcel small enough to be carried by the inhabitants in their journies. Of the *sphagnum palustre* (or the grey bog moss) they form a covering for their infants, and even line their cradles with this moss.

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| 256. <i>Splachnum sphæricum</i> . | 296. <i>Hypnum dendroides</i> . |
| 257. ——— ampullaceum. | 297. ——— splendens. |
| 258. <i>Polytrichum undulatum</i> . | 298. ——— proliferum. |
| 259. ——— piliferum. | 299. ——— prælongum. |
| 260. ——— commune. | 300. ——— rutabulum. |
| 261. ——— urnigerum. | 301. ——— cuspidatum. |
| 262. ——— aloides. | 302. ——— loreum. |
| 263. ——— nanum. | 303. ——— triquetrum. |
| 264. <i>Tortula muralis</i> . | 304. ——— squarrosum. |
| 265. ——— ruralis. | 305. ——— aduncum. |
| 266. ——— subulata. | 306. ——— commutatum. |
| 267. <i>Encalyptra vulgaris</i> . | 307. ——— cupressiforme. |
| 268. <i>Grimmia apocarpa</i> . | 308. ——— molluscum. |
| 269. ——— pulvinata. | 309. <i>Bryum androgynum</i> . |
| 270. <i>Weissia cirrata</i> . | 310. ——— pyriforme. |
| 271. ——— controversa. | 311. ——— carneum. |
| 272. <i>Dicranum bryoides</i> . | 312. ——— argenteum. |
| 273. ——— adiantoides. | 313. ——— capillare. |
| 274. ——— taxifolium. | 314. ——— cœspiticium. |
| 275. ——— cerviculatum. | 315. ——— nutans. |
| 276. ——— squarrosum. | 316. ——— ventricosum. |
| 277. ——— scoparium. | 317. ——— punctatum. |
| 278. ——— heteromallum. | 318. ——— ligulatum. |
| 279. <i>Trichostomum aciculare</i> . | 319. ——— hornum. |
| 280. ——— fasciculare. | |
| 281. <i>Didymodon trifarium</i> . | |
| 282. <i>Funaria hygrometrica</i> . | |
| 283. <i>Orthotricum crispum</i> . | |
| 284. ——— affine. | |
| 285. <i>Fontinalis antipyretica</i> . | |
| 286. <i>Anomodon curtipendulum</i> . | |
| 287. <i>Bartramia pomiformis</i> . | |
| 288. ——— fontana. | |
| 289. <i>Hookeria lucens</i> . | |
| 290. <i>Hypnum complanatum</i> . | |
| 291. ——— undulatum. | |
| 292. ——— denticulatum. | |
| 293. ——— murale. | |
| 294. ——— sericeum. | |
| 295. ——— alopecurum. | |

3. *Hepaticæ*.

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| 320. <i>Jungermannia epiphylla</i> . |
| 321. ——— sinuata. |
| 322. ——— asplenioides. |
| 323. ——— lanceolata. |
| 324. ——— bicuspidata. |
| 325. ——— nemorosa. |
| 326. ——— albicans. |
| 327. ——— reptans. |
| 328. ——— complanata. |
| 329. ——— dilatata. |
| 330. ——— platyphylla. |
| 331. ——— ciliaris. |
| 332. ——— varia. |
| 333. ——— julacea. |

I beg to observe, that the above catalogue of cryptogamous plants by no means comprises all that are indigenous in this district, which presents an extraordinary variety of mosses; of which the above, however, are the principal. Like other

272. *Dicranum glaucum* is also found, though rare. The *bartramia arcuata*, and the *trichomanes tunbridgense* grow in great beauty in different parts of Saddleworth and near Stayley Bridge.

321. Found in Bellbank Wood, near Bingley, and in Middleton Wood, near Leeds.

subalpine countries that are intersected with a range of hills and deep ravines, the shelving rocks and broken piles afford a convenient nidus for lichens and mosses to fix themselves *; and the stone fences that so commonly prevail are another cause of the rich profusion of this class of vegetation. There are few districts, I am persuaded, that promise so rich a harvest of brilliant discoveries in lichens, or where the botanist is so likely to meet with new species, as in this part of the Vale of Calder. At present, however, the want there is felt of a *scientific work* on this abstruse subject, (which should settle the arrangement of the lichens with the same precision that has been employed in the mosses,) presents serious difficulties in the study of this class. To whom can we so well look to for the removal of this difficulty as to the able author of the *Muscologia Britannica*? And though we possess many foreign works on the subject of the algæ and fungi to a similar source, I trust we shall owe a treatise on these obscure classes in our own language, which will supply what has so long been an “hiatus valde deflendus.” In taking leave of the subject of the natural history of this district, I congratulate the world on the prospect† of a brighter era, which seems to dawn upon us in the awakened attention of the scientific world to this fascinating study. To the contemplative mind it can never lose its attractions; and to professional persons its intimate alliance with their art will always render it en-

* We know, indeed, very little of the utility of the lichens; it is certain, however, that were it not for them, many rocks, which are now clothed with verdure, would continue to present a dry and barren surface. On these spots the lichens yield the first covering: to the decay of these the growth of musci succeeds, which, by conversion into mould, became the pabulum of the grasses and other minor plants. By a similar law the sphagna of marshes in process of time change into a very porous mould, into which the rush strikes root, and subsequently a foundation laid for other plants, so that from marshes have sprung up meadows; and thus it is that these diminutive plants perform a most important function in pioneering the way to more exalted vegetation.—The blasia also has been discovered in this district. Dr. Linnæus, in his Inauguration Speech, says, “Who ever beheld or described our diapensia? Who the blasia, unless Micheli alone?” I have not inserted this in the above list, doubtful whether it belongs to the jungermannia or to another class.

† The many literary and philosophical societies that are now instituted in different parts of the kingdom are a proof of this. A society formed for this purpose, and for the advancement of the arts and sciences in general, is now on the point of being formed at Leeds, and the splendid patronage which it has received bespeaks fully the public opinion of its importance.

gaging. But whatever be the subordinate motive of attraction in entering the vestibule of this great temple of nature, let the first object be to interpret rightly her secret operations; and, while we survey with delight her spacious area, her lofty pillars, her magnificent dome, let us not forget to trace the harmony and unerring proportion that pervades every apartment of this beauteous edifice, in which all faithful interpreters will recognise the finger of that invisible Almighty Architect, who sits enthroned on the riches of the universe.

III.

Case of Amputation of the Upper Arm. By JOHN BURGIS, Surgeon, Market Drayton, Salop.

I WAS called in to a case some time back, wherein amputation of the upper arm became ultimately necessary, the lower one, from the elbow, having gone into a state of complete mortification. It was the consequence of the wheel of a waggon, heavily laden, passing over it at the bend; by which all the superficial vessels were divided as well as nerves, the bellies of several muscles (the supinator radii longus, the pronator radii tenes,) were nearly severed, and the humerus fractured at its flattened extremity, immediately above the condyles. The subject was a young girl, aged about fourteen; and in addition to the injury she sustained in the arm, the leg of the same side was also greatly crushed, but no bones broken. There was a deep confined wound about the middle, anterior and inner side of the tibia, (occasioned by the turned up portion of one of the horse's shoes,) with a contused sprained ankle. For many days the leg threatened to go into the same state as the arm, several livid coloured vesicles making their appearance about the outer ankle, and the discharge from the wound long continued bloody and ichorous.

The accident happening in the country, some hours had elapsed before I saw her, by which time inflammation and tumification had taken place to such an extent, as to render amputation improper till that and the sympathetic fever had subsided.

For the first six days the arm bore a very favourable aspect, considering the extent of injury; the discharge, though great, was not ichorous, or particularly offensive, and healthy granulations had actually begun to arise. She could also bear the arm shifted about, so as to almost have justified the assertion that no bones were broken; and I began to entertain hopes that it might be saved, at least with an anchylosis.

In two more days, however, all prospects of so favourable

a termination had vanished ; the discharge had become acrimonious, exceedingly offensive ; the granulations flabby, pale ; and the humerus was first discovered denuded of its investing vital membrane.

The ninth day, in the evening, things bore a still more unfavourable appearance, so that speedy amputation became the only means left to save life, which I determined on performing the following morning. The stench emitted from the wound rendered the room, and almost the house, insupportable : the lower arm appeared rapidly parting with its *heat* and *sensibility*, and the wound itself looked *green* and *tainted*. The probe could also traverse the *humerus bare* for above two inches upwards. Joined to this, night perspirations and a weakening diarrhœa had existed for the last three days, with thirst and loss of appetite. The leg also occasioned much pain, as it had not put on a determined character whether it would sphacelate or take on an healthy action.

The tenth day, in the morning, the arm, from the wound downwards, was *cold, livid*, considerably inflated with fœtid gas, and the cuticle easily separated under the fingers on the slightest pressure. I looked upon the wound to form a sufficient line of demarkation, every portion of the integuments above it appearing healthy, but I feared the bone was diseased to some extent.

Every necessary arrangement being made, and the patient removed from bed on a table, the arm was extended, and the tourniquet applied almost up in to the axilla, as I intended operating as high as I had arm to do it with, in order to secure an healthy portion of bone.

I made my first incision at *one stroke down to the muscles*, about an inch and a half below the insertion of the deltoid, and separated the bone about the insertion of the said muscle. The arteries being secured, (three in number,) the stump was dressed in the usual manner ; the patient was put to bed, and an anodyne administered. The tourniquet was left loose about the stump, ready to screw on in case of hemorrhage.

The hectic symptoms now soon left her ; a healthy action became established in the leg, which suppurated, broke, and discharged a great quantity of healthy pus from several apertures.

On the fourth day from the operation I removed the dressings, which were become offensive. The stump looked healthy, and promised to unite by the first intention.

On the sixth day it had acquired somewhat of its *old factor*, was *quite open*, and appeared going into a *sloughing state*, the discharge turning the dressings black.

On the seventh day I removed several *sloughs* from the

face of the bone, which looked black, as though it would exfoliate. She was allowed bark, wine, camphor, and carbonate of ammonia liberally.

On the eighth day the ligatures separated; more sloughs came away, leaving the end of the bone barely covered with the common integuments.

On the ninth day the discharge appeared improved; the inside of the wound looked much healthier, promising to terminate favourably. The next day appearances were still more favourable; and in twelve more the stump healed up without any exfoliation taking place from the bone, and it continues sound to this day, being nearly three months since the performance of amputation. The leg is also well, and the girl enjoys a good state of health.

On examining the removed portion of arm, the humerus was found fractured, as before observed; and the periosteum was sloughed away, and separated from the bone by depositions of matter to within three-fourths of an inch of the severed extremity. The most striking phenomenon was the obliteration of the brachial artery, which had become completely ulcerated through, at the site of the wound, the coats of which must have been injured at the time of the accident; and this explains at once the rapid change for the worse which took place from the sixth day; the collateral branches proving, in this instance, unequal to supply the loss of their parent trunk. But is it not somewhat surprising, hemorrhage did not occur?

IV.

On Puriform Discharges from the Ear. By J. H. CURTIS,
Surgeon, Soho Square.

OF the diseases of the ear, one of the most obstinate and perplexing to Practitioners, is that attended with a puriform discharge, and so termed from this circumstance. The last stage of this affection, Mr. Saunders, in his excellent Treatise, has stated to be generally incurable. With all deference to so great a character, this I consider rather owing to his not having sufficiently varied his remedies and pushed them to the required extent, than from the real incurable nature of the malady. The injections used by Mr. Saunders I have found generally too weak in the proportions of the ingredients employed; and I have found it also necessary to vary the combination of the ingredients much more than he had thought it proper to attempt. It is only by an extensive experience that we get acquainted with what the ear or any

other organ is able to bear ; and I have had opportunities, at the Dispensary, of putting every mode of practice to the test. The same observations I have made in respect to the local remedies, apply no less to the constitutional treatment, which requires here to be actively and constantly attended to. The success of the practice I have adopted in this disagreeable and obstinate complaint cannot be better illustrated than by the recital of a few cases, selected from the records of my practice, in the order in which they have occurred.

Miss B., of St. John Street, aged twenty-six, had been from her childhood affected with deafness and a puriform discharge from one ear : after having been under the care of several eminent Snrgeons in town for upwards of two years, without relief, she applied to me. On inspecting the ear, I found the meatus much excoriated by the discharge, which was very profuse and offensive ; the tympanum I observed was partly destroyed, as air could be forced out at the passage. In other respects the ear appeared perfectly sound. Adopting my usual plan of not stopping the discharge hastily, I ordered a blister to be applied behind the ear, which was kept open for a fortnight : after which the patient used an injection of zinci sulphas ; but this not appearing to have the desired effect, I had recourse to the argenti nitras, as recommended by Mr. Saunders in cases of this nature : the patient began by using ten grains in four ounces of water, and I increased it to the extent of thirty-five grains, which completely healed the parts ; and I had the farther satisfaction, at the same time, to find her hearing restored.

It may be necessary, perhaps, to mention that it took nine months to complete the cure.

A similar case of a young Nobleman yielded also to this treatment ; but his case, though not of so long standing, I at first sight considered more difficult of cure, from his having a polypus extending directly across the meatus, which I removed with an instrument I had constructed for the purpose : immediately after the operation he was enabled to hear ; but the discharge continued for some time, though at last it was happily suppressed.

Another case of the same nature occurred also in a Lady of distinction, brought to me by her Physician, whose hearing was defective in both ears in consequence of a puriform discharge. This case yielded in a short time to a varied combination and change of injections, consisting of solutions of zinci sulphas, plumbi superacetas, cupri sulphas, argenti nitras, joined occasionally with camphor and opium.

A great number of cases of a like description have come

under my observation, as already stated, at the Dispensary, and have yielded to a similar plan, properly persevered in for a length of time.

The above cases, then, I trust, will sufficiently prove that diseases of this nature are curable where a proper plan of proceeding is persevered in.

V.

Case of Fever, successfully treated by the free Use of Bottled Porter. By HENRY WHITMORE, Surgeon, Great Bath Street, Clerkenwell.

I HAVE been induced to transcribe for publication the following case of fever of the typhoid character, wherein the free use of bottled porter seemed to arrest the progress of this disease more speedily, although given at an advanced stage of it, than any other remedial process I ever saw employed: the recovery too was far more rapid than is usual from such attacks of fever. How far the success of this treatment may have depended upon the quantity of carbonic acid gas contained in the stimulating fluid employed, or the peculiar tonic property of it, I leave to the discrimination of the reader to decide. Perhaps it is more fairly referrible to their happy combination; for I am not aware of any substance whatever which has at any time been exhibited in fever, capable of imparting such tone to the system, (the loss of which seems chiefly to constitute the malady,) and at the same time to convey so much of the carbonic acid gas as *very good* bottled porter.

On the 6th ultimo I was called to the only child of Mr. Cook, No. 5, Lane's Court, Warner Street, aged five years. I found her in a very febrile state, having flushed countenance, tongue white, skin dry and parched, pulse quick and wiry, with constipation of the bowels; which last symptom was removed by giving two powders, each containing pulv. rhei et hydr. submur. āā grains iv. given at an interval of four hours; an antimonial powder was administered at bed-time.

7th.—A gentle diaphoresis may be felt; pulse less hard; in all other respects the same: gave saline mixt. and rep. powder at night.

8th, 9th, and 10th.—Mixture continued without the powder at night.

11th.—Was called to my patient early this morning, a material alteration for the worse having taken place in the night; found her muttering, unconscious of passing events; tongue brown, encrusted, rough, hard, and dry; no thirst; pulse fluttering, at somewhat more than 180; countenance

dejected and pale, save a fixed patch of red on the centre of each cheek; extremities cold: applied a blister to the spine; warm poultices of vinegar and linseed powder to the feet; and gave one of the following draughts every four hours:—

℞ Mist. Camph. ℥ss.
 Ætheris rectific. gr. x.
 M. ft. haust.

12th.—Six of the draughts have been taken; patient to all appearance worse; an entire loss of animal heat; a cold clammy sweat pervades nearly the whole body; pulse not to be counted, or rather not to be felt at the wrist; tongue quite black and hard; removed the blister, it had risen well and discharged much: a little wine was attempted to be given, but which was steadily and clamorously refused by the patient: a bottle (℥ij.) of very good porter was then procured, which was eagerly drank by my little patient in the course of the day, taking a tea-cupful at a time. The enema fermenti was administered at night.

13th, seven A. M.—Countenance somewhat improved; an imperfect return of sense; knows every body about her, though unable to speak; flushes of heat are sometimes thrown over the body; pulse still imperceptible at the wrist; ordered another bottle of porter to be procured immediately, and given *ad libitum*; the poultices to be continued to the feet, and another to be applied over the region of the heart.

Ten P. M.—The whole of the porter has been taken; patient in every respect much better; has responded to the calls of nature as she was wont to do; has spoken several sentences correctly; much heat; pulse can be distinctly felt at about 120; eyes suffused; tongue white at its edges, with a dark brown streak down its centre; much watching and restlessness, together with a very troublesome cough; ordered the porter to be discontinued, but gave no medicine.

11th.—Patient has had a very good night, and seems much refreshed by sleep; tongue much cleaner; a gentle moisture on the skin; has taken nourishment with avidity; cough very troublesome: ordered mist. amygd. c. oxym. scillæ.

12th.—Found her sitting up; cough better.

13th and 14th.—Progressively recovering.

15th.—Took leave of my patient.

On reading over this case, I find I have omitted to mention a practice which was attentively pursued through the whole of the febrile paroxysm, viz. sponging the body frequently with equal parts of warm vinegar and water.

VI.

A General View of the Diseases usually occurring in Boys during the Period between Infancy and Puberty, deduced from Observation of those in Christ's Hospital. By HENRY FIELD, Member of the Society of Apothecaries in London, and Apothecary to Christ's Hospital*.

[Continued from page 301, Vol. X.]

TABLE OF DISEASES.	1818 Sept.	1818 Oct.	1818 Nov.
1 Cynanche tonsillaris	1	....	3
2 Febris Synochus	1	1	....
3 ——— Catarrhalis .....	....	1	....
4 Tussis Catarrhalis .....	....	....	3
5 Pleurodyne .....	....	....	1
6 Rheumatismus .....	....	....	1
7 Obstipitas Catarrhalis .....	....	1	....
8 Odontalgia Catarrhalis .....	....	1	....
9 Otagia .....	....	....	1
10 Cephalœa .....	....	....	1
11 Obstipatio .....	....	1	2
12 Nausea, Gastrodynia, Diarrhœa	2	4	5
13 Varicella .....	....	1	....
14 Herpes Pustularis .....	....	2	....
15 ——— Zoster .....	....	1	....
16 Prurigo Mitis .....	....	....	1
17 Scabies	6	....	5
Totals	10	13	23

The autumnal season has been unusually warm; very few days have occurred that could be called cold, even to the close of November. The wind has been generally between west and south. Much rain has fallen; and vegetation has been uncommonly rapid, giving the earth the appearance of Spring, rather than the approach of Winter.

The boys of this School have been, during the present period, extremely healthy.

The termination of the fifth year of these reports gives me

* This report was transmitted for insertion in the preceding Number, but was omitted by mistake. Our readers, while they feel obliged to Mr. Field for the series of valuable communications with which he has favoured the REPOSITORY for so long a time, will doubtless lament the announcement that the present Paper is to be the last of the kind.

an opportunity of observing, that the number of boys admitted into the Infirmary as medical patients has been only 260, much below the general average, and thirty-six fewer than in the preceding year. The deaths have been only three: one from mesenteric atrophy; one from phthisis pulmonaria; and the other consequent upon pertussis, terminating in suppurative inflammation.

The only disease of any consequence which has taken place, has been pertussis. Several of these cases were severe, and one of them terminated fatally, as already mentioned. Some instances of croup occurred in February.

Having continued these reports during the space of five years;—a time which appears to me sufficiently long to give a fair view of the diseases usually to be expected among boys during the period between infancy and puberty, particularly when the extensive scale upon which such reports have been founded is taken into consideration;—I am now about to take my leave of the medical public.

As little more has been attempted than a faithful detail of facts, and as nothing can have a stronger tendency to promote the healing art than the accurate delineation of facts, I flatter myself that these endeavours to add to the stock of medical knowledge have not been altogether unavailing. If such has been the case, my labour has been fully compensated. I have only to add, that if any thing new or peculiarly interesting should hereafter occur in this department of medicine, I shall readily take an opportunity of communicating it.

DEPARTMENT OF NATURAL HISTORY, &c.

On the Animals of the Class Vermes in general, and on the Intestinal Worms of Mankind in particular. By S. F. GRAY.

[Continued from page 33, Vol. XI.]

ORDER II.—*Vermes rigiduli.*

Body slightly stiff, so as to be rather elastic, naked, cylindrical, thread-shaped, mostly regular.—The internal construction of these worms is more perfect than that of the last order; the intestinal canal has always two apertures, although, on account of the transparency of the animal, and the smallness of the openings, they are frequently difficult to be perceived: and it is in these worms that Nature seems first to have established a new system of generation decidedly sexual.

20. ECHINORHYNCHUS, Zoega; *Acanthrum*, Acharius.

Body long, cylindrical, sack-like; *proboscis* terminal, single, retractile, furnished with hooks, in one or more rows.—Of this genus no less than sixty-two species have been described, all intestinal; but happily none are found in man. One species called *E. Gigas* is very common in swine, the male being about three inches long, and the female from six to fifteen.

21. POROCEPHALUS, Humboldt. *Body* cylindrical, not jointed, rather club-shaped, the fore-end variously deformed and contracted; *proboscis* terminal, contractile; *hooks* five, crooked, retractile, lying hid in a groove under the proboscis.—Only one species is known, found by Humboldt in an American serpent.

22. LIORHYNCHUS, Rudolph. *Body* long, cylindrical, rather stiff; *mouth* terminal, obtuse; *sucker* tubular, without any valve, emitted from, and retracted into the mouth at pleasure.—Only three species are known, all intestinal.

23. STRONGYLUS, Muller. *Body* long, cylindrical; *hind-end* narrower, terminated in the males with a purse, with a short style, but in the females quite plain.—Thirty-four species have been described, as found in the oesophagus, intestines, and kidneys of animals. One only is found in man.

S. gigas. Head obtuse; mouth girt with six flattish nipples; purse of the male truncated, whole; tail of the female rounded.—Found in the kidneys of men, horses, oxen, &c.; from five inches to three feet long, and from an eighth of an inch to half an inch thick, the female smaller than the male; generally red and filled with blood; but in the suppurated kidney of a horse, a very large one was found of a white colour. Has been confounded by some with the *ascaris lumbricoides*, or round worm.

24. CUCULLANUS, Muller. *Body* long, cylindrical, the fore-end obtuse, the hind-end narrower; *mouth* terminal, covered with a striated cowl.—Generally found in the stomach and intestines of fish; only eleven species have been described.

25. ASCARIS, Hippocrates; *Fusaria*, Zeder. *Body* long, cylindrical, narrow at both ends; fore-end three valved; *mouth* terminal, very small, covered with rounded valves.—This is a numerous genus, of which twenty-seven species have been already described. They are generally found in great numbers together in the stomach and intestines of animals. One is found in man.

A. lumbricoides. *Body* furrowed on each side; tail rather blunt.—Grows in man from an inch and a half to fifteen inches long; colour various according to the food lately taken; oviparous; but several authors, deceived by the genital organs being prolapsed, have described it as vivi-

parous; easily expelled by purgative medicines, especially the oily ones.

26. *FISSULA*, Lamarck; *Ophiostoma*, Rudolph. *Body* long, cylindrical; the hind-end narrow, the fore-end two-parted; *mouth* terminal, two-lipped; *anus* near the tip of the tail. — This genus of worms was confounded with the ascarides, from which they differ in the form of the mouth; three species are only known, either intestinal or found in the air-bladders of trouts.

27. *TRICHOCEPHALUS*, Goez; *Mastigodes*, Zeder. *Body* long, cylindrical; the hind-end thicker, rather club-shaped: the fore-end much narrower, nearly hair-like; *mouth* terminal, round, very small, scarcely distinguishable. — Nine species have been described, all intestinal, but only one is found in man.

T. hominis. Hair-like and very long, head acute, indistinct; the body of the male rolled up spirally, of the female nearly straight. — Called by Rudolph *T. dispar*, from the difference observable in the sexes. Found in every human subject examined by him, and once in the large guts of a woman to the number of a thousand and more. These worms are from an inch and a half to two inches long, the hair-like part being two-thirds of the length; the male is a little smaller than the female; usually found in the colon and cœcum, rarely in the small guts.

28. *OXYURUS*, Rudolph. *Body* long, cylindrical, growing narrow behind and becoming awl-shaped; *mouth* terminal, naked, round. — These worms have been confounded with those of the former genus. But two species have been accurately determined; one found in man, and the other in the horse.

O. vermicularis. Head blunt, with a membrane on each side like a bladder; tail awl-shaped. — Found in great numbers in the large guts, especially of young persons, chiefly in the rectum, from whence they sometimes crawl into the vagina; when full grown they are nearly half an inch long, slender, white, and very elastic. Has been frequently confounded with other species. Redi has figured (Tab. x. fig. 5.) the larvæ of a musca for this worm. Coulet confounds it with the separated joints of the tœnia. Linnæus mentions an ascaris pollicaris, which is certainly a tricocephalus, or the ascaris lumbricoides above mentioned. Bloch cites Wuff's Medico-Chirug. Obs. lib. ii. cap. 4, for a number of ascarides having been found enclosed in a sacculus between the coats of the stomach, but Rudolph supposes these to have been rather strongyli.

29. *HAMULARIA*, Treuttler; *Linguatula*, Schrank; *Ten-*

tacularia, Zeder. *Body* long, cylindrical, nearly equal throughout, stiffish; *mouth* below the fore-end, having two thread-shaped suckers like tentacula. — Three species only are known, all intestinal, and one found in man.

H. subcompressa. Rather compressed, the fore-end narrower. This species was found by Treuttler, in the winter of 1789, in the preternaturally enlarged bronchial glands and in their absorbent vessels, of a young man 28 years old, who died exhausted by excessive venery. About an inch long, brown variegated with white, nearly transparent towards the hinder-end.

30. *FILARIA*, Muller; *Capsularia*, Zeder. *Body* cylindrical, thread-shaped, equally thick throughout its length, smooth, frequently very long; rather stiff; *mouth* terminal, round, very small. — Forty-three species have been described, all found in animals, but more frequently in the cellular texture and the membranes than in the intestinal canal. One is found in man.

F. Medinensis. Very long, margin of the mouth tumid, acumen of the tail bent. — From two to eight or twelve feet long, chiefly found under the skin in the cellular membrane, especially in the feet, and, very rarely, even in the tunica conjunctiva of the eye. Grows to the thickness of middling packthread. Endemial in the warm regions of Asia and Africa. Its name arises from its being common at Medina; but in England we more usually call it the Guiney worm.

31. *GORDIUS*, Linnæus. *Body* cylindrical, thread-shape, equally thick throughout its whole length, smooth; *mouth* *anus* — The difference of these worms from filaria is not properly known; they are not found in animals, but live in water, or the mud and sand of the shores, twisting themselves into knots, and then again untwisting themselves.

ORDER III. — *Vermes hispidi*.

Body furnished with silky threads, or spines on the sides. None of these worms live in the bodies of other animals, but crawl at the bottom of the water. The lateral spines or ciliæ distinguish them strongly from the other two naked orders; yet it is not probable that they possess any system of circulation, or that the lateral appendages are true gills, or that they have any real sensation, or are even oviparous, but only gemmiparous.

32. *NAIS*, Gmelin. *Body* creeping, long, linear, transparent, flat: garnished on the sides with scattered silky threads, either simple or in bundles. — The mouth is sometimes a mere slit, sometimes a hole with two lips. Lamarck only enumerates three species as certainly belonging to this genus.

33. *STYLARIA*, Lamarck; *Nereis*, Linnæus. *Body* creeping, linear, transparent, with silky threads on the side; *fore-end* split in two, with a style-like proboscis springing from the fork; *anus* terminal.—The only species enumerated by Lamarck in this genus, is the *nereis lacustris* of Linnæus.

34. *TUBIFEX*, Lamarck; *Lumbricus*, Muller. *Body* thread-shaped, transparent, ringed, or in some measure jointed with small spires on sides; *mouth* and *anus* towards the extremities.—These worms live in tubes sunk in the mud or sand of the shores; they have been mentioned by some authors under the name of *lumbrici*.

EPIZOARIÆ.

Body soft, or in some cases covered with a slight crust variously shaped, head doubtful, feet none, but often various appendages of different forms, not jointed; form symmetrical, with the first rudiments of parts in pairs; *mouth* sucking, with tentacula or armed with hooks; organs of sensibility, respiration, and fecundity unknown.—These animals appear to be the rudiments of a new class of animals to be inserted between the vermes and annelides; they are externally attached by their suckers to the bodies of animals, and live by exhausting them of their blood or other fluids. It is in them that the radiated system of the inferior animals is totally abandoned, and the system of parts in pairs of the superior animals is begun to be employed. Very few are known at present.

1. *CHONDRACANTHUS*, De La Roche. *Body* oval, not jointed, narrow below, covered on the upper part with cartilaginous spines; *eyes* none; *mouth* under the anterior extremity, sucking, armed with two forked hooks and two short tentaculas.—Found on the gills of the doree.

2. *LERNÆA*, Linnæus. *Body* soft, oblong, cylindrical, sometimes inflated and irregular, destitute of limbs; *mouth* sucking retractile, under the fore-end; *tentacula* two or four, simple or branched, sometimes wanting; *false ovaria* two, behind, external, hanging, filled with egg-shaped gemmules.—Of these there are several species, all adhering either to the gills, the lips, or the fins of fishes: the *l. branchealis* found on the gills of the cod is eaten by the Greenlanders.

3. *ENTOMODA*, Lamarck; *Lernæa*, Linnæus. *Body* soft or somewhat hard, oblong, rather flat; *limbs*, on the side, symmetric, not jointed; *mouth* sucking, under the fore-end; *tentacula* none, sometimes two small horns; *false ovaria* two, external, hanging to the hind-end; *anus* terminal.—These are found, like the last mentioned worms, adhering to fishes.

It remains to say a few words respecting the intestinal worms in particular. From the preceding enumeration about 600 have been discovered and examined, so as to be reduced to their proper families: forty-five others are mentioned by authors, but in such a manner that they cannot be referred to any genus.

The principal intestinal worms found in man have been long known: Hippocrates mentions the *ascaris lumbricoides*, and the *a. vermicularis*, in his Aphorisms; and in his work on diseases the *tænia solium* is compared to cucumber seeds. Pliny mentions a *tinea* (*tænia lata*), of 300 feet long! Aretæus first mentions the existence of hydatides in hydropic persons. Avicenna is the earliest writer who notices a worm as living under the skin, probably the *filaria Medinensis*. The remaining species have only been observed occasionally. In what manner they are first introduced is utterly unknown; certainly, however, not, as has been supposed by some, from outwardly, as similar worms do not occur out of animal bodies; and they have frequently been found in the human foetus and those of dogs, sheep, and fowls: hence other naturalists of great name still retain the doctrine of spontaneous generation, and affirm, that the production of these worms is peculiarly favoured by the youth of the subject, their being of the weaker sex, and the weakness of the particular. Although mankind are subject to worms, yet they are by no means equally so with other animals: the larger worms are usually single, except the *ascaris lumbricoides*; and as to the *ascarides vermiculares*, which last seldom exceed a thousand, they are simply immersed in the villous lining of the intestines; but in other animals worms are frequently found in far greater numbers, so that the lungs, kidneys, and other viscera are entirely corroded by them. In fowls, and especially water fowls, the intestines are frequently stuffed out with *tæniæ*; and their number in the red-throated diver requires ocular demonstration to enforce belief; the whole intestinal tract from the fauces to the anus being turgid with worms of eight different species.

The symptoms from whence the presence of worms in the human system are prognosticated are for the most part fallacious, and common also to scrofula and a weak habit of body; which, as before stated, is favourable to their production. The *ascaris lumbricoides* and the *tænia* sometimes occasion spasmodic affections; the *ascaris vermicularis* produces very troublesome itchings of the anus and genitals; and the *filaria Medinensis* is known by the subcutaneous pains to which it gives rise.

In respect to anthelmintics, experiments made with living worms have shown that those which live in warm-blooded animals soon die in cold water, while those of cold-blooded animals are frequently found crawling amidst the frozen viscera, and may be kept alive for several days in cold water: they are killed in spirit of wine, sooner or later according to its strength: the mild oils, if not too cold, do not shorten their life out of the body; indeed Coulet found that he could not keep the gourd worms alive so long in any fluid as in oil of almonds, in which they lived for 24 hours; but in the foetid empyreumatic oils no worms have been found to survive a few minutes. In water rendered bitter with aloes the *ascaris lumbricoides* lived half as long as in warm water, but in rose water or orange flower water one-sixth of the time, and the smaller *ascarides* died almost immediately in the two latter fluids. In wine they lived longer than in warm water, but soon perished in simple syrup.

From these experiments we are led to the following practical conclusions. Cold water in copious draughts, (which may be rendered at once more agreeable and more efficacious by the addition of rose water or orange flower water,) is one of the simplest anthelmintics: and from this we may explain the effect of water in which quicksilver had been boiled, used formerly, and probably with success, but rejected by the moderns because quicksilver is not soluble in water; upon which solution, however, it is now known that the effect does not depend: also the unforeseen dejection of worms, even *tæniæ*, when in febrile diseases copious dilution with cooling drinks has been resorted to. The foetid empyreumatic oils are the most efficacious vermifuges known, the intestines being previously cleansed by a brisk cathartic, such as the *oleum buxi*, *oleum lateritium*, and *oleum petrolei Barbadosensis* of the London Pharmacopœia, (editions before 1788.) Of which the *ol. laterit.* alone remains in the shops, being retained by the farriers as a vermifuge; but as it is seldom possible to persuade a human patient to swallow a second dose of these oils, that of turpentine is at present substituted for them: even the farriers so far study the palates of their equine patients as to give to the better kind of horses the Barbadoes balls, made of undistilled petroleum. In animals which have been killed by a strong dose of camphire, most of their intestinal worms have been found dead, and the *tæniæ* expelled as far as the rectum, which in common cases they do not enter. *Semen cinæ*, tansey seed, *helminthocorton*, cabbage-tree bark, and Indian pink root, are also used with success against the *ascaris lumbricoides*: the two latter, however, are in general

so violent in their operation as to require great care in their exhibition. Besides these, the filings of tin, the down of cowhage, and pulverized charcoal, are used as mechanical agents to dislodge worms, by irritating them, and thus rendering them more easy to be carried by the stools. It is doubtful whether the powder of fern root used against the tenia, is to be considered as acting upon them in a deleterious or mechanical manner. The ascarides vermiculares are, from their situation, little affected by medicines taken internally, and can scarce be got rid of otherwise than by injections of water or barley water in as large a quantity and as cool as the bowels will allow, by which they are soon expelled; the use of oily clysters being less efficacious. The filaria Medinensis requires manual extraction by a careful hand lest it should break. A few families in the East Indies possess the secret of a vegetable poultice which causes the worm to crawl out in the course of a single night, but object to the revealing of the plant, as it forms the only resource of their families.

In a future paper it is my intention to mention the species which are found in our common domestic animals, as an exercise for the younger members of the profession to employ themselves in collecting and preserving.

PART II.

ANALYTICAL REVIEW.

I.

Sketches of the Philosophy of Life. By Sir T. C. MORGAN, M.D., Fellow of the Royal College of Physicians of London.

THIS is no every-day performance. With Sir Charles Morgan's postulata, in respect to the omnipotence of organization, we are by no means disposed to accord; but, while we radically object to many of his inferences on the great question of mind and matter, we are, at the same time, ready to allow that his work displays throughout indications of a very superior understanding: "Swift, (says an epigrammatist) for the ancients has argued so well, 'tis apparent from thence that the moderns excel." We might perhaps with propriety ven-

ture upon the same kind of point in reference to the ability shown by the author before us; and maintain, that mind is evidenced by the very ingenuity of argumentation employed to establish its non-existence.

Into these controversial points, however, it is not our present design to enter. Metaphysiology is very well in its way, but our readers would not be thankful to us for furnishing them with a large supply of it; and in the following critical notice of Sir Charles Morgan's production, we shall principally confine ourselves to those particulars about which both the mentalist and materialist may think pretty nearly in the same manner.

In the preliminary remarks that are affixed to this book, the author we find taking the same ground with the late Dr. Beddoes, in reference to the prospect of moral improvement in the habits of mankind, from an unprofessional cultivation of organic physiology. It is obvious enough that the discussion of this problem would be also in some measure out of place if introduced into the pages of the *MEDICAL REPOSITORY*. We shall therefore lay this business likewise on one side, and proceed to the medico-physiological part of the interesting volume before us.

Sir Charles Morgan first animadverts on the character and causes of organic combinations; and in the following extract, on the subject of equivocal generation, we find a pretty correct sample of his mode of treating these topics; the very agitation of which is supposed to involve much more in the way of consequence than it actually does.

“ Whether, in the existing state of things, equivocal generation, or the spontaneous combination of the elements in organic forms, be in any case possible, is a question that admits of some doubts; as far as direct observation has extended, living organizations have uniformly been found to originate in germs, produced within the economy of other similar individuals previously existing. But there are many species, concerning whose production nothing positive is known; either their extreme minuteness, or the circumstances under which they are developed, precluding experimental investigation. The infusorial microscopic animals, the plant which discolours stagnant water, the vegetation termed *mouldiness*, hydatids*, and other animal-

* Hydatids are small animals of a vesicular form, arranged by Cuvier among the tape worms. They are generated *in the very substance* of different viscera of men and the higher animals. They are frequently found in the brain of sheep; in which situation they cause vertigo, speedily followed by death. If these and similar parasitical animals are the products of germs swallowed with the food, and de-

culæ, developed in diseased structures, or in fluids, the products of human industry, start into existence under conditions in which the supposed presence of germs is attended with manifold difficulties. The maxim of *omne animal ab ovo* is undoubtedly founded upon a very general analogy; but it is perhaps more deeply rooted in certain other doctrines, to which interest and passion have given inveteracy. Between these opinions there is no *necessary* connexion: but were it otherwise, the supposed consequences of an opinion form the feeblest arguments that can be opposed against its probability. In the present state of knowledge, therefore, the question cannot be considered as perfectly at rest."

In proceeding to the consideration of those laws which influence the integration, if we may so express it, of an organized being, our author tells us that "all substances are not indifferently adapted to the business of assimilation: each species of animal and plant is nourished by food rendered analogous to it by a peculiar constitution:" and he goes on to state, that as alimentary matter must necessarily contain one or more of the four elements, carbon, hydrogen, oxygen, and azote; metals are therefore totally incapable of becoming organized. When treating on the curious and disputed question respecting the assignment of perception to plants, Sir C. Morgan makes loco-motion the pivot upon which the distinction should turn, between mere organic susceptibility to impressions from without, and positive sensation. "This dispute, (he says) like many others, is, perhaps, merely verbal, and dependent upon the greater or less degree of latitude attached to the word perception." That class of beings, however, termed zoophytes, evidently furnishes a difficulty to the physiologist when he is endeavouring to draw the line of demarcation between the vegetable and animal tribes of being; for although many of these, "like plants, are divested of locomotive powers, and remain fixed to the spot upon which they are produced," their peculiarities seem at the same time to denote a lower degree of that faculty which is conceived to be absolutely distinct in its nature and essence from mere organic irritability.

Having mentioned the principal circumstances connected with the development, progress, and maintenance of organized structure, the author goes on to assert that

"In proportion as this system is more perfect, as the vascular, re-

posited by the circulating fluids, they must either be capable of an independent existence, or their germs must have been preceded in the order of creation by those of the animals in which they were destined to be developed.

spiratory, and digestive apparatus are more complete, the animal is exposed to derangement from a greater variety of accidental causes. If, therefore, the development of intellect had not kept pace with the structural complexity, and thus furnished a principle of counteraction proportionate to the increase of danger, man and the higher animals, instead of commanding upon the face of the earth, would have been the first species in the system of nature to disappear from its surface."

Whether this be quite a correct assumption, admits, to say the least, of much doubt; the fact, however, of the increase of susceptibility to external impression, in proportion to the progress and development of intellect, is very remarkable, and constitutes quite a sufficient reply to those speculators who talk of a want of foundation for the medical art. If we abide by nature in one particular we must in all others; and thus revert from social to savage existence.

From the laws of assimilation and organic combinations, our author proceeds to take a view of the constituent portions of an organized being; "the concurrence of a solid and fluid," he tells us, "seems necessary to vitality; and the influence of these parts is evidently reciprocal. For as the fluids are at once the materials from which the solids are formed; so the solids, on the other hand, by their living energy, elaborate and concoct the fluids." But

"It is a law of living energy that its exertion is attended with a condensation of the substance of the organ in which it takes place. The earlier, therefore, a subject be examined, the greater will be the proportion of fluids in its composition. The superior density of particular organs exposed to constant and violent action, the hardness of the palms of labourers, the solidity of the muscles in the arms of smiths, afford marked instances of the operation of this law.

"This progressive induration of the solids, though at first it carries the body from feebleness to strength, eventually causes a rigidity of fibre incompatible with the healthy action of the capillaries. At the same time that the nutritive functions are thus obstructed, the nervous fibre is rendered less susceptible of impressions, till at length the movements become embarrassed and are suspended, and the machine is delivered over to the exclusive dominion of physical causes."

One of the greatest difficulties which the physiologist finds in contemplating the parts of an organized being is constituted by the apparently complicated structure of even the minutest conceivable portion of the frame. "The slightest puncture made with a needle in the skin will excite pain, and will draw blood. Upon this spot, therefore, are assembled a nerve and a blood-vessel, besides the nutritive vessels and absorbents necessary to each," and

“ as far as observation (even when assisted by the microscope) has extended, this complexity of structure is still perceptible.” As, however, each part demonstrably performs separate and peculiar functions, it is susceptible of abstract consideration: and Bichat, the celebrated French Physiologist, was the first to adopt a term which at once serves to convey to the mind this, if we may so say, individual and connected existence. “ In muscles,” says Sir C. Morgan, “ besides their arteries, absorbents, nerves, &c. there is a substance which exclusively *contracts*; in the nerves there is a matter which alone enjoys the power of *conveying impressions*.” The number of these several parts is proportionate to the more or less complicated functions of the living being; and to such parts the French, as just stated, directed by Bichat, have applied the appellation of *tissues*. The basis of all animal and vegetable forms is the cellular tissue, which enters into the structure of other tissues, and performs to each fibre and vessel the same offices which it fulfils towards the organs; at the same time that it serves as a bond of union, cementing and consolidating the whole. “ This substance consists of an assemblage of whitish transparent laminæ, crossed by filaments of a milky lustre. They are so interlaced with each other as to form cells of various shapes, which communicate amongst themselves throughout the whole body.

We have thus dwelt more largely than might seem to be expedient upon the rudimental or elementary portions of the Essay before us, since it is of much consequence for the pathologist to gain accurate notions of the primordial structure of the body, and because we have found it common for students in anatomy to gain a considerable acquaintance with the several parts of the frame, without having had their minds duly impressed with the necessity of contemplating the organized being, both in its minute formation and functional totality.

On the subject of arteries, veins, absorbents, and capillaries, we meet with nothing of sufficient moment to arrest the attention of the professional reader. With respect to the relative composition of animal and vegetable matter, and the question why nitrogen predominates in the former, we meet with the following observations:—

“ It has been imagined, that the predominance of nitrogen in animal compounds is derived from the very minute quantities of it which some vegetables contain, by the elimination of the other three principles during the various animal processes: but if this were the fact, the fluids of carnivorous animals should contain

more nitrogen than those of the herbivorous tribes — a proposition positively contradicted by observation. The late Sir B. Harwood was in the habit of exhibiting the transfusion of blood, by emptying the veins of a dog, and refilling them with those of a sheep. The dog, though a carnivorous animal, enjoyed perfect health while circulating the blood of one that is herbivorous; and was not otherwise annoyed by the experiment, than from the incident fatigue and the soreness of the wound.

“From these considerations it may be concluded, that nitrogen either exists as an ingredient in hydrogen or carbon (a proposition very improbable), or that it is itself a compound of some of the elements of vegetable combinations. One or the other of these hypotheses must be admitted, to explain the phenomena of animalization, since no other conceivable source exists for the fourth principle, which enters into chyle during the digestion of vegetable substances.”

“The same observations apply (says our author) to sulphur, phosphorus, and other constituents of organized bodies;” and we would recommend the consideration of these facts and inferences to Magendie and other *chemical* reasoners on the production of calculi, and several matters in the animal frame. It would seem quite fair to assume that vegetable blood, while circulating in animal vessels, as in the adduced instance, would give the same secretory and excretory products as had before been formed by the animal’s proper fluid: and if such be the fact, the whole of that theoretic edifice must tumble to the ground, which is constructed upon direct chemical relation between the ingesta and egesta.

In the third chapter Sir C. Morgan treats of “the combination of organs and functions;” and he here introduces several remarks drawn from human and comparative anatomy, on the adaptation of parts to the purposes they are destined to fulfil in the animal economy. This adaptation, in some instances, is sufficiently obvious, while in others an obscurity still attaches itself to the question of function as connected with organization.

“This observation applies with particular force to the liver, which, though an organ of great size, and predominantly influential in the constitution, performs functions whose necessities are by no means well understood. The importance of this viscus in the animal economy may be inferred from its early developement in the foetus, and from its universal existence in every animal possessed of a heart. Even insects, though devoid of other glands, secrete from the internal surface of certain membranous bags a yellow fluid, apparently equivalent to bile.

“The chemical constitution of the bile has been diligently

studied, and is well understood; but the relations of its alimentary constituents to its operation in precipitating the chyle are not thereby rendered more intelligible. The bile is an oily or soapy compound of a greenish yellow colour, of a viscid consistence and intensely bitter taste. The oily matter it contains approaches in its properties very nearly to the character of spermaceti; and it is held suspended in the fluid by a very large quantity of soda, and by some albuminous matter having a strong tendency to putrefaction. In what manner this alkaline product contributes to the formation of the chyle cannot even be conjectured. Though the digestive functions are deranged by an obstruction of the gall ducts, though flatulence and dyspepsia are the usual concomitants of jaundice, yet an absolute suspension of the chylopoietic action is by no means a constant consequence of the absence of bile in the intestines. From the cathartic effects of the artificial soaps, physiologists have been inclined to consider the bile as the natural stimulus of the intestines; and there seems some reason for the supposition, since the presence of an unusual quantity of this fluid in the alimentary canal increases, in an inordinate degree, the force of the peristaltic motion. The early developement of the liver in the foetal economy at a time when the functions of the intestinal canal are in abeyance, and this organ, as a part of the alimentary system, is perfectly useless, has led the French physiologists to imagine that it is in some way connected with the maintenance of the peculiar healthy constitution of the blood. The great size of this organ likewise adds probability to the hypothesis, since it is much larger than would suffice for the mere formation of the bile, which in quantity is perhaps inferior to the saliva. The liver, especially that of fish, is a viscus abounding in oil; and the quantity of carbon and hydrogen which this substance, as well as the constituents of the bile, contains, seems to warrant the supposition that these elements are abstracted from the blood in that organ. It will be stated in a future page, that the abstraction of carbon from the blood is the immediate function of the lungs, and that this function is momentarily essential to life. In the foetus the decarbonizing process has not commenced in the lungs; and it is not impossible that the large size of the foetal liver may arise from the activity of that viscus, as vicarious to the respiratory organs. But that the liver really does operate this change upon the blood, is by no means proved. There is, however, this additional argument in favour of the supposition, that it is the only gland which receives the materials of its supply from the venous system, whose blood is characterized by a superabundance of carbon. The Greek physicians attributed to the liver a large share in the manufacture of the blood; and its extensive influence in the constitution is certainly not compatible with its limited action as one of the chylopoietic viscera. But before the French theory can be admitted as more than mere conjecture, there is one point essentially necessary to be proved, which is, that secretion is performed by a *selection* of the elements of the blood, and does not consist in changes effected in the *entire mass* of fluids upon which the glands operate."

Of the pancreas and the spleen also it is difficult to predicate the precise uses, although the probability is, that the latter, according to the suggestion of Dr. Haighton and Mr. Cline, serves as a sort of "diverticulum for receiving, during the quiescent state of the stomach, a quantity of blood necessary to its increased vitality during the activity of its function." It is, however, a well known fact, that this organ may be occasionally taken from the body without subjecting the animal to much inconvenience; a circumstance which still increases the difficulty of our investigations respecting the why and wherefore of its existence.

On the laws of the circulating and respiratory system we find nothing but what must be sufficiently familiar to the generality of our readers. When adverting to the function of secretion, the author introduces the following piece of theory on the disturbance of the system consequent upon a suppressed secretion of urine.

"The suppression of this secretion, if it subsists but for a short time, overloads the circulating fluids with hyper-animalized matter; which, while it stimulates the solids to inordinate action, is itself prone to decomposition; and thus deranges the chemical constitution of the blood, and excites febrile action."

We doubt whether this explanation would bear the test of rigid scrutiny: it may be questioned whether febrile action is at any time occasioned by a chemical alteration in the condition of the circulating blood, even when such fever results from the introduction into the body of specific morbid poisons from without. That changes in this fluid do take place as a consequence of the perturbation produced by fever will be allowed; but it should be recollected, that the blood merely, even of an hydrophobic animal, has no power to inoculate another animal with hydrophobia; the impregnated poison being confined exclusively in these cases to one particular *secreted* fluid.

When treating on the brain, Sir C. Morgan, at the same time that he allows to Gall and Spurzheim the credit of having succeeded in demonstrating this part of the organization to be fibrous, and not glandular or pulpy, and that the fibres of different parts of the brain pursue different directions, denies at the same time that these theorists have gone beyond a mere *gratis dictum* in respect of their phrenological tenets; and asserts, that the notion of attaching distinct functions to different portions of the brain is "contradicted by the best ascertained facts in metaphysical science."

"There is, however, no part of the history of nervous apparatus more embarrassing than the subject of its separate functions. The

appearances which the anatomy of this tissue exhibits, warrant the supposition, that the nerves of sensation and volition, the brain and spinal marrow, are perfectly alike in substance and arrangement; and physiologists in general are agreed in referring the different sensations, propagated by the several organs, to peculiarities in the terminations only of the different nerves. But, notwithstanding this apparent identity of structure, and the possibility of perception being, under certain circumstances, seated in the spinal marrow, it is still the exclusive property of the nerves to feel, and the more peculiar province of the brain to perceive and to will. A slight pressure made upon the brain throws the animal into profound sleep, and obliterates the perceptive and voluntary faculties; yet the surface of this organ may be scratched or irritated by chemical stimuli, without exciting the attention of the animal.

“ The relation of the nervous and muscular systems is purely vital, and, consequently, involved in the darkest obscurity. If the contractility of the muscles be excited by the transmission of electricity through the nerves, the circumstances are still unknown which determine the electric discharge. It seems now very decisively proved, that the muscles possess in themselves the principle of their motions; and that the nerves stand to them merely in the relation of excitors. The nature of the influence which the involuntary muscles receive from the nervous system is perfectly incomprehensible. Their nerves are chiefly derived from the sympathetic plexus, and are perfectly independent of volition.”

“ The laws of vital function” fall next under the author's consideration; and we find him resolving every thing in respect of the mutual action of life supporting powers, and the circumstances of the body upon which they exercise their agency into *sensation* and *reaction*. Here the same difficulty occurs with that to which we have before adverted, as to the propriety of applying the term sensation to effects in which consciousness is not present. If with Bichat we divide the consequences of excitation into *organic insensible contraction*, *organic sensible contraction*, and *animal contraction*, including in this last term all those muscular movements which are directed by the will, we shall be liable to err in our inferences, since, as Sir C. Morgan well observes, “ the circumstance of a muscle being connected or not with the nervous apparatus, and thereby being subservient or independent of volition, is utterly foreign to its structure as a muscle; and if the nervous communication between the brain and an organ of animal contractility be cut off, its muscular properties still remain entire and unaltered.” Beside, when we once attempt to draw a well defined line of distinction between voluntary and involuntary actions, we find ourselves foiled nearly in the same manner as we

do when attempting to trace an accurate and absolute distinction between vegetable and animal vitality.

We need not pursue Sir Charles Morgan through his statements on the relation of excitability to stimulation; which, however, are exceedingly well put, although nothing of novelty could be looked for on this head. We find him, we think, rather too much of a Brunonian with respect to the rationale of catarrhal irritation; for, although it does not appear that he would go the length of defending unconditionally the axiom of Brown, of *frigus nunquam nocet nisi calor excipit*, he remarks, "it seems probable that catarrh, that vexatious torment of our insular climate, is the more frequent result of a sudden transition from cold to heat than (as is usually imagined) from heat to cold." Speculators who argue for the necessity of exterior heat to engender catarrh, seem to us to overlook the laws of reaction and tendency in the body to maintain an equilibrium of temperature. In our minds it is not the general vicissitudes of temperature in either way which for the most part prove noxious, but their partial applications; it appears that such partial subductions of heat, by accumulating irritability, cause the relations of excitation and excitability to be changed locally; and that thus is that irritation produced in the mucous membrane of the nose, which is the essence of catarrh, and which is more or less violent according to the topical or constitutional circumstances of the sufferer.

Habit is the next law of the system upon which our author comments; and it would of course be unjust to expect any thing under this division of the subject beyond what we every where meet with; a delicate precision in language, and a mastery in stating and illustrating well established facts. To some of our readers the following experiment may be novel and interesting:—

"To the law of habit (says Sir C. M.) may be referred the very singular phenomena of ocular spectra, described in Dr. Darwin's *Zoonomia*. If the eye be steadily fixed for any length of time upon one of the primitive colours, so as to become fatigued by its contemplation; and then be suddenly removed to some compound colour, of which the first is a constituent, this second colour will not excite the same ideas in the mind which it usually does; but that which the combination should raise if the primitive colour first contemplated were altogether absent from the combination! Let a red wafer, for example, be fastened in the centre of a sheet of white paper, and placed in a strong light. If the eye be steadily fixed upon it, so that the rays proceeding from it shall impinge continually upon the same points in the retina; and if when the efforts begin to create a sense of fatigue and of pain, the eye be then removed to another part

of the paper, a bright green spot will be seen in size and shape resembling the wafer. Of this curious experiment the explanation is simple. White is a sensation produced by a due mixture of red, blue, and yellow (abstraction being made of the intermediate tints); and green results from a combination of blue and yellow. A pencil of white light would, therefore, appear green if all its red rays were removed. But that portion of the optic nerve which has been fatigued by the contemplation of the wafer, being no longer stimulated by the red rays, it is affected in the same way as if they were absent from the combination. The impression therefore made upon the mind is that of a green circle, corresponding with the circle of exhausted tissue in the optic nerve."

While still further pursuing the subject of excitability and excitation, Sir C. Morgan is led to make a remark or two on the question of tonic agency. It is, perhaps, among the most remarkable facts connected with living agency, or rather the agency of dead upon living matter, that a very small portion of a substance which has the power of mechanically contracting the animal fibre when deprived of vitality, shall display somewhat of a similar effect upon a living organized being when taken into the stomach. The bark of some trees, for instance, is capable of combining with dead animal substances, and constringing or contracting it permanently; and the same substance, when taken medicinally, will produce the effect of adding tone or firmness to a relaxed muscular condition of the recipient. This coincidence of effect led to the supposition of analogous operation; but permanent excitation in living bodies, it ought to be recollected, is a state widely different from tension or tone in dead matter; still, as we have just remarked, it is a singular fact that the powers productive of one effect should at times occasion the other; and this fact must be left at present as an ultimate one, which has not received a satisfactory solution. *Tannine* too, it must be remarked, "is not an universal ingredient in tonic medicines; nor does experiment evince a real condensation of substance in persons restored to health by the use of these remedies. Their operation, indeed, is obviously vital; but whether it falls upon the minute capillary system, or is excited upon the stomach, and through that organ sympathetically on the other tissues, is by no means clearly ascertained." *In vivum corpus* (says Dr. Brown) *agunt medicamenta*. By which he meant to infer, that we should be very careful not to generalize too far from mere analogical data.

Respecting the connexion of spasmodic or irregular contraction of the muscular fibre with vascular irritation, Sir C. M. makes the following pertinent remarks; and we the more readily make use of such high authority for establishing the

frequently consecutive occurrence of inflammation, or even a vascular excitement that is under the grade of inflammation, since, as we have more than once intimated, it appears to us that too much in the present-day pathology is consigned to the vessels to effect in the way of diseased production.

“ Those muscles which obey the dictates of volition, are necessarily liable to great variations in the quantity of their action. They become, therefore, like other organs of occasional activity, the seats of a local orgasm, the centres of fluxion, from which they derive a temporary increase in their living powers. The first efforts of muscular motion are, therefore, never so vigorous as those which occur after the orgasm has for a certain time subsisted. In the end, however, the maintenance of this condition tends to induce inflammation; the first approaches of which are marked by that painful sensation we term fatigue—a sensation closely resembling rheumatic pains. Under the influence of diseased excitement the muscles may be thrown into spasmodic action; consisting either in quick alternations of contraction and relaxation, or in permanent and immovable contractions; of which the two diseases, St. Vitus’s dance and locked-jaw, afford familiar instances; and it is somewhat singular, that in the last of these diseases the blood exhibits the marks of excessive inflammatory action, as if the protracted contraction of the muscles had excited a real inflammation in those tissues.”

For the reasons already alleged, we shall pass by with very little comment that section of our author’s work which is devoted to the discussion of “ mental phenomena.” Suffice it to say, that Sir Charles Morgan’s aim throughout is to combat the notion both of a spiritual and material principle of life, and to establish the necessity of organic actions. Such necessity, he maintains, “ determines the highest faculties of intellect, no less than the simplest impulsions of vegetable nutrition; and operates as despotically in producing a Cæsar or a Newton, as in originating a Polype or a Tremella.” We agree with him to the extent of supposing the absolute necessity of some organic change in the process of all living function; but, then, we would maintain, that such change is consequent upon an impulse beyond the control of organization, and that volition may excite in a direction contrary to organic tendencies: otherwise morality is a name destitute of meaning, and responsibility for actions an assumed principle without the smallest foundation in fact.

To the following positions, however, respecting the mode of conducting inquiry and deducing inference on the subject of vital actions, we readily, and without any qualification, subscribe.

“ If the adoption of a vital principle be regarded as essential to the formation of any rational theory of life, it will still be necessary to

remodel the notions which are attached to that term. It must not be taken as representing a sentient principle *per se*, nor as an individual, nor as even the main cause of vital phenomena. Every element which enters into the organic compound is possessed of its own indestructible *modulo suo* to the general effect. The chemical qualities of oxygen and hydrogen, the physical properties of the several tissues; in one word, the attractions and repulsions, elasticity and gravitation, &c. of every particle, are necessary and essential causes, and must be considered as contributing equally with the hypothetical principle to the formation and functions of the entire machine.

“ In denying, therefore, the necessary existence of a vegetative soul, and in pausing in our researches at the properties of contractility and sensibility, it is not necessary to consider these boundaries as strictly impassable. But in attempting to extend the limits of inquiry, the map must be traced after the discoveries of a Columbus; not covered with an imaginary Terra Australis, or fancied Atlantis; even though such territories should be vouched on the imposing authority of another Plato.”

On the above admirably expressed opinions we shall only permit ourselves just to add, that although the fancied existence of some substantive property, whether it be the $\psi\chi\eta$ of the ancients, or the spirit of animation of Darwin, or the “*materia vitæ diffusa*” of John Hunter, must necessarily lead to nonsense or to nothing; yet we are quite justified in concluding, that there is a something connected with vitality, which must ever elude the grasp of human intellect; and of which something we are not brought an iota nearer the knowledge, by the recent discoveries in physics and chemistry, than were either the ancient metaphysicians, or the fanatic disciples of alchemic faith.

By the perusal of the last chapter of Sir Charles Morgan's work, we must confess ourselves to have been somewhat disappointed. From the author of the appendices to Lady M.'s work entitled “*France*,” we expected something beyond what we found in the present. As far, however, as the discussion of the rationale of disease does go, there is an evident indication as well in this as in other parts of the volume of much acumen and good sense. The following objections to the principle of considering disease as a something abstract and tangible in its nature, accords entirely with our own sentiments on the same head; and it would seem sufficiently obvious to supersede the necessity of enunciation, were it not that we still find a disposition in some, even of the best and most learned writers of the day, to conceive and act as if deviations from health could be substantiated and parcelled out like so many objects in natural history.

“ Sickness and health (says Sir C. M.) are so often contrasted with each other, that they have acquired in the imagination a sort

of substantive character, and are scarcely recognised as mere expressions of modality. Considered as *things*, in their nature opposite and contradictory, they are rarely regarded as having any common connexion, much less as being the results of the same general laws, as consequences of the same principles of action. There are perhaps few educated persons who would fall into this mistake, if the question were proposed to them in its naked abstraction; but there are still fewer, who, in the ordinary occurrences of life, do not act as if guided by such an error."

We question, however, the rectitude of that assumption which identifies "febrile contagions" and "diffusible stimuli," or at least states their operation to be analogous. This assumption constitutes a fundamental error in Brown's Theory of Life and Disease; and we are surprised to see so acute and cautious a reasoner as is our author tending towards the same tenets.

On the *vis medicatrix*, or presiding principle, Sir C. makes the following sensible remarks:—

"There is a mysticism in this doctrine highly agreeable to feeble minds, and against which the strongest intellect is not always proof. In France, the *vis medicatrix* forms the basis of professional practice; and though in England no great respect is paid to it as a guide in the treatment of disease, yet it still creeps into general reasonings, and is occasionally heard from the mouths of theorists and teachers.

"There is in this doctrine a contradiction implied in the very terms of the proposition, "*a regulating principle, subject to irregularity!*" If there existed in the animal mechanism a curative principle, the duty of the physician would cease; for there could remain no office for man to perform where nature had placed a sentinel to guard against external violence, and a force to countermine and to obviate the attacks of the enemy. The proposition of assisting nature, when it is slow in its operations, and of repressing it when too violent, is in direct contradiction with the fundamental principle of the theory. Either the *vis medicatrix* is equal of itself to the preservation of the system, and sufficient to its own purposes, or it is a superfluous and unwarrantable term, introduced into medical reasonings, without ground, and contrary to philosophical logic."

The following remarks respecting contagious diseases and morbid poisons in general, will be interesting to the reader, especially under the present circumstances of doubt and uncertainty on the subject of lues venerea, and on the safest and most efficient method of counteracting the effects of the venereal poison.

"The several contagions by which disease is propagated, exhibit very many curious modifications of action, depending upon the influence of habit. The most remarkable instances are to be found in those febrile contagions which attack the same person but once. But

almost every morbid poison loses something of its impressive force in constitutions which have been previously exposed to its action. Physicians and nurses, who are habitually environed by contagious atmospheres, are much less frequently the victims of disease than their exposure to risk should warrant. Not only individuals, but nations become thus exempt from contagious influence; or at least suffer less violent derangement from its impetus. The leprosy, for which so many hospitals were endowed by our ancestors, has disappeared from Britain as an epidemic: and the *typhus gravior* is not only less prevalent, but less fatal in its attacks, than it was a few centuries back.

“ This is not to be exclusively attributed to the personal immunity of the moderns. Cleanlier habits and more wholesome diet have co-operated powerfully towards abating the malignity of this disease. There is, however, another malady, whose symptoms are undoubtedly milder than they were on its first appearance in Europe, and with which the changes of diet, &c. have nothing to do. In this instance, the alteration can alone be explained by a constitutional case-hardening, common to the whole generation. It may be questioned, whether the curability of this disease, without mercury, which has recently become the subject of experiment, be not a consequence of the diminished sensibility of the animal to its peculiar poison.”

Here we must stop; merely further announcing, that such of our readers who may, from the slender analysis we have given of Sir Charles Morgan's work, be induced to a more thorough investigation of its contents, will find even in this last chapter (which we consider the least satisfactory of the whole book,) some intimations on the theory of medicinal action and dietetic excitation, which will prove, as far as they extend, by no means unworthy an attentive perusal.

II.

On the Mimoses; or, a Descriptive, Diagnostic, and Practical Essay on the Affections usually denominated Dyspeptic, Hypochondriac, Bilious, Nervous, Chlorotic, Hysteric, Spasmodic, &c. By MARSHALL HALL, M.D. Author of “ A Treatise on Diagnosis;” formerly Senior President of the Royal Medical Society, and Physician's Assistant in the Royal Infirmary, Edinburgh.

ONE of the most important lessons which the student of medicine has to learn, is the art of distinguishing between diseases of function and diseases of structure; and this art is only to be fully mastered in the school of actual practice. There are, however, general and leading points in morbid affections, by attention to which the judgment maybe much

facilitated in the distinctions alluded to; and we think those authors deserve well of the profession and the public, who devote their attention to the combination and concentration, as it were, of these momentous particulars.

Dr. Hall had already proved himself gifted with an accuracy of distinguishing powers, by his useful work on diagnosis; and in the small volume which is now to be noticed, we meet with additional indications of industry and discernment.

“ There is a class of disorders, (says Dr. H.) each of which is singularly characterized by being complex, multiform, various, and changeable, and by imitating, from the appearance and predominance of particular symptoms in particular instances, other diseases very different in their nature.

“ These affections have been variously and perhaps too exclusively attributed, by some authors, to a state of derangement in one or more of the chylopoietic viscera; and by others to an unequal and undue distribution of the blood, by which a state of arterial excitement or of venous congestion is induced in some particular organ, or in some particular part of the sanguiferous system.

We fully agree with our author, that the ascription of those complaints by one set of pathologists to vascular, and by another class of reasoners to ventricular derangements, is too “ exclusive;” and it is not uncommon to find the whole frame, as it were, out of joint, without any traceable localities in the induced derangement: such topical affections, whether of the circulating or chylopoietic systems, even when they do occur, being merely incidental consequences of universal disturbance: but on this head we must not trust ourselves here to enlarge.

With respect to Dr. Hall’s term of designation, we hardly know whether to approve or not of its selection. Any thing that wears the semblance of affectation is in some degree objectionable; and we have already too many names in medicine, for what, in strict propriety, are nameless things. Diseases, as the author last reviewed justly observes, are not substantive and abstract existences. To talk, then, of “ *mimosis*” as an order, and to sub-divide this order into the several genera of “ *mimosis* “ *acuta*,” “ *chronica*,” “ *decolor*,” “ *urgens*,” and “ *inquieta*,” is to imply that the several conditions which the above terms are designed to represent are to be met in a palpable shape, and with an undeviating regularity. The denomination *mimosis*, it is hardly necessary to state to our readers, is derived from the Greek word *μιμος*, *imitator*, and is intended to denote the appearance without the reality of a specific affection. Thus, should an individual be the subject of cough, expectoration, and other

symptoms which at times proceed from pulmonic disorganization, and yet should such disorganization not be actually present, the disease would, in the proposed nomenclature of our ingenious author, be named a *mimosis*.

Under the head of *mimosis acuta*, the reader of this volume will find some very valuable remarks on distinctions between organic affections of an acute kind, and those derangements which merely consist in temporarily deranged functions.

“ The severer form of the *mimosis acuta* (says Dr. H.) is early and principally characterized and distinguished by the concurrence of the following symptoms; namely, weakness, tremor, fluttering, faintishness, tendency to perspiration, susceptibility to hurry and agitation, and loss of flesh.

“ The countenance is rather pale and thin; the lips are pale, and, with the chin, frequently tremulous, especially on speaking; the surface of the face is generally affected with an appearance of oily, clammy, and swarthy perspiration, especially near the nose; there is a loss of colour, and usually a degree of sallowness and darkness of the complexion in general, but principally about the eyes.

“ The tongue is almost invariably loaded; sometimes only slightly, whilst its edges are clean and red; at other times it is more loaded, swollen, and œdematous, formed into deep sulci or plaits, and marked by pressure against the contiguous teeth, the inside of the cheeks being also impressed in the same manner; the papillæ of the tongue are numerous and enlarged; the gums red and swollen; the teeth and the mouth in general foul, and the breath loaded and fœtid: in a third instance the tongue may, however, be clean, but lobulated, whilst the internal mouth and breath are little affected. The first state of the tongue is observed when the affection has not continued long; the second, when its accession has been particularly slow and gradual; and the third, when a similar but chronic state of disorder has long subsisted, and has at length been succeeded by the *mimosis acuta*.

“ There is a tendency to perspiration on slight exertion or any surprise, and sometimes in the night or early in the morning; the skin is in general cool, rather moist, and clammy. The hands are apt to be cold; and the nails occasionally assume a lilac hue.

“ The patient is usually affected with great tremor, observed on holding out the hand, on carrying a cup of tea, for instance, to the mouth, on attempting to stand erect, or walk, or on being fatigued or hurried. The patient is liable to experience faintishness in the upright position, if sustained for a little time; and he feels unaccountably feeble and weary.

“ There is an early and daily loss of flesh. This, as well as the restoration of flesh during recovery, may be ascertained by weighing, as exemplified in some of the cases of this affection to be given hereafter.

“ The patient experiences headach and vertigo, and he is nervous, and easily hurried and agitated. There is sometimes heaviness for sleep ; sometimes great wakefulness and restlessness. There is almost universally a peculiar sense of fluttering about the heart and pit. of the stomach ; and there is frequently an acute pain in some part of the course of the colon.

“ The appetite is generally much impaired, and there is often loathing of food ; but sometimes the appetite is even greater than natural, and there is almost constant craving. The digestion is various, being sometimes quick, and at other times attended with great sense of load, distention, flatus, eructation, hiccup, and even vomiting. The bowels are at first constipated ; afterwards constipation and diarrhœa alternate, and sometimes the latter symptom becomes nearly permanent ; the motions during the constipation are small, during the diarrhœa scanty, extremely fœtid, dark coloured, often accompanied by blood, and frequently attended by tenesmus.

“ The urine is extremely loaded in the commencement of the mimosiis acuta, but may become perfectly transparent during its continuance ; it is often high coloured ; and, like the other symptoms, the appearance of this secretion is very liable to change.

“ Besides the symptoms just enumerated, there are others which prevail more or less in almost every case ; but they are, on the whole, less constant and more diversified ; and of these one sometimes predominates so much over the rest, as to engross the attention of the patient, and sometimes of the practitioner, too exclusively. The secondary affection is then considered as idiopathic, and the symptom is apt to be treated as the disease. It is therefore of the utmost importance to present the reader with the following distinct enumeration of these symptoms : —

1. Headach, vertigo, stupor, &c.—2. Cough, viscid expectoration.—3. Paroxysms of oppressive dyspnœa.—4. Palpitation of the heart, frequency and irregularity of the pulse.—5. Frequent and violent hiccup, vomiting of food.—6. Some convulsive and spasmodic affections.—7. Pain in the epigastric, or one or both of the hypochondriac or chondiliac regions.—8. Constipation, diarrhœa, tenesmus.—9. Melæna.—10. Icterus.—11. Severe pains of some of the limbs.”

We have presented the above account of the characters by which mere functional derangements are marked with a view at once of doing justice to the author, and because we think, as before hinted, one of the most momentous concerns for a practitioner to attend to, both for his credit and his satisfaction, is that of carefully scrutinizing whether a malady to which he is summoned, be, if we may so express it, real and radical, or merely apparent and functional. We would discard with our author the terms “ nervous,” “ bilious,” and the like, as terms which are either too vague to mean any thing, or else involve an hypothesis which is frequently without any stable foundation.

The following we select from several cases with which Dr. H. presents us, under the head of *mimosis acuta*.

“ July 8th, 1818.—Mr. S. F. aged 22. He had worked during one year in the lace frame, principally during the night, when he became affected with the following complaint, about four months ago. He first experienced an unusual degree of weakness, which incapacitated him for his employment; he then complained of a propensity to sweating on any slight exertion or emotion, with pain of the head, loss of appetite, constipation, &c. At first, too, he lost his flesh rather rapidly, to the amount, as he supposes, of about 14lb. The countenance became palish and sallow, and he was told he had a *liver complaint*. The general weakness increased, and a degree of trembling was observed when he lifted his cup of tea to his mouth, when he attempted to walk, or underwent any fatigue. — At present the prolabia are rather pale, the face near the nose is affected with an oily perspiration, the eye-lids are dark, and the general complexion is of a palish, sallow appearance. The albuginea is perfectly white. The tongue is white, loaded, and clammy. He perspires more than usual on any exertion. He has no headach or vertigo now, and has had no cough at any time. There is a sense of fluttering about the heart and stomach, especially on lying down. He says that he is low spirited, and does not like to be long alone or still. His appetite is still impaired; he complains of a sense of load at the stomach, with eructation, but he has no hiccup. The bowels are open. The urine was at first much loaded, but it is less so now. He complains of shifting pains about the limbs.—These complaints have been nearly stationary lately, the progress they appeared to be making at first having been arrested. — The patient became gradually better, after the date of this report, by taking opening medicines, bathing, and using gentle exercise, with a change of air.”

When treating more especially of the diagnosis, Dr. H. remarks, that “ the *mimosa acuta*, in its severer but simpler form, has been generally mistaken for *fever*; in its less severe form it is necessary to distinguish it from *insidious organic disease*, and in its complications, the *mimosis acuta* must be carefully discriminated from *an original and local disease of the part symptomatically affected*.” We have some doubts with regard to the propriety of the first point of distinction, since it would seem questionable whether the general disturbance alluded to under the definition, might not, unless arrested in its course, come soon to be actual and positive fever. Dr. H. if he admits this, will perhaps reply, that the same thing may be said in reference to the occurrence of organic disease, as such disease might come to establish itself from unchecked functional disorder: but in this last case a new series of actions would be set up; while fever, if fever does occur in the way now supposed, would prove merely an increase in degree, not a something new in essence.

Insidious organic disease is to be distinguished, says Dr. H., from the *mimosis acuta* “ by its *definite* form, and by a regular, slow, progressive, and almost *unvaried* course, during which the patient becomes gradually affected with paleness, debility, and emaciation, with comparatively little tremor.” These circumstances of distinction we wish to point out, particularly to the junior practitioner, as of the highest consequence to attend to. If the pulse, for instance, is quick in mere functional disease, it is not of that *unvaried* celerity that marks organic affection; neither does emaciation in the former pursue that regular and progressive course that it does in the latter. The mode of perspiration too, which we do not find particularly pointed out by Dr. Hall, is very essential to take into account: in organic disease the sweats are, for the most part, of a hectic character, but partial, and of partly regular occurrence, while in mere functional disturbance the sweats are more irregular in point of time, and more universally diffused over the body. Let it however always be recollected, when one particular organ is the medium by which a mimositic affection is displayed, that such affection is very apt to terminate in actual organic disease. But this is by no means invariably the case. Who does not know, that what are very improperly called sick, or bilious headaches, last sometimes for years, and then disappear, without leaving behind them any traces of encephalic disorganization? and it often requires repeated recurrences of spasmodic asthma to engender organic derangement of the pulmonary or cardiac tissues*.

With respect to the treatment of the *mimosis acuta*, Dr. Hall's sheet anchor is constituted by the use of purgatives; and as the derangement usually occurs as a consequence of sedentary habits and confinement in impure air, the treatment comprises “ a particular attention to diet, air, exercise, bathing, and spunging.”

The following are Dr. Hall's directions as to the employment of cathartics.

“ The medicines I have generally employed have been calomel, the pil. hydrarg. rhubarb, aloes, senna, the sulphat of magnesia, and pure magnesia. They must be varied according to the previous state of the bowels, and to their effect on the alvine evacuation. This previous condition of the bowels is a state of constipation, of diarrhœa, of tenesmus, or of Melæna.

* Some difference of sentiment obtains on this head, as our readers will perceive by turning to a very interesting paper on asthma in the foreign department of the present Number.

“In the case of constipation an active dose of calomel may be given; and if its effect is such as was desired, it may be repeated at first every fifth night, and afterwards once a week, or once in ten days, always ensuring its operation, if necessary, by a solution of the sulphat of magnesia in an infusion of senna, or by pills of aloes and rhubarb. This medicine should also be repeated on the intermediate days. The object I have ever had in view has been to avoid purging, but to induce a large, copious, and consistent evacuation daily; and when I have been enabled to effect this, I have considered it at once as a source and criterion of increased strength or health of the alimentary canal. Frequently, however, when the patient is very feeble and infirm, the medicine appears to accumulate without operation, and the effect on the bowels is apt, by a repetition of the dose, to be extreme: this event may in general be obviated, either by the administration of a proper enema at the time when the medicine was expected to move the bowels, or by inserting into the rectum a suppository of tuffy or inspissated molasses, or of soap and honey, or other similar substance.”

We could have wished him to have added to his suggestions respecting the propriety of occasionally varying the purgative, some rules with regard to the *combination* of different cathartic drugs. Of the utility of uniting several articles in one prescription, we are disposed to think the simplicity of modern practice rather too neglectful: certain it is that a mixture of several is often much more effectual than the same mass of only one or two ingredients; and beside, it is well known that some purgatives display their agency more powerfully on one, and some on another part of the intestinal tube.

With respect to the treatment of the local affections which occur in the *mimosis acuta*, we do not find any directions on which it appears necessary particularly to enlarge. *Melæna*, without disorganization, Dr. H. tells us, he generally finds yield to purgatives with *pil. hydrag.* Our own plan in these cases of intestinal hæmorrhage has been usually a combination of infusion of roses with sulphate of magnesia and syrup of white poppy; a combination which we have scarcely ever prescribed but with the happiest effect.

The *mimosis chronica* of Dr. Hall answers to the disease described by most authors under the title of *hypochondriasis*: “it is denoted by fits of despondency and gloom, of invincible disinclination for exertion, of pain about the head, sinking of the precordia, and heat or fulness of the stomach.” The same marks of diagnosis are to be attended to, *mutatis mutandis*, as in the more acute and active state of the complaint: and here Dr. Hall particularly points out the absence of the loss of flesh as one of the principal circumstances of

distinction between this and organic ailment. With regard to the treatment, "as the affection is of longer continuance, a more persevering use of the pil. hydrarg. and of gentle purgatives of rhubarb and aloes; and a more constant and indeed habitual attention to diet, with gentle exercise, are necessary.

As the *mimosis chronica* is the *hypochondriasis*, so is the *mimosis decolor* the *chlorosis* of other authors. "This occurs principally in female youth; but frequently in married women both young and old, and occasionally in the young and sedentary of the male sex."—"It may be characterized in general as uniting a morbid state of the complexion, and generally of the surface, with recurrent pain of the head and of the side, palpitation of the heart, fluttering and nervousness, and some tendency to loss of flesh and to *œdema*."

Under the head of diagnosis, between the *mimosis decolor* and other diseases, we meet with the following remarks, which are well worthy of attention:—

"The state of the complexion, the tinge of surface, and the seat of pain, in the *mimosis decolor*, has very frequently led to the suspicion of chronic disease of the liver. The diagnosis is made by an attention to the contrast of symptoms, by observing the state of the conjunctiva, urine, and *fæces*, by ascertaining the recurrent nature of the pain of the side, and by a careful examination of the region of the liver. By these means the list of chronic diseases of the liver would be considerably curtailed, for I can recall at this moment numerous instances of this error in diagnosis."

That discoloration of the skin which attends diseases of cachectic debility and disturbance of function, and which arises from a torpid inactive state of the circulation and consequent inaction of the sebaceous follicles of the skin, is too apt to be taken as an index of hepatic obstruction, and mercury in consequence given, without the smallest necessity, in point of fact, for the administration of a particle of that medicine. The liver is a large and convenient corner for imbecility and idleness to resort to upon all occasions. We are always ready to applaud such authors as have courage and discernment enough to bear up against the overwhelming influence of *hepatism*.

This *mimosis decolor* is liable to be complicated with transient and continued affections of the head; with sudden and continued cough and dyspnoea, with palpitation of the heart; with both transient and protracted pain in the side or abdomen, with *Melæna*, and with *leuchorrhœa*; in all of which the Practitioner must carefully distinguish by the rules before laid down between mere pain and actual inflammation; and

he must, at the same time, recollect the probability of a transition from functional disturbance into actual or inflammatory disorder of organ.

Purging is still recommended in this species of mimosis, and there cannot be a question of its great utility; but we are disposed to think that, with purgatives, steel and other tonics may be here employed with more advantage than our author seems to imagine; nay, we are certain that a judicious use of this class of medicinals may be made to apply in the disorders now under consideration with especial benefit: even actual inflammations may be warded off by the induction of such a state of permanent excitement as shall overcome the debility out of which the vascular irritation would otherwise grow. For the leucorrhœa connected with the mimosis decolor, Dr. H. recommends a *continued* local application of sulphat of zinc, in the proportion of from one to two drams and a half to a pint of pure water. The way in which this application is continued is by a scroll of linen, made of a form and bulk nearly sufficient to fill the vagina, this scroll being fully imbued with the solution mentioned. We were surprised to find no notice taken of that very efficacious medicine the tinct. lyttæ in these complaints.

The mimosis urgens is the fourth division of Dr. Hall, and this is more like the hysteria of authors; "it is denoted by sighing, sobbing, tears, or laughter, with a sense and expression of suffocation, and with some urgent affection of the head, heart, respiration, stomach, or muscular system." Spasmodic affections are here especially frequent, and the disorder is marked, as the author well expresses it, "by hurry and urgency." Inflammations are in this case likely to grow out of the spasms, and it requires sometimes much nicety to distinguish which is the actual state of parts. At this moment we have a patient under treatment who had been very injudiciously, taking steel for supposed spasms; a complete diaphragmatis was engendered, but it was found necessary to go very cautiously to work with anti-inflammatory measures, as their use, even in a regulated and necessary measure, actually brought on very distressing spasms. In this state of things alarm is, however, apt to be more than commensurate to danger; and sometimes, as Dr. Hall observes, the trachea becomes so violently seized as to deceive a cursory observer into the supposition of actual croup."—"The attack of the mimosis urgens is relieved by æther. sp. ammoniæ comp. (arom.) opium, &c.; by stimulating liniments; by fomentation with hot water; and if necessary, by blood-letting. The prophylaxis consists in removing the original disorder, and especially in the due administration of purgative medicines."

Under the head of *mimosis inquieta* (the last of our author's divisions) is included, "a continual restlessness; wakefulness; delirium; continued, rapid, and hurried breathing; frequent dry cough; a sense of fluttering and hurry; some spasmodic affection; hiccough; and great frequency of pulse."—"This state may sometimes be merely the effect of derangement in the digestive organs; sometimes it implies some obscure disease, as its cause; (query, is it then proper to apply the term to the state?) sometimes it arises from the too copious action of a purgative; or from too copious blood-letting; and it is sometimes the precursor of dissolution." In the first case "a purgative is the remedy on which most reliance is to be placed."—"In the case of an obscure disease, it is plain that this must be removed before relief can be obtained."—"In the other cases the *tinctura opii*, the *sp. ammoniæ comp.* wine; stimulating liniments; proper fluid nourishment, cautiously given with wine; bathing the face with cold water; the effervescing medicine; fanning, and a free air, are the principal remedies."

We deem the symptoms characterizing this state important to take notice of, both on account of prognosis and practice. It is usually the forerunner of death after protracted disease; and we think it at least questionable, whether by a bolder and more copious administration of the diffusible stimuli, of wine, cordials, ammonia, &c. the vital principle might not oftener than it is be preserved from sudden extinction.

We now close the little volume, the substance of which we have endeavoured to present to our readers, with sentiments of much respect for its author. Patience in investigation, and accuracy in distinction, are among the most useful attributes that can belong to a Physician; and these qualities Dr. Hall evidently possesses in no inconsiderable measure.

III.

The Hospital Pupil's Guide, being Oracular Communications, addressed to Students of the Medical Profession: including plain and useful Directions relative to the best mode of Attending to the various Branches of Medical Study. To which is added, an Account of the Days and Hours of Attendance of the Physicians and Surgeons at St. Thomas's and Guy's Hospitals. By ÆSCULAPIUS.

WE are pleased to see our old friend Æsculapius make his second appearance on the stage. We recollect being impressed with the good sense and useful remarks contained in

this little manual at its first appearance; and we are glad to find that it has been so well received by our young students. In now noticing it we wish rather to recommend than to supersede its perusal; and, indeed, it is of a nature not susceptible of analysis. We cannot, however, refrain from presenting to our readers the following extract from its pages, which will sufficiently prove, without any further comments of our own, both the judgment and good taste of the writer:—

“ Medical science and medical practice claim the unwearied attention of the student. And here, Gentlemen, I must be permitted to caution you against blindly adopting any system of opinion or practice which may be taught in the schools to which you may be respectively and more immediately attached; this would be to degrade you to the ranks of empiricism. Think for yourselves. It generally happens, that systems are carried to extremes by their authors; and that, however valuable and excellent they may be in the hands of judicious Practitioners, they will invariably prove hurtful when acted on by those who embrace the dogmas of the Professor without thought, and without discrimination; and who in the loneliness of their minds find only one uniform spectral impression; even the illusion occasioned by the coruscations of genius; perceived through the vapour of a clouded understanding, and reflected upon an eye already tinged with the morbid hue of prejudice, already distorted by the obliquity of the judgment. Be it yours, Gentlemen, to judge, to examine, to determine for yourselves: listen to the system of your Lecturer, adopt it, act upon it: but preserve your independence, and be not enslaved by it. Enlarge your minds by perusing other systems, and contrasting these with that you have been more immediately taught: and amidst every contradictory and favourite hypothesis, maintain your own liberty of thought and action, dismiss the prejudices of education, and bring the decisions of your cool and informed judgment to the test of experience.

“ Let your conduct be the same with regard to medical practice; recollect, in fact, that ye are men of intellect; you go to learn, not to imitate; you seek instruction, and not a mechanical capacity of writing a prescription. Allow me to introduce one other caution. Do not expect to meet with disease at the bed-side, as you see it in the theatre, or in your study. Here you are presented with abstracted cases of well defined disease, cases in which every symptom, not necessarily pertaining to the specific morbid action, is omitted. But in practice this is comparatively rare, and hence you will frequently be at a loss how to define and classify disease; and if you be a systematic Practitioner, you will scarcely know how to direct the appropriate remedy, since you have been accustomed to connect a regular train of symptoms with certain constant organic lesions, and these have hitherto been associated in your minds with a certain class of *materia medica*. But it will not do, Gentlemen; it is first principles you have to acquire; it is the soul of physic you have to obtain. Practice and reflection will build up the body to maturity, and make

the perfect man. Be therefore greedy of medical lore, and steal every half hour you can obtain for this important purpose."

The following is *Æsculapius's* plan of study for those young men whose destination is two years' study, and subsequently general practice:—

" PLAN OF STUDY.

" FIRST YEAR.

" *Winter*.—Anatomy and Dissections; Surgery and Hospital Practice as Surgeon's Pupil; Physiology; Chemistry; Theory and Practice of Medicine.

" *Summer*.—Hospital Practice; diligent Reading; Midwifery; Botany.

" SECOND YEAR.

" *Winter*.—Anatomy and Dissections; Surgery and Hospital Practice as Dresser for six months; Physiology; Chemistry; Theory and Practice of Medicine.

" *Summer*.—Hospital Practice; ditto as Physician's Pupil for six months; diligent Reading; Midwifery and Botany."

WE find that it will be necessary to revert to the plan of our predecessors, and again give half yearly Retrospects of Medical Literature; as the space we can allow for Analysis is insufficient for the notice of all the medical works which issue from the press during the year. It is intended, then, for the future, that the July and January Numbers of the *REPOSITORY* shall each contain the preceding six months' general Review; and we shall defer our proposed chemical, meteorological, and nosological abstracts till the close of the six months from January; commencing them in separate divisions and tables from the time of the last report respecting them.

PART III.

SELECTIONS.

Observations on the Medico-Chemical Treatment of Calculous Disorders. By W. T. BRANDE, Sec. R.S., &c.

(From the *Quarterly Journal of Science and Arts*.)

IF there be any branch of physic which can be called philosophical, it is that which relates to the treatment of calculous complaints; for in it the offending substances can be collected and analysed, and the effects of medicines unequivocally judged of by their increase, change, or disappearance.

There are very few cases in which chemical principles are

successfully applicable to the treatment of disease ; but the only rational observations which have been given to the public concerning the causes and treatment of these affections, have originated with Chemists and chemical Physicians. Of the remarks of Paracelsus, Van Helmont, Stahl, Boerhaave, and others of their school, it will be unnecessary to say more than that they are vague, incorrect, and absurd ; though Fourcroy, with that useless diligence which characterises many parts of his great work, has laid more stress upon their notions than mere historical relation required.

In 1776 Scheele pointed out the existence of a concrete acid in urinary calculi ; and that illustrious Chemist may be considered as the first writer whose observations on the chemical constitution of calculi are entitled to any notice. In 1798, Dr. Pearson prosecuted the inquiry which Scheele had opened ; and his researches were published for that year in the *Philosophical Transactions*. But it was in 1797, that the most important addition was made to our knowledge upon this very important subject, by the publication of a masterly paper by Dr. Wollaston, in which we are not only made acquainted with the existence of several new substances in urinary calculi, but also with some highly valuable facts respecting the treatment of cases in which they occur. Yet, with this light upon the subject, medical and surgical Practitioners remained, with few exceptions, grossly ignorant, and continued to graft their own erroneous views upon the errors of their predecessors : they neglected the valuable body of chemical evidence which had been adduced, and till within these few years scarcely any person appeared moderately informed upon the subject, apparently for the want of some connected and popular view of all that had been done, so digested and arranged as to be intelligible to medical men. This desideratum Dr. Marcet seems to have supplied, in his *Essay on the Chemical History and Medical Treatment of Calculous Disorders* ; and the medical world, as well as the public at large, should feel much indebted for the perspicuous and useful manner in which he has fulfilled his task.

The object of the present essay is to throw the most important facts connected with the chemico-medical treatment of these disorders into a yet more popular form, with a view of exciting attention to the simple principles of their early treatment, and of showing the dangerous consequences of delaying an easy prevention, where cure is impossible, except by the manual operation of the Surgeon.

In the year 1808 I undertook, at the request of Sir Everard Home, to examine the collection of urinary calculi contained in the splendid Museum of the College of Surgeons ; and the

observations which that examination suggested, were presented to the Royal Society, with the addition of some valuable remarks by Sir Everard Home, and the whole honoured by a place in the Philosophical Transactions for 1806. In some subsequent papers also presented to and published by that learned body, we have jointly prosecuted different branches of the same inquiry; and in the present digest, I propose to give a sketch of all that is important in these papers, illustrated by such other facts and observations as have since presented themselves.

Some General Observations on the early Symptoms of Gravel, and on the Modes of treating them.

IT is of the utmost importance that the early symptoms of gravel should be carefully attended to; for we are often able, with little difficulty, to check their progress, and to form useful anticipations of the probable duration and extent of the complaint. It is in this stage, and this only, that we may rationally speak of solvent medicines; and that it is really in our power to prevent that kind of accumulation which ends in stone either of the kidney or bladder. The only medical writer who has candidly and sensibly discussed this very important part of our present subject, is, as far as I know, Dr. Marcet, in the last chapter of his valuable essay already quoted; but as my own views upon this subject differ in some points from those which he has there propounded, I shall beg leave to state them in general terms.

It is necessary to bear in mind, that of the numerous substances contained in the human urine, there are rarely more than three which make their appearance in the form of deposit or gravel; these are phosphate of lime, phosphate of ammonia and magnesia, and uric acid. The two former substances constitute a *white* sediment, the latter forms a *red* deposit; and it is above all things necessary clearly to distinguish between the two, and not to confound them, as many practitioners are apt to do, under the general name of *gravel*, or *sand*. The urine, in its healthy state, is always an acid secretion; and this excess of acid retains the earthy salts, above alluded to, in a state of solution; but whenever this inherent or natural acidity of the urine is diminished, whether by disordered digestion, irregular secretion, particular kinds of food, or improper medicines, a tendency to form the white deposit immediately ensues. When, from any cause, this white sand is observed, the internal use of acids will, in most cases, diminish or remove it; this is a fact of the utmost importance in its treatment, for which we are

indebted to the discoveries of Dr. Wollaston, in this branch of chemical medicine.

Concerning this white sand, there are two questions of importance. The first relates to the circumstances of its appearance; the second to the mode of treating it.

White sand is very frequently symptomatic of disordered digestion, and is apt to appear in any case where excess in eating or drinking has been committed. It often seems to be produced by the free use of amylaceous or farinaceous diet. It may always be abundantly formed by alkaline medicines, and persons who habitually drink soda water, or take magnesia, are frequently voiding it. Its appearance, in the latter cases, has often led to serious errors. I have known soda water exhibited in a case of stone in the bladder, *produce* abundance of white sand, which the ignorance of the patient and his medical attendant led them to refer to the solvent power of the medicine upon the stone, which they thought was gradually giving way and being voided; whereas, great mischief was doing, by giving the urine more than its usual tendency to deposit the phosphates, and consequently to augment the size of the calculus; for it deserves particular remark, that the urine has a natural tendency to deposit the above-mentioned phosphates upon any extraneous body in the urinary passages, and often upon the inner coat of the bladder, if it be at all diseased.

The use of magnesia will also occasion the deposit of the phosphates by the urine; and I have heard the white sand described as magnesia passing off by urine.

The tendency of the urine to deposit white sand whenever its natural acidity is diminished, is shown by the addition of a little alkali to recently voided urine, which immediately throws down a white powder.

The acids naturally in excess, or uncombined, in healthy urine, and which may be regarded as holding the earthy phosphates in solution, are the phosphoric, the uric, and the carbonic. Berzelius has stated the lactic acid to be one of these, but my own experiments do not induce me to coincide in the opinion of that active chemist. Dr. Marcet has controverted my idea respecting the uniform presence of carbonic acid, (Essay, page 159, note,) but, whenever I have made the experiment in the way he mentions, that is by exposure under the exhausted receiver of the air pump, I have procured it in some quantity; and whenever I have added baryta water to recently voided urine, the precipitate, immediately separated, has contained carbonate of baryta.

The appearance of white sand does not seem deserving of much attention where it is merely occasional, and where it

follows indigestion brought on by accidental excess; if, however, it invariably follows meals, and if it be observed in the urine, not as a mere deposit upon cooling, but at the time the last drops are voided, it becomes a more serious disorder; for it is sometimes the forerunner of other forms of the disorder; sometimes it creates much irritation, and sometimes may even collect and concrete into a calculus, more especially if the complete evacuation of the bladder does not take place. I have known it considered as the *effect* of irritable bladder, where it has, in reality, been the *cause*.

In these cases then, the best mode of treatment, both for cure and prevention, becomes the next subject of inquiry; and acid medicines are, in most cases, properly and effectually resorted to. It will first be right to consider the *kind* of acid most effectual, and afterwards to notice cases in which acids are hurtful.

(To be continued in our next Number.)

On White Arsenic. By Dr. PARIS.

(From the Quarterly Journal of Science and Arts.)

AFTER the various controversies upon the subject of arsenical tests, it is not a little singular, that the discordance which exists in the different chemical works of authority, upon one of the most important characters of arsenious acid, should have escaped animadversion. *Does the arsenious acid, when volatilized, yield any alliaceous or perceptible odour?* The fact is, that unless the arsenical vapour be deoxidized by the presence of some body which has a powerful affinity for oxygen, it is perfectly inodorous, the alliaceous or garlic-like smell being wholly confined to *metallic* arsenic in a state of vapour; such a deoxidation takes place when the arsenious acid is thrown upon ignited charcoal, or when heated in contact with those metallic bodies which readily unite with oxygen, as *antimony, tin, &c.* It is stated by Orfila, and other chemists, that if it be projected upon heated copper, the alliaceous odour is evolved; this certainly takes place if the copper be in a state of ignition; for at that temperature its affinity for oxygen enables it to reduce the arsenious acid; but if a few grains of this substance be heated on a plate of copper, by means of a spirit lamp, or a blow-pipe, no odour is perceptible, for the whole of the acid is dissipated before the copper acquires a sufficiently exalted temperature. If the arsenious acid be heated on a plate of zinc, the smell is not evolved until the zinc is in a state of fusion; if, instead of these metals, we employ in our experiments, gold, silver, or platina, no alliaceous

smell whatever is produced. The practical application of these facts, and their extreme importance in medical jurisprudence, are so obvious, that no apology is necessary for troubling you with a detail of them. Mr. Faraday has obliged me by repeating them in the laboratory of the Royal Institution, and with results similar to those which I have stated.

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

PATHOLOGY (INCLUDING MORBID ANATOMY) AND PRACTICE OF MEDICINE.

I. *Asthma*. — On the very important question whether “*the asthma of aged subjects be really a nervous affection*,” a Memoir, alike distinguished by the ability and candour with which it is written, has lately been published by M. Rostan*. The abstract which we are about to give, will embrace all its more prominent and essential features.

The physicians of antiquity, destitute of the light of anatomical inspection, were but little acquainted with the morbid alterations of the internal organs. Their pathology was restricted to the rigorous observation of symptoms; and in this they have indeed left models worthy of our imitation. To certain assemblages of morbid phenomena were applied names expressive only of such assemblages, and not of any alteration with which they were connected. Thus, by most of the names transmitted to us, external phenomena only are expressed. On the same principle, difficulty of respiration has been designated asthma, without regard to the different lesions whereby it may be occasioned. The physicians of succeeding ages trod in the steps of their predecessors; and when a more enlightened system of philosophy at length allowed the bodies of the dead to be converted to the service of the living, a mistaken respect for established opinions threw its darkening film over the eye of the observer. Medicine, however, has shared the salutary influence of that severe spirit of inquiry which, within the last fifty years, has been introduced into the study of the other sciences, and communicated to them such a mighty impulse. Without retracing the splendid discoveries of morbid anatomy, modern

* Nouveau Journal de Médecine, Septembre, 1818.

medicine may be certainly regarded as indebted to them for the certainty of diagnosis, and the general superiority of character which it so strikingly exhibits. And if, as cannot be doubted, the facility of cure is proportioned to our knowledge of a disease, anatomical inspection must indeed be fraught with inestimable advantages.

It is probable that the empire of nervous diseases, to which all morbid phenomena of obscure character are at present most conveniently referred, would be daily circumscribed by a patient and laborious attention of professional men to anatomical researches. But the fatigues of practice and the prejudices of friends frequently oppose an insuperable obstacle to them in private situations; while, in hospitals, the subjects of nervous affections rarely sojourn longer than is necessary for the cure of the acute disease for which they have been admitted; and are afterwards irrevocably lost sight of. But it is otherwise in those receptacles of the aged, where the inmates, terminating their existence, are sooner or later submitted to the necessary examination. Of the opportunities afforded by his situation in a large establishment, which is devoted to the reception of the aged and infirm, M. Rostan has availed himself to observe and register the facts, and establish the opinions, about to be developed.

Previously to the exposition of these views, M. Rostan thinks proper to take a rapid retrospect of the symptoms of nervous asthma, as delineated by Pinel and Cullen. These we need not retrace. The same general phenomena, he observes, characterize the cases about to be recorded; and dissection will show the organic changes from which they have resulted.

Asthma, dependent on ossification about the bronchiæ, and on aneurism of the left ventricle of the heart.

A female idiot, aged 61, had, from the period of 1812, attracted notice on account of periodical dyspnoea, which constantly recurred in the winter; and which, although so violent during the night as to menace suffocation, completely disappeared in the morning. Respiration was performed with a hissing rattling sound; the face livid, violet, and covered with cold perspiration. The patient assumed a sitting posture: her head seemed sunk into her chest. Antispasmodics invariably afforded a transient relief. During summer the woman continued perfectly well. In 1817, the attack was unusually severe. Respiration was noisy and convulsive. Neither cough nor expectoration existed. The symptoms occurring towards evening were dreadfully aggravated during the night. No palpitations of the heart; pulse frequent, regular; countenance livid, swollen; position sitting,

with the head bent forward on the thorax, and the latter on the knees; limbs œdematous.

March 19th. The sitting posture no longer tenable from debility. The patient lies on the right side.

21st. Respiration rattling. The patient reclines on her back; features shrunk and decomposed. Death on the morning of the 23d.

DISSECTION.—Externally no emaciation; neck very short. Thorax.—*Right side.* Old ligamentous adhesions at the inferior part; effusion of three pints of serum; lung in a state of congestion.—*Left side.* Stronger adhesions with less fluid; lung gorged. Bronchiæ red, and their mucous membrane thickened; bronchial glands much enlarged; and several ossifications, of the size of a bean, around the bronchia.—Heart. Left ventricle greatly thickened; the aortic orifice contracted. Abdomen sound.

Asthma, dependent on ossification of the aorta, with active aneurism of the left ventricle.

A woman, aged 74, who for 18 years had been asthmatic, experienced every winter an evening fit of suffocation which continued during the night. In the winter of 1817, great anxiety was induced by a severe moral affection. Her symptoms, on a morning visit, were then frequent, moaning, noisy respiration; cough, with debility and white opaque expectoration; feeble pulse; little palpitation; violet-coloured face, with slight œdema of its right side. Head bent forward on the sternum, but inclining to the right; position sitting, with the body supported on the right elbow. The thorax was every where sonorous. The dyspnœa growing worse, the woman died on the 30th of March.

DISSECTION.—Externally. Body slender; countenance pale; no swelling.—Thorax.—*Left side.* Some adhesions; lung crepitous but somewhat gorged with blood.—*Right side.* Inferior lobe of the lung *hepatized* and grey-coloured; an albuminous membrane on the pleura; and beneath this membrane white and almost cartilaginous scales; bronchiæ red and injected. Heart small, but much indurated; cavity of the left ventricle greatly diminished; its parietes thickened, and the orifice of the aorta contracted; points of ossification in the vessel and its valves. The *hepatization* of the lung had probably taken place subsequently to the trial of the thorax by percussion.

Asthma, with appearance of an advanced organic affection of the heart; and the symptoms of which completely subsided.

A woman, aged 70, and previously healthy, was admitted into the infirmary on Dec. 26th, 1816, on account of nocturnal

attacks of suffocation. It yielded in about a month to the employment of antispasmodic remedies. But in March the anxiety, suffocation, and orthopnœa, recurred with increased violence; and with these symptoms were combined œdema of the lower limbs; gangrene of some parts of the surface, to which blisters had been applied; bloody and brownish expectoration; small intermittent pulse; palpitations; paleness of the face, with violet lips; and extreme debility. The final struggle seemed to be approaching, when all the symptoms, with the dyspnœa, the disturbance of the circulation, and swelling, gradually subsided; and on the 18th of April weakness alone remained. During summer, this patient for a short time quitted the infirmary; but the disease recurred, and proved fatal in December following. Dissection showed the existence of active aneurism, with ossification of the aorta. The lungs were sound. The stomach was cancerous, with polypous vegetations in its lesser curvature. The intestinal canal had a minutely injected appearance.

Asthma, dependent on active aneurism of the right ventricle; resulting, itself, from mal-formation of the thorax.

A woman, aged 71, of small stature, and with depression of the right side of the thorax, had been subject to paroxysms of dyspnœa, during winter, as long as she could recollect. They had hitherto always yielded less to medical treatment than to the influence of a more genial season.

On the 22d of March, 1817, suffocation was menaced during the night; and there was cough, with expectoration of frothy mucus. The left region of the thorax sounded obscurely on percussion. The pulse was unequal and irregular. No palpitations. The appetite was lost; urine suppressed; and debility extreme. The face was livid and swollen; and limbs œdematous. Death took place on the 24th.

DISSECTION. — Externally. Tolerably plump; lower limbs swollen; chest narrow, elongated, and depressed on the right side. Thorax. — *Right side.* Lung small, gorged with blood, covered with violet spots, and crepitous; four ounces of fluid in the cavity. — *Left side.* A pound of serum; lung small, gorged, and crepitous; bronchiæ red. Heart dilated, voluminous; left ventricle natural; aortic orifice somewhat contracted; parietes of the right ventricle half an inch in thickness. Abdomen sound.

Asthma, proceeding from ossification of the aorta, with dilatation of both ventricles of the heart.

A woman, aged 75, who for some years had been subject to nocturnal fits of dyspnœa, during winter, was admitted

into the infirmary on the 21st of February, 1817, with difficult and frequent respiration, cough, and mucous, and sometimes bloody expectoration. The chest was without pain, but it sounded obscurely in the right and posterior region. There were occasional palpitations; an irregular, unequal, and intermitting pulse; and œdema of the right side, and particularly of the corresponding leg; and flushed countenance. The patient lay on her right side; her sleep was broken by cough, anxiety, and fits of suffocation. After lingering six weeks, with slight variations, she expired in a paroxysm on the 30th of March, exhibiting the symptoms of disease of the heart in its last stage.

DISSECTION.—Exterior. Veins of the face and neck injected; general dropsy; thigh of a violet colour; vesicles filled with serum. Thorax.—*Right side.* Adhesion of the pleura and lung in their two superior thirds; effusion of fluid in the inferior part; lung crepitous, somewhat gorged; bronchiæ red and inflamed.—*Left side.* No adhesions, and little effused fluid. Heart voluminous, soft; both ventricles dilated; the aortic valves ossified; the aorta exhibiting depositions of bone, of several lines in extent. Abdomen. Internal surface of the stomach violet-coloured, brownish; small intestines red.

Asthma, dependent on chronic pleurisy and active aneurism of the right ventricle of the heart.

A woman, aged 61, had been for fifteen years subject to evening paroxysms of suffocation, orthopnoea, and anxiety, during the winter only. They were unaccompanied by palpitation. In March, 1817, she sustained her last and most severe attack of these symptoms, with pain in the right region of the chest, and dropsical swellings of the limbs, face, and abdomen. Frothy blood of a bright red colour at first, but subsequently blackish, had also been for six weeks expectorated; when on the 12th of April she died.

DISSECTION.—Thorax.—*Right side.* Lung strongly adherent to the pleura by numerous layers of albumen, disposed one upon the other, and some of them so solid as to lacerate the lung on separation. The lung, greatly reduced in volume and flattened, contained no air. Some encysted tubercles occupied its indurated posterior part. The pleura was here and there red from congestion. The cavity contained a small quantity of reddish fluid. Heart greatly enlarged, and remarkable dilatation of the right ventricle, with its parietes exceedingly thickened. Bronchiæ red, and containing, particularly towards their ramifications, a bloody mucus. Abdomen sound.

Active aneurism of the heart, and particularly of the left ventricle; and other morbid changes, giving rise to the phenomena of periodical asthma.

A woman, of 75, who described herself as asthmatic, had been subject for an indefinite period to attacks of suffocation, requiring medical assistance every winter. They occurred night and morning. The anxiety and dyspnœa had been unusually violent during the preceding winter. On the 25th of March, 1817, the woman was carried off by asthenic peripneumony.

DISSECTION.—Thorax.—*Right side.* Strong adhesions, of a remote date, over the whole costal surface of the lung; a soft, recent, albuminous membrane of a diaphragmatic surface; the two inferior lobes presenting a grey and red *hepatized* aspect.—*Left side.* Strong adhesions over the whole circumference of the lung, which was gorged with blood, but not *hepatized*. Bronchiæ red and thickened. Heart enormous; both ventricles considerably thickened, particularly the left, the parietes of which were more than an inch in thickness. Patches of ossification, some of them nearly an inch in diameter, deposited on the aorta, beyond the origin of the subclavian arteries. No disease in the abdomen.

To these cases may be added most of those cited by M. Rostan, in his late “Memoir on the Distinction of Aneurisms of the Heart into active and passive*,” as, first, that of a woman named Dumay, whose dyspnœa came on in a morning, but subsided during the day; and in whom was found, on dissection, an active aneurism of the right ventricle: secondly, Chevillard, reported to have been asthmatic for twenty-eight years, and affected every winter with nocturnal fits of dyspnœa; who exhibited, on dissection, a similar organic change: thirdly, Malhère, who for fifty years had been subject in winter to dyspnœa, aggravated at evening and night; and on whose decease an enormous enlargement of the heart was discovered: and, lastly, Duvourdy, who offered all the symptoms of asthma, of which chronic pleurisy and active aneurism of the right ventricle were found to be the cause.

* Nouveau Journal de Médecine. Avril, 1818. The object of this very instructive Memoir is to prove, that the causes which have been assigned as productive of active aneurism, or dilatation with thickening of the parietes of the heart, and passive aneurism or dilatation with wasting of the parietes of the organ, and the signs respectively attributed to these different lesions, by Professor Corvisart, are by no means the result of constant experience: in fact, that the several particular species of organic disease to which the heart is obnoxious, exhibit during life no distinctive signs which may be relied upon as positively diagnostic. See REPOSITORY, Vol. X. page 496.

By modern writers on the diseases of the thorax it has been observed that *most of these affections are commonly mistaken for asthma*. Both Baumes and Corvisart* express astonishment at the frequency of this error: and Bayle confirms the opinion entertained by M. Rostan, that *dilatation of the right ventricle causes shortness of breath and habitual dyspnœa*. To the development of this truth the present memoir is devoted. Even Cullen, it is curious to see, remarks that asthma may terminate in pulmonary phthisis or hydrothorax, and commonly proves fatal by occasioning *aneurism of the heart and large vessels*†. Yet he seems not to have suspected that the asthma was merely the first degree of these affections.

The preceding facts, in M. Rostan's opinion, incontestibly prove that the symptoms attributed to asthma depend on a morbid change of the respiratory or circulating organs. All the asthmatics examined by him during the last seven years have invariably presented some of these lesions: and his situation at *la Salpêtrière* is represented as singularly favourable to such researches. In all the cases just cited the progressive development of the symptoms had been for several years vigilantly watched. During severe winter nearly four-fifths of the inmates of the wards suffer from dyspnœa. In summer these affections disappear, to return with the cold season. Deaths then frequently take place, and lead to the discovery of the lesions in question. A few persons in whom the disease has attained its last stage experience no remission during the summer. These suffer also in the day time. Hence it may be concluded that periodical asthma is only the commencement of the organic affection, and that the symptoms become continual in its more advanced stage.

Many objections, M. Rostan is aware, may be started to the correctness of his inferences from the preceding facts: and his memoir is concluded by a very fair exposure, and attempt at refutation of them. The more prominent features of the discussion respecting the nine objections which he has stated and examined, will be preserved in the ensuing rapid outline.

1. *Ossification of the aorta in aged persons, here represented as the most common cause of diseases of the heart, and consequently of asthma, is, it may be objected, the inevitable result of the progress of age, and hence a physiological phenomenon rather than a disease, and that the subjects of vascular ossification frequently exhibit during life no symptom of its existence.*—But ossification of the aorta is surely not less a disease than the opacity of the crystalline observed in advanced age.

* See their respective *Traité de la Phthisic Pulmonaire*; and *Traité des Maladies du Cœur*.

† First Lines. Vol. II. page 227. Edinburgh edition, 1803.

It produces changes in the heart and vascular system which destroy life. And if, as very rarely happens, it produce no disturbance in the respiratory or circulating organs, the same absence of all external phenomena is sometimes observed in deep-seated lesions of the lungs, stomach, and other viscera. Yet who ever doubted the commonly fatal consequences of pulmonary tubercles or gastric scirrhus? M. Rostan has preserved a large osseous tumor which had been developed in the substance of the liver, without giving rise to any phenomenon indicative of its existence during life.

2. *Ossifications of the large vessels exist almost universally in old persons.*—Hence they almost invariably suffer from dyspnœa during winter: and no objection is constituted by this frequency.

3. *Persons affected with asthma have sometimes been cured.*—Never in old age. Some, after having exhibited the symptoms, have indeed experienced a remission, and died of other disease; but the organic affection was still discoverable. The absence of all symptoms in this interval is explicable in the same way as that which takes place in other latent diseases. A woman under the care of M. Rostan, aged thirty-four, and who for three years had displayed all the signs of cancer of the stomach, and had attained the last stage of emaciation, gradually recovered; and remained during twenty years in a state of apparently perfect health. At the age of fifty-four vomiting of a blackish matter reappeared, with an evident tumor in the epigastric region, and terminated fatally in three months. On dissection the stomach, liver, pancreas, and omentum, and adjacent organs, were found implicated in an enormous ulcerated cancer.—Even admitting the occasional recovery of asthmatics, it is probable that incipient organic diseases of the thorax may sometimes disappear in young or middle aged persons; in the same way as intestinal tumors and aneurism admit of a spontaneous cure.

4. *On the examination of some asthmatics no morbid alteration has been discovered.*—This may be the result of negligent or superficial inspection; and is directly and invariably contradicted by Rostan's experience: no well-authenticated example of it is on record. The *Sepulchretum*, indeed, contains the history of a man subject to dyspnœa, in whom after death nothing was discovered, but *considerable thickening of the parietes of the left ventricle of the heart!* Moreover, periodical asthma being only the first degree of an organic affection, the latter may be sometimes readily overlooked*.

* In order to judge of the thickening or other changes of the parietes of the heart, it is necessary to cut them in a transverse direc-

5, 6, and 7. These objections and the refutations offer nothing very solid or satisfactory. In the latter, respecting the tendency of nervous diseases ultimately to induce organic lesions, M. Rostan inquires why all local diseases, and why phthisis and cancer of the various organs, may not (as well as asthma) be referred to a nervous influence? and whether it be not more rational to admit that the existing symptoms are attributable to an incipient organic affection, than search for their origin in a nervous state incapable of demonstration.

8. *Why is the same organic alteration not invariably met with in asthmatics? Why are the same symptoms produced alike by aneurism of the left and right ventricle, by chronic pleurisy, or other morbid alteration of the lungs?*—To dissipate this objection the most simple notion of the structure and functions of the human organs will suffice. Suffocation, the principal phenomenon of asthma, is obviously dependent on an embarrassment of the lungs, primitive or secondary. The disorder most frequently occurring in old persons is doubtless that which originates from stagnation of blood in the pulmonary structure; consequent on some obstacle in the greater circulation*. The aorta once obstructed, the blood stagnates in the left ventricle and corresponding auricle, and subsequently in the lungs. The patient then assumes the sitting posture, and rests upon his hands. The thorax is dilated by deep and frequent inspirations. He seems anxious to distend the cavity to the utmost, in order to contain the excess of blood accumulated in the lungs by the impeded circulation. If the obstacle, on the other hand, exist primarily in the pulmonary organ; if the patient be affected with chronic inflammation of it, or of the pleura, the dyspnœa is more readily explained, as well as the enlargement of the right cavities of the heart, which constantly takes place when this organ has long struggled against opposed difficulties; a condition, as before observed, adverted to by Bayle.

9. The last and most embarrassing objection remains to be noticed. The periodicity of asthma is a phenomenon apparently wrapped in impenetrable obscurity. *Why, it may be inquired, the disease being organic, and consequently invariable, is the patient affected with dyspnœa more at one time than another?* The regular paroxysms of pneumonic diseases, of

tion, a thing very rarely done. See the *Elemens de Pathologie Générale*; par M. Chomel.

* This stagnation is demonstrated by the inspection of bodies in which the lungs of persons destroyed by asthma, or, more correctly speaking, by aneurism, are invariably found gorged with blood, and resembling in appearance the spleen or liver (*splénisés ou hépatisés*).

cancer of the stomach, and phthisis, are, M. Rostan replies, equally inexplicable as the more perfect remissions of asthma. Cullen, indeed, and other authors who have written on the subject, assert, that the symptoms never completely remit in asthmatics. Yet it is certainly otherwise with some in the earlier attacks of the disease. Cullen, however, thinks that *organic diseases, acting CONSTANTLY, may produce PERIODICAL dyspnœa**. It seems probable that the cause of such periodicity may exist in the atmosphere which exerts such a direct influence on respiration and circulation, and is subject to continual variations. The difference which exists in various persons as to the hour of the attack is possibly referrible to individual peculiarity of constitution. The paroxysm of asthma is, in Cullen's opinion, dependent on a degree of plenitude of the pulmonary vessels; whence it is probable that suppressed perspiration, and diminished determination of blood to the surface of the body, may favour its accumulation in the lungs, and consequently occasion asthma. Hence it is evident that the cold of winter and the temperature of night may influence the intermissions of the disease. And, again, the more abundant secretion of bronchial mucus which takes place during night may oppose an additional obstacle to respiration. Hence the temporary benefits derived from expectorants, counter-irritants, and anti-spasmodics in asthma. Such, in M. Rostan's opinion, is the most probable explanation of a phenomenon, the cause of which will perhaps long remain unknown.

Without imagining that he has succeeded in solving all the difficulties of the subject, or refuting all the objections which might be advanced, M. Rostan considers it established as an incontrovertible truth, that *the asthma of aged people is invariably the symptom of an organic lesion*.

II. *Cure of paralysis by cicatrization of the substance of the brain*.—Diseases, even when yielding to the combined efforts of nature and art, leave upon the organs which they have attacked evident traces of their invasion. The study of this re-organization of structure has, however, been utterly neglected in internal pathology: for the morbid anatomist has rather been occupied in describing the ravages of disease in the viscera, than in determining the process by which the reparation of an organ, materially diseased, is, under the influence

* M. Rostan is in possession of a case, too long for citation here, the subject of which experienced convulsions, and other symptoms, during several years periodical in their recurrence. On dissection a carcinomatous tumor of the volume of an egg was discovered in the substance of the brain.

of life and art eventually accomplished. From this ignorance results the unfavourable prognosis of organic diseases. Many difficulties are indeed opposed to such a mode of contemplating pathological anatomy. In hospitals the opportunities of clinical observation are commonly transient; and in private practice the symptoms are seldom noted with the requisite precision; or vulgar prejudices against dissection obstruct the inquirer in his anatomical researches. Yet science would be signally benefited by determining what are the organic lesions susceptible of reparation; what the mode of re-organization employed by nature; and what the means whereby the curative process may be assisted. Thus, morbid anatomy would become, as it has been described by Morgagni, the real luminary of medicine.

Without aspiring to attain a result which must be the work rather of time than of genius, Dr. Serres* has undertaken to expose in succession the modes of cure of several organic diseases; commencing with those of the brain, and the paralysis consequent on them. Such an attempt will, in his opinion, indicate the object towards which the views of the Physician and Anatomist ought mainly to be directed.

Effusions of blood or abscesses, occurring in an organ of such delicate structure as the brain, were considered by Morgagni absolutely incurable: and such has generally been the opinion and language of the most celebrated Physicians of the present day. Yet paralysis has invariably its origin in organic alteration of the brain, cerebellum, or other portion of the nervous system: and if nature be really inadequate to the reparation of such ravages, the disease which they occasion must necessarily be incurable. This conclusion, however, is invalidated by facts; and it is the object of Dr. Serres to develop the mechanism employed by nature in the cure of paralysis. In order to prevent misconception respecting his views, the following questions are proposed:—Is a cavity formed in the substance of the brain, or other part of the nervous system, susceptible of obliteration? Can the brain be regenerated after having been, to a certain extent, altered or even destroyed? And is the paralysis dependent on such organic lesions curable?

Dr. Serres acknowledges that there has been a time when, with Morgagni, he would have replied to these questions in the negative. Farther observation has, however, at length convinced him that all the resources of nature are yet unknown. The facts to which he appeals in proof of the correctness of his new opinions remain to be detailed.

* *Journal Universel des Sciences Médicales*, Juillet, 1818.

First Case.—A clockmaker who had recovered from cerebral apoplexy, complicated with perfect hemiplegia of the right side, was admitted into the Hospital of la Pitié, under the management of Dr. Serres. Six weeks afterwards he walked, and began to use his right arm: but being at this period abused and abandoned by a woman with whom he had cohabited, he died in a few hours after receiving the intelligence of her desertion. On dissection, Dr. Serres was astonished to find the cavity formed in the brain by the apoplectic seizure almost wholly obliterated. It occupied the medullary centre of the organ, distant about five lines from the optic thalamus and corpus striatum. Complete re-union had taken place in its posterior part, about an inch and a half in extent. Between the lips of the division was found a white, rather faded, and in some parts bluish substance. The anterior portion not being entirely closed, an interval of two or three lines existed there. Cellular meshes passed from side to side; and the areolæ contained some drops of a yellowish fluid. Its internal parietes exhibited numerous granulations resembling those commonly designated fleshy vegetations. The surrounding substance was injected, and had acquired, to the distance of some lines, a yellow vinous colour; apparently indicating that the cavity had possessed greater length than depth. "Here," observed Dr. Serres to the students who witnessed the dissection, "is naturally explained the cessation of the paralysis, of which we have watched the progress. Nature has proceeded in this case as in the solution of continuity of bone or muscle. Had the patient survived the effect of the moral commotion beneath which he sank, the cicatrization of the cerebral lesion, and consequently the cure of the hemiplegia, would probably have been completed in a few weeks."

After some time the practice of Dr. Serres afforded a fresh opportunity of verifying this important fact.

Second Case.—A water-carrier had so far recovered from an attack of apoplexy, complicated with hemiplegia, as to resume his wonted occupations. His former habits of intoxication were, however, unchanged. One Sunday evening, on his return from a tavern, he was stricken with apoplexy, and lay in the street till morning, when he was conveyed to la Pitié. It appeared from the report of his wife, that previously to this attack he had been constantly at work, and had even about a fortnight since joined in the amusement of dancing. The man was now insensible, and completely paralysed on the left side; but when severely pinched he moved the right. Respiration participating the paralytic affection, he died on the third day.

The return of motion on the former attack, which took place ten months previously, had been very gradual. It was first manifested in the inferior extremity. Repeated dissections had convinced Dr. Serres that in this case the left hemisphere of the brain had been, to a certain extent, disorganized; and that from such disorganization the hemiplegia had resulted. But what changes had taken place in the left hemisphere during the recovery? And what was become of the cerebral lesion upon which the paralysis had been dependent?—These interesting questions, dissection of the body enabled Dr. Serres most clearly to elucidate. The left hemisphere of the brain was first cut down by slices to the medullary centre. Here the cerebral substance was observed to assume a yellowish colour, and to be speckled with capillary blood-vessels. The handle of the scalpel was now employed to scrape it away; and at length a large cicatrix was discovered, resembling in figure an undulatory line, and extending in an antico-posterior direction. Complete re-union had taken place between the borders of this cerebral wound; in the centre of the line of re-union, the brain exhibited a blackish blue colour; and in the vicinity of the lesion the cerebral substance was considerably firmer than elsewhere. The borders of the cicatrix could not be separated without laceration of the surrounding structure. After two days' maceration in distilled water, minute cellular areolæ, somewhat resembling honey-comb, were perceptible on the line of cicatrization; but they were scattered here and there, and did not communicate with each other: and so firm had the cicatrix become, that it was impossible to restore the cyst to its primitive state.

Here, remarks Dr. Serres, is presented a striking instance of cicatrization of the substance of the brain, and of the process of re-organization employed by nature in the cure of paralysis. The intimate connexion existing between the formation of the cyst in the brain, on the first attack of apoplexy, and the instantaneous development of hemiplegia in the opposite side of the body cannot be for a moment mistaken. Equally impossible is it to deny that in proportion as cicatrization took place, the limbs regained their lost mobility: for the annals of the science present such a number of cases of incurable paralysis, dependent on the non-cicatrization of the cerebral cyst, that the proposition in question may be regarded as constituting a medical axiom, and the citation of any particular example were unnecessary. Such a cicatrix was some time since seen at l'Hotel Dieu, occupying the whole extent of one of the hemispheres of the brain.

Cruvelhier has, it should seem, in his excellent work on

morbid anatomy*, fallen into an error in asserting, on the authority of Dr. Serres, that apoplexies are sometimes cured by the formation of a cerebral cicatrix. *Paralysis*, not *apoplexy*, Dr. Serres describes as admitting of cure by this process : and so erroneous are the ideas which have been published on this subject, that he considers it right to rectify those ascribed to himself. Among a great number of cicatrices which he has since met with, some, although the re-union was immediate, exhibited puckered and as it were fringed borders. In others the labia were separated by small cells, containing minute calcareous granulations. Lastly, those which took place in the corpora striata were more rapidly formed ; and hence the paralysis was cured with greater facility. The re-union was sometimes so exact that, independently of the surrounding vascular injection, it would have been difficult to detect the cicatrix ; but, in other instances, the borders of the wound, become callous, were incapable of cicatrization ; and, singularly enough, motion in this case was sometimes restored as though the cicatrization had been complete. Such result, however, was never observed in the medullary centre of the hemisphere.

It has before been observed, that the loss of motion in paralysis is dependent on the internal destruction of part of the brain ; and that by the re-organization of this portion, the power of motion is restored to the limbs. The following fact, in addition to those already adduced, will, Dr. Serres thinks, suffice to remove every doubt which may be entertained on this subject.

Third Case.—A man who had recovered from apoplexy in l'Hotel Dieu, was sent to la Pitié for the treatment of the hemiplegia with which it had been complicated. The progress of recovery was uninterrupted, and the cicatrix apparently formed with corresponding rapidity. While yet imperfectly restored, and tottering, he had the misfortune to fall from a high scaffold and fracture several of his ribs. The paralysis of the left side immediately returned, although the loss of motion was not so complete as it had been on the former attack. He died, and the following was the state of the brain exhibited on dissection : In the centre of the right hemisphere was found a recent cicatrix, the circumference of which displayed an aspect nearly resembling that mentioned in the preceding cases. The lips of the cicatrix were yet completely united at both extremities, but it had been ruptured at the middle part, and thus was formed an excavation capable of containing a musket-ball. Effused blood,

* Essai sur l'Anatomie Pathologique, 1816.

proceeding from the rupture of the internal capillaries of the cyst, occupied the interior, and separated the borders of the cavity. The yet adherent portions were separated without much difficulty.

This case serves, in Dr. Serres's opinion, to complete the theory of paralysis by the formation of a cicatrix in the substance of the brain. For it is evident that the cyst had been completely obliterated, and that the fall had destroyed the central part of the cicatrix, ruptured the capillaries, and produced the sanguineous effusion. Nor is it less obvious that the paralysis had disappeared with the formation of the cicatrix, and recurred afresh on the production of a new cyst. In a work which he is about to publish on apoplexy and paralysis, Dr. Serres promises to adduce additional facts illustrative of the relation between the recurrence of paralysis and the destruction of cerebral cicatrices, or the formation of new cysts beside the old one. At present he contents himself with drawing from these cases the important conclusion, that *cysts formed in the substance of the brain, as well as the paralysis dependent on them, are certainly curable, and that the process of re-organization is the same in the encephalon as in other organs.*

MEDICAL JURISPRUDENCE.

III. *Respiration of the fœtus in utero.*—Among the many objections which have been advanced against the correctness of any inference drawn from the pulmonary proof respecting the performance of respiration after birth in a new-born child, the alleged possibility that the respiratory act may take place while yet the fœtus remains enclosed in the uterus seems entitled to particular attention. The occurrence of this curious phenomenon, on the examination of pregnant animals, has been too respectably attested to be treated with the incredulity which, at first sight, it may naturally inspire. Osiander asserts, that the fœtus may respire, and even cry, when, on the escape of the *liquor amnii*, its mouth is near the uterine orifice: and Bichat, on cautiously opening an impregnated uterus, has observed through the membranes very distinct respiratory motions, repeated at regular intervals, and commonly slower than those of extra-uterine respiration*.

By M. Filleau, a French surgeon, several facts, leading to a directly opposite conclusion, have, however, been recently observed†. From these he is induced to believe that

* Dictionnaire des Sciences Médicales. Article Docimasie Pulmonaire. Tome X. page 73.

† Nouveau Journal de Médecine, Septembre, 1818.

the foetus is incapable of respiring in utero, even when the membranes enveloping it have been ruptured, and delivery has been long retarded. The cases noted by him in illustration of this subject, have been communicated to the Medical Society of the department of the Seine, and published in its journal.

The first case was that of a strong and well made female child, which died during delivery, when the waters had been for some time evacuated. The lungs were found collapsed and of a deep brown colour. The left lung having been cut in pieces and thrown into water, all the fragments sunk. Air was introduced into the right lung, which immediately expanded, and assumed a vermillion hue.

Another infant had remained forty-eight hours in the uterus after the rupture of the membranes, and was destroyed by the violent efforts which the narrowness of the pelvis made necessary in its delivery. M. Filleau, who, as well as the mother, had distinctly felt the motions of the foetus, expected to find some traces of introduction of air into the respiratory organs, but the lungs were flaccid and of a deep brown colour. Small portions of them, placed in water, instantly sunk to the bottom of the vessel. On the introduction of air into another part, it immediately swelled out, became of a bright red colour, and swam when put into water.

The third case relates to a child detained fifteen hours above the superior aperture of the pelvis after the escape of the waters. During this interval its movements had been repeatedly felt by the mother, and also by M. Filleau, particularly on the introduction of his hand into the uterus, in the act of delivery. On dissection the lungs were found compact, livid, and considerably heavier than water.

M. Filleau in conclusion remarks, that the compression to which the body of the foetus is subjected in the uterus opposes an insuperable obstacle to the dilatation of the thorax, and that no infant has ever been heard to moan or cry *previously to the complete extrication of its trunk from the vulva of the mother**; and, lastly, that the first act of inspiration

* This is obviously an incorrect assertion, and has several times been decidedly controverted by the observations of experienced and respectable men. We may cite the venerable name of Dr. William Hunter in attestation of the interesting and important fact, that the human foetus may respire as soon as the head is expelled in delivery. To this may be added the testimony of Baudelocque, Osiander, and Schmitt; the last of whom has published several illustrative and perfectly satisfactory cases on the subject. See *Dictionnaire des Sciences Médicales*. Tome X. Art. Docimasie. Upon this principle

does not take place till some moments after the full accomplishment of delivery. The commencement of the respiratory process while the communication of the foetus with its placenta still existed, would, in his opinion, be pregnant with danger.

Another objection commonly adduced against the adequacy of the pulmonary proof to incontrovertibly determine the momentous question of respiration before birth, is founded on the acknowledged difficulty of distinguishing the effects produced by artificial inflation of the pulmonary organs from those consequent on the natural execution of the respiratory process. But if the experiments instituted by Beclard, in elucidation of this subject, may be implicitly relied on, the juridical Physician is at once furnished with a test, alike simple and easy of attainment, whereby his diagnosis may be determined. This distinguished anatomist asserts, that the lungs of a child which have not respired but been inflated, may be deprived of the whole of the air artificially introduced into them, resume their original density, and sink in water; while those of a foetus, wherein respiration has taken place, acquire new physical properties, and no pressure to which they can be subjected will cause them to subside to the bottom of a vessel of water. The former of these experiments was repeated by Beclard, in the presence of Dr. Lebreton, on an inflated lung, with the most decisive result*.

IV. *Poisoning by colocynth.*—The following examples of the poisonous effects produced by the internal employment of colocynth (*cucumis colocynthis*) are recorded by Professor Orfila in the second edition of his celebrated treatise on poisons*, which has recently been published.

1. A sadler, aged twenty-eight, who had been subject to

was mainly rested the successful defence of two young women, about two years since, tried for child-murder at the Warwick assizes. The medical gentleman, who advocated the cause of the accused, expressed himself most anxious that “the minds of the jury should be duly impressed with the important truth, that a child may breathe, and even cry audibly, as soon as the head is delivered, and yet subsequently perish before the whole body is expelled. That this, in fact, constitutes one of the objections to the general rule of the trial of the lungs in water, and will be particularly liable to occur in a first labour, where the obstacles to delivery are commonly greater than in subsequent labours.” This doctrine was further corroborated by the evidence of a respectable Surgeon; and several in court had volunteered, if necessary, to attest its accuracy. — EDITOR.

* Bulletin de la Société Médicale d'Emulation. Novembre, 1818.

† Toxicologie Générale, &c. Par M. P. Orfila. Deuxième édition. 1818.

the hæmorrhoids, and for some time complained of pains in the stomach, and other symptoms of indigestion. This affection, his companion, a German workman, promised radically to remove by means of a popular remedy; and with this view two glasses of a bitter decoction, subsequently proved to be that of colocynth, were administered. Frequent alvine evacuations, accompanied with colic, were the first consequences of its ingestion; and some hours afterwards the man complained of great heat in the bowels, of a sense of dryness in the fauces, and unquenchable thirst. In the evening professional assistance was obtained, without, however, exposing the real origin of the symptoms. The patient had a small and extremely rapid pulse. The tongue was red, the abdomen tense and highly intolerant of pressure, with very violent pain fixed in the vicinity of the umbilicus. No fæces had been discharged. Venesection, emollient fomentations and injections, and chicken broth, were prescribed. The man passed a restless night. On the following morning the abdomen was still more swollen and painful. A vein was again opened and the tepid bath employed. Six hours afterwards, farther aggravation of the pain and retention of urine, with painful retraction of the testicles. The abdomen was now covered with fomentations; blood also was drawn from it by cupping, and twelve leeches were applied to the region of the anus. At the same time an emulsion of gum acacia, and emollient injections with nitre, were prescribed. On the morning of the third day all the symptoms, the retention of urine excepted, still continued without abatement. The pulse was small and thready. The cough and coldness of the extremities supervened. The head and thorax were bathed in a clammy perspiration, and the occurrence of gangrene was apprehended. Towards night the pains subsided, the abdomen became less tense, and exhibited signs of fluctuation. The attendants were for a while elated by this seeming amelioration, but the man died before morning. An acknowledgment was now made by his wife of the act of imprudence which had been committed. On dissection, the abdominal viscera exhibited marks of the most violent disorder. The peritoneal cavity was filled with a whitish fluid, containing flocculi of the same colour. The intestines were reddened, and thickly studded with black specks. Most of them were either adherent or covered with adventitious membrane. The mucous coat of the stomach was detached and ulcerated, and the peritonæum in an almost putrid condition. Traces of inflammation existed also in the liver, kidneys, and bladder.

2. The friend of Professor Orfila, by whom this case has

been communicated, was likewise called to a young woman, who had just swallowed half a glassful of bitter decoction prescribed by the same German empiric. Violent pains in the abdomen were immediately felt. A preparation of colocynth was at once recognized in the remaining decoction, and the symptoms speedily gave way to the employment of baths, oily and mucilaginous drinks, and opiates.

3. A baker, labouring under quartan fever and cachexy, took the same remedy, suffered severely from it, and lost his fever. Yet he continued feeble and languid, with a leaden complexion, and died, after six months, from an attack of paralysis.

SURGERY.

V. *Emphysema from a gunshot wound of the trachea.*—Ambrose Paré has recorded a case wherein emphysema was produced by a sword cut, which had divided part of the trachea and one of the jugular veins; but Dr. Canin is probably the first who has described this affection as resulting from the solution of continuity of a ring of the trachea, without any corresponding division of the integument*. In the former case the origin of the emphysema was as evident, as in the latter difficult of detection. Such a lesion as is detailed by Dr. Canin, undoubtedly constitutes a rare case in surgery, and may hereafter be ranked among the causes of traumatic tetanus.

On the 9th of February, 1814, after the battle of Williamsburgh, the man, who forms the subject of the following case, was conveyed, among a great number of wounded French and Russians, to the military hospital at Hamburgh. He was twenty-three years of age, and very tall, and presented, on admission, an enormous figure. When undressed and put to bed he could rest in no other than a sitting posture. From the elasticity and crepitation peculiar to emphysema, it was at once evident that the cellular membrane contained an æriform fluid. The swelling which pervaded the whole body was particularly conspicuous in the cheeks, eye-lids, breasts and scrotum, and prepuce. The limbs were so stiff as to be altogether incapable of motion, and the whole surface of the body had a glistening appearance. Respiration was difficult, and small quantities of a bloody and frothy mucus were occasionally expectorated.

On examination of the thorax, no breach of surface, ecchymosis, or depression, could be detected; and the interpreter

* Bulletin de la Société Médicale d'Emulation, Janvier et Fevrier, 1818.

being absent, it was impossible to acquire any information respecting the cause of the emphysema. Indeed, so great were the dyspnœa and tumefaction of the cheeks and lips, that they rendered articulation very indistinct. After farther search, a slight ecchymosis was observed on the anterior part of the neck; and on examining the man's cravat, a round and black depression, apparently made by a musket-ball, and corresponding to the ecchymosis just mentioned, was found upon it. This discovery threw light upon the subject.

A blow inflicted on the thorax will frequently fracture the ribs, without producing an external wound; because the bones offer a resistance not possessed by the elastic integuments. On the same principle may be explained a lesion of the cartilages of the larynx or trachea by a blow received upon the throat: and hence Dr. Canin hesitated not to regard the emphysema in this case, as being remotely caused by a musket-shot, and, proximately, by a wound of some portion of the respiratory canal. The swelling of the integuments rendered very difficult an accurate examination of the larynx and trachea. It was, however, at last clearly ascertained that the thyroid and cricoid cartilages had escaped injury; but that the first ring of the trachea offered not, anteriorly, its natural resistance. Hence it became obvious, that the breach through which the air had insinuated itself into the cellular membrane, existed at this point. The situation of the ecchymosis, and the pain experienced on pressure, concurred to strengthen this inference. Persuaded of the cause of the ecchymosis, Dr. Canin proceeded to divide the skin over the wounded cartilage, and the cellular structure which might oppose the passage of the air. The tension of the integument preventing the formation of a transverse fold opposite to the first ring of the trachea, Dr. Canin made, with a convex bistoury, a longitudinal incision extending one inch downward from the inferior border of the cricoid cartilage. A second stroke of the knife through the cellular substance established a direct communication with the wounded cartilage; the two fragments of which were now distinctly visible. The air rushed out with violence, and the patient was sensibly relieved. In a short time respiration became more free; and the apprehensions excited by the enormous swelling, and particularly by the imminent danger of suffocation, were dissipated. The limbs gradually recovered some power of motion.

The wound was dressed with a vinous application, and the body of the patient enveloped during eight days by flannel compresses moistened with vinegar. The resolution of the air contained in the scrotum proceeding more slowly

than elsewhere, recourse was had to the application of lime-water. During the first days of the treatment, light diet, with a little warm wine, and barley-water for ordinary beverage, was alone allowed. The quantity of aliment was afterwards progressively increased; and on the 18th day the wound was completely cicatrized.

Dr. Canin adds, that at the siege of Dantzick, in 1807, he had seen a partial emphysema of the neck, consequent on the division of the integument and cricoid cartilage by a musket-shot. During the same year, at the battle of Friedland, a similar accident occurred to an officer of the Russian imperial guard; but he had not an opportunity of ascertaining the particular point on which the injury of the respiratory canal had been inflicted.

CHEMISTRY.

IV. *Description of a new vegetable alkali.**—The celebrated French chemists, Messrs. Pelletier and Caventon, have recently discovered in the *strychnos nux vomica* and the *ignatia amara*, a new alkali, possessing some analogy to morphia, and united with an acid; and to which, in honour of their countryman Vauquelin, they have given the name of *Vauqueline*. This acid, difficultly obtained, is white, crystalline, intolerably bitter; and appears under the form of a four-sided prism, terminated by a pyramid with four faces, somewhat flattened. It is sparingly soluble in water, but very soluble in alcohol, and is composed, like most other vegetable substances, of oxygen, hydrogen, and carbon. Although essentially different from morphia, it is, like that, remarkable for its alkaline properties. It restores the blue colour of litmus when reddened by an acid; and forms, in combination with various acids, neutral salts soluble in water, and more or less readily susceptible of crystallization. When treated with diluted nitric acid yields a nitrate; but the concentrated nitric acid re-acts upon its elements and decomposes it. The solution, at first of a blood-red colour, passes afterwards to yellow, and yields oxalic acid. The acetate is extremely soluble; the sulphate less so, and crystallizes in rhomboidal scales.

This alkali possesses the most powerful poisonous properties, and to it is attributable the deleterious character of the substances from which it is obtained. Half a grain of it

* Société Philomatique, Séance du 30 Juillet, 1818; Annales de Chimie et de Physique, Tom. VIII. page 323; and Nouveau Journal de Médecine, Juillet—Août, 1818.

blown into the throat of a rabbit, killed the animal in five minutes. The convulsions began after a lapse of two minutes. Half a grain introduced into a slight incision of the back of a rabbit destroyed it in three minutes and a half. The convulsions took place in one minute. An atom of nitric acid was saturated with *Vauqueline*. The quantity of alkali employed might be estimated at three-fourths of a grain. The solution had at first a saccharine, but immediately afterwards an austere and bitter taste. A rabbit, to which it was administered, died in four minutes. It seems to destroy life in much smaller doses than morphia, and operates with greater rapidity than *pic rotoxine*, (the active principle of *cocculus indicus*), and in a different manner upon animals submitted to the comparative trials instituted with these two substances.

Messrs. Pelletier and Caventon consider it useless to enter into any minute description of the various phenomena and lesions produced by the ingestion of *Vauqueline*, as they closely resemble those which are determined by the action of the *nux vomica* and *ignatia amara*.

A fat oily matter has been obtained by these gentlemen from the direct operation of boiling ether on these two substances; and from the experiments which they have instituted with it, the poisonous effects which it produces on the animal economy are wholly attributable to the *Vauqueline* which it contains; for on separating this principle by repeated additions of rectified ether, the oil, even when administered in quadruple doses, no longer excited its wonted influence on the animal organs.

From one of the French Journals which has just reached us*, we moreover learn that the indefatigable Messrs. Pelletier and Caventon have announced, in one of the last sittings of the *Société Philomatique*, the existence, in the spurious angustura (*angustura ferruginea*), of a vegetable alkali, to which this bark is indebted for all its poisonous properties. They are at present unable to decide upon the peculiarity of the difference of the alkali in question from *Vauqueline*, to which it exhibits some resemblance; but the Editors are authorized to state that the alkali of the angustura is an alkali *sui generis*, and, consequently, distinct from all others at present known. It will shortly form the subject of a particular memoir, which will be noticed by us immediately on its publication.

* Nouveau Journal de Médecine, Novembre, 1818.

PART V.

MEDICAL AND PHYSICAL
INTELLIGENCE.

ROYAL SOCIETY.—Dec. 10.—A paper, by M. Theodore de Saussure, was commenced, entitled Observations on the Decomposition of Starch by the Action of Air and Water at common Temperatures.

Dec. 17.—The above paper was concluded. A portion of starch simply boiled in water was exposed for two years under a glass jar in a temperature between 68° and 77°. At the end of this time, about one-third of it was found converted into saccharine matter, having all the properties of sugar prepared from starch by the action of sulphuric acid, according to the method of M. Kirchhoff. On observing this curious circumstance, the author was induced to examine more attentively the nature of the changes which took place. He found that, besides sugar, a species of gum was formed, similar to that obtained by roasting starch; also a peculiar intermediate substance, which he denominated amidine, while a substance remained, insoluble in water and acids, which gave a blue colour with iodine, and was probably starch somewhat altered in its properties. The author states, that when air is present during the above process, water and carbonic acid gas are given off in considerable quantities, and that charcoal is deposited; but, on the contrary, that when air is excluded no water is formed, that only a little carbonic acid and hydrogen are extricated, and that no carbon is deposited. The author was unable to determine whether the presence or absence of air affected the quantity of sugar obtained. The paper was concluded with some remarks, which rendered it probable that water is fixed, during chemical operations, upon organized substances more frequently than is usually supposed.

SCIENTIFIC INTELLIGENCE, AND NOTICES OF SUBJECTS
CONNECTED WITH SCIENCE.

(From Dr. Thomson's Annals of Philosophy.)

I. *Action of Iron on Water.*

M. Guibourt has shown by a set of experiments, which appear accurate, that iron has the property of decomposing water at the common temperature of the atmosphere. The decomposition is most rapid when the quantity of iron bears a great proportion to the quantity of water. In that case the temperature rises considerably, the decomposition goes on more rapidly in proportion as the temperature is more and more elevated.—(Journ. de Pharm. June, 1818, p. 241.)

M. Robiquet has ascertained that the black oxyde of iron formed by the action of water on iron at the ordinary temperature of the

atmosphere, is exactly similar to the oxyde formed by the action of red hot iron on steam. Now it is well known that this last oxyde is a compound of one atom of protoxide and one atom of peroxide. The octahedral iron ore of mineralogists is a similar compound.—(Ibid. p. 308.)

II. Carbonate of Iron.

As far as we know at present, the only oxyde of iron capable of combining with carbonic acid, is the protoxide. Carbonate of iron found native is a compound of an atom of carbonic acid and an atom of protoxide of iron. I have never been able to succeed in my attempts to form a precarbonate of iron, though analogy leads me to suspect the possibility of the existence of such a salt.

III. Action of Prussian Blue on Starch.

M. Vincent, an apothecary in France, has published the following curious fact. If four parts of starch and one part of Prussian blue be mixed and triturated together in a mortar, so as to make as intimate a mixture as possible, and this mixture be boiled in a considerable quantity of water, the liquor, before it reaches the boiling temperature, acquires a green colour; it then becomes brown, and there remains a precipitate, which does not recover its blue colour, though treated with acids. The liquor has the property of forming a very fine Prussian blue, when treated with a solution of sulphate of iron mixed with an equal volume of solution of chlorine. When the liquid is evaporated, no gluey substance is deposited; but if it be reduced to a small volume, and allowed to cool, it gives a glutinous matter, which dries in the open air, and is again easily dissolved in water. The starch then is altered in its nature and converted into a kind of gum.—(Ibid. p. 325.)

IV. Reumic Acid.

Some years ago a paper by Mr. Henderson, on the acid of rhubarb, was inserted in the *Annals of Philosophy*. The result of his experiments led him to consider it as a peculiar acid, which he distinguished by the name of reumic acid. The only characteristic property, however, by which he was able to distinguish it, was that of dissolving mercury.

A set of experiments on the juice of the *rheum ponticum* has been lately made by M. Lassaigne, with a view of verifying the results obtained by Mr. Henderson. The juice of this plant is abundant, and very acid; but the acid possesses all the characters of the oxalic, and has no action whatever upon metallic mercury. The *reumic* acid, of course, does not exist as a peculiar acid.—(See Ann. de Chim. et Phys. viii. 402.)

V. Perchloric Acid.

Sir Humphrey Davy has verified the curious discovery made some years ago by Count von Stadion, of a combination of chlorine and oxygen, containing more oxygen than chloric acid, and which therefore may be distinguished by the name of perchloric acid. A particular account of the experiments of Count von Stadion will be found

in the *Annals of Philosophy*, ix. 22. I have likewise given an account of this curious acid in the last edition of my *System of Chemistry*.

VI. *Sea Snake of America.*

Extracted from a letter from T. Say, Esq. of Philadelphia, to Dr. Leach : —

“ I have to regret that many of the scientific journals of Europe have taken serious notice of the absurd story which has originated to the eastward about the sea serpent; a story attributed here to a defective observation, connected with an extraordinary degree of fear. You have probably been informed that Capt. Rich has explained the whole business; he fitted out an expedition purposely to take this leviathan; he was successful in fastening his harpoon in what was acknowledged by all his crew to be the veritable sea serpent (and which several of them had previously seen and made oath to); but when drawn from the water, and full within the sphere of their vision, it proved to their perfect conviction that the sea serpent which fear had loomed to the gigantic length of 100 feet, was no other than a harmless tunny (*schomber thynnus*) nine or ten feet long. Thus natural history is probably indebted to Capt. Rich for keeping from its pages an account of a second kraken; and a memorable instance is added to the catalogue of credulity already pregnant with warning to naturalists.”

LETTER FROM MR. LEESE TO THE EDITOR.

SIR,—I take the liberty of stating, that by the addition of a word you have materially altered the sense of an important point in my case of Croup. I particularly recommended the sending for persons who were in the habit of *applying* leeches. I therefore wrote “a woman was sent for”—you have printed “a woman was sent for *them*.” I also wish I had given the name of the woman employed in this case, who is very expert in their application, Mrs. Preen, 36, Somerset Street, Whitechapel.

I am, Sir, yours truly,
L. LEESE.

SPT. ETHERIS SULPHURICUS.—Mr. Wansborough has requested us to insert the following in the Repository:—Take 8 oz. by weight, of sp. vin. rect.; ditto, ditto, acid. sulph.; mix them gradually at intervals of two or three hours, putting in about an ounce of ol. sulph. each time, until the whole is mixed: then adjust your retort and recipient; the latter must be immersed in cold water, which I did by driving a nail in the counter, and placing the receiver in a large washhand-basin that held nearly a gallon. I then secured it by a string round the neck of the retort against the edge of the basin, and fastened it to the nail in the counter. Having done this, and luted the joint of the neck of the retort and the recipient, I filled the basin with water, and applied the flame of an Argand, and drew over until a white fume appeared to fill the retort; I immediately withdrew the lamp, and the black froth arose.

Upon measuring the product, it was 7 ounces.

I took zj. of potass. subcarb. and dissolved it in ℥ss. of water; I added this to the produce of the first distillation, and submitted it to a second, until three ounces remained in the retort. I thus obtained five ounces of highly rectified sulphuric æther at about sixpence an ounce, a most beautiful article, and far superior to any I ever purchased.

We are requested to acknowledge, that we were not present at the delivery of a Sermon to which we alluded in our December Number, and that the account we gave of it was merely from report: to this acknowledgment we have not the smallest objection, and, indeed, are rather pleased than otherwise, in having to announce that the condemnation of medicine was not of the kind and to the extent that we suspected. — EDIT.

NOTICES OF LECTURES.

Mr. Gray, Author of the Supplement to the Pharmacopœia, will give this Spring a Course of Lectures on Botany, as follows:—

Lecture 1. Usefulness of Botany, Rise and Progress of it, particularly in England.

2. Definition of a Plant, General Structure and Physiology of Vegetables.

3. Organs of Growth, viz. Root, Stem, Leaves, &c.

4. Organs of reproduction in their unimpregnated State, *i. e.* the Flower and its Parts.

5. Organs of reproduction in their impregnated State, *i. e.* the Fruit and Seed.

6. Arrangements of Plants hitherto proposed by Ray, Tournefort, Rivinus, Linnæus, Jussieu, and Decandolle.

7. Method of Studying Botany; Mode of Collecting and Forming a Herbarium.

8. Intimate connexion of the Knowledge of Insects with Botany; Usefulness of Entomology to Medical Persons; a slight Sketch of the External Parts of Insects, Arrangement, Mode of Collection and Preservation. *Valedictory Address.*

These Lectures will be immediately followed by Twelve Excursions into the Neighbourhood of London for Practical Botany: as is stated upon our Wrapper.

Mr. G. intends also to give in the Autumn, a Course of *Materia Medica*, in which these Lectures on Botany will be repeated, and a similar Course on Chemistry will be given as introductory to the Knowledge of Pharmacy in general.

Dr. Uwins has abandoned his intention of commencing a Course of Lectures on *Materia Medica*, &c. in consequence of the above well-matured plan of Mr. Gray. In the Autumn, however, his Lectures on the Theory and Practice of Medicine will be resumed; which will be so planned in respect to time and place, that Students will be able conveniently to attend, during the same season, both Mr. Gray's Course and that of Dr. U.

LITERARY NOTICES.

Speedily will be published, the Medical Topography of Upper Canada. By John Douglas, Assistant Surgeon, 8th regiment.

A Lecture on Dropsy. By George Gregory, M.D., Licentiate of the Royal College of Physicians in London, and Senior Physician to the St. James's Dispensary.

On the 15th of February next will be published, a Report of the Practice of Midwifery at the Westminster General Dispensary, for 1818; including several curious Computations on Labours, the Mortality of Lying-in Women and Children, and the Probability of Miscarriage; with a Collection of Medical Formulæ. By A. B. Granville, M.D., F.R.S., F.L.S., M.R.S., Physician in Ordinary to his Royal Highness the Duke of Clarence, Member of the Royal College of Physicians, London, and Physician-Accoucheur to the Westminster General Dispensary.

The third Edition, with considerable Additions, of Dr. Scudamore's Treatise on the Nature and Cure of Gout and Rheumatism; including General Considerations on Morbid States of the Digestive Organs, and some Remarks on Regimen, is nearly ready for publication.

In a few days will be published, in octavo, Observations on the Nature and Treatment of the Epidemic Fever, at present prevailing in the Metropolis, as well as in most Parts of the United Kingdom. To which are added, Remarks on some of the Opinions of Dr. Bateman, in his late Treatise on this Subject. By Henry Clutterbuck, M.D., Licentiate of the Royal College of Physicians, and one of the Physicians to the General Dispensary.

In spring last, Dr. Watt, of Glasgow, published a Prospectus containing a specimen of a new work, to be entitled "*Bibliotheca Britannica*; or, a General Index to the Literature of Great Britain and Ireland: with such foreign works as have been translated into English, or printed in the British dominions: including also a copious Selection from the writings of the most celebrated Authors of all ages and nations. In Two Parts. In the First the Authors are arranged Alphabetically; and of each, as far as possible, a short Biographical Notice is given; to which is subjoined a Chronological List of his Works, their various Editions, Sizes, Prices, &c., and in many instances the Character of the Work.—In the Second the subjects are arranged Alphabetically, and under each the Works, and principal parts of Works treating of that subject, are arranged in Chronological order. This Part also includes the anonymous Works which have appeared in this Country, inserted according to their respective subjects and dates."—A first part of this Work, consisting of thirty-five sheets or 280 pages, is in the press, and will be published in February. It is estimated that the whole will be comprised in six Parts, making two handsome volumes in quarto.

A METEOROLOGICAL TABLE,

From the 21st of DECEMBER, 1818, to the 20th of JANUARY,
1819.

KEPT AT RICHMOND, YORKSHIRE.

D.	Barometer.		Therm.		Rain		Winds.	Weather.
	Max.	Min.	Max	Min.	Gauge			
21	30	03	29	94	43	32	W.	1 Sun....
22	30	05	29	98	38	27	W.	1 Sun...
23	29	92	29	84	34	24	SW.	1 Sun...
24	29	70	29	62	30	24	SE.	1 Sun... 3 Mist...
25	29	55	29	46	34	27	SE.	1 Mist... and Sun.
26	29	68	29	48	34	31	SSE.	1 Cloud...
27	30	16	30	03	40	32	S.	13 Cloud... 2 Sun.. 4 Starl..
28	30	22	30	18	37	29	NE.	1 Sun. 2 Cloud.. 4 Starl...
29	30	13	30	09	36	30	NbW.	1 Sun...
30	30	08	29	99	35	30	W.	1 Sun...
31	30	06	30	01	40	30	W.	1 Sun...
1	30	09	30	03	38	30	SN.	13 Sun... 2 Cloud.. 4 M...
2	29	98	29	87	37	31	SW.SE.	1 Cloud.. 4 Moon..
3	29	88	29	74	35	29	S..SE..	1 Sun...
4	29	71	29	69	39	29	SE..	1 Sun..
5	29	75	29	73	40	35	05 S.SE.	1 Cloud.. 4 Rain.
6	29	60	29	39	41	34	SE..	1 Mist....
7	29	44	29	36	41	34	70 SSE.	1 Rain....
8	29	14	28	89	42	32	15 WbN.SSE.	1 Sun... 4 Rain..
9	29	25	28	98	43	33	16 SW....	1 Shower.. and Sun..
10	29	03	28	93	48	38	09 SSW...SW....	1 Sun... 2 Show. and Sun.
11	29	52	29	21	42	35	39 SW...SSW..	1 Shower.. 4 Snow...
12	29	48	29	35	44	36	SW..SSW....	1 Sun..
13	29	39	29	22	44	35	02 SSW...	1 Sun.. 4 Showers.
14	29	41	29	38	49	39	54 SW....	1 Rain.... 3 Sun...
15	29	61	29	30	44	32	29 SW...	1 Sh. of r... & S. 4 Sh. of s. & M..
16	29	34	28	78	43	33	25 WbN..	1 Sun.. 4 Showers of rain...
17	28	82	28	67	43	36	41 SW....	1 Sun.. & Showers of rain...
18	29	31	29	20	39	29	WbN...	1 Sun...
19	29	15	29	09	36	30	06 W..SW.	1 Sun... 3 Cloud.. 4 Rain.
20	28	96	28	85	35	28	10 W..SE..	1 Sun.. 3 Cloud.. 4 Snow..

The quantity of rain during the month of December was 1 inch 34-100ths.

Observations on Diseases at Richmond.

The disorders under treatment were Colica, Diarrhœa, Dysuria, Epistaxis, Erysipelas, Febris catarrhalis, Febris simplex, Fistula, Gastrodynia, Obstipatio, Ophthalmia, Phthisis pulmonalis, Pneumonia, Podagra, Rheumatismus, Scabies, Tœnia, Variola, and Vertigo.

THE METEOROLOGICAL JOURNAL,

From the 20th of DECEMBER, 1818, to the 19th of JANUARY, 1819, Inclusive.

By Messrs. HARRIS and Co.

Mathematical Instrument Makers, 50, High Holborn.

D.	Moon	Rain	Therm.			Barom.			De Luc's Hygrom		Winds.		Atmo. Variation.		
									Dry.	Damp.					
20			45 49 47	30 12 30 01		10 12	SSW	WSW	Clo.	—	Fine				
21			48 47 30	30 07 30 38		10 11	W	WNW	Clo.	—	Fine				
22			32 35 30	30 48 30 48		11 10	NW	WNW	Fog	—					
23			30 35 28	30 39 30 27		11 11	ENE	E	Fog	—					
24			30 34 27	30 27 30 21		12 10	ESE	SW	Fog	—					
25			30 33 35	30 11 29 97		13 10	SSE	SSE	Fog	Clo.	—				
26			36 37 29	29 99 29 95		15 11	S	SE	Clo.	—					
27			38 36 35	30 21 30 32		10 10	NE	NE	Clo.	—					
28			38 44 32	30 47 30 53		9 10	NE	N	Clo.	—					
29			35 38 30	30 60 30 62		9 8	N	N	Fine	Clo.	—				
30			32 35 30	30 51 30 43		8 9	W	W	Fog	Clo.	—				
31			31 34 30	30 50 30 43		10 10	W	W	Clo.	—	Fine				
1			31 36 32	30 48 30 51		10 10	W	WNW	Fog	—					
2			34 37 39	30 48 30 41		10 11	NE	SE	Fog	—					
3			10 44 32	30 37 30 30		10 9	SW	SW	Fine	—	Clo.				
4			35 39 35	30 19 30 12		9 10	SE	S	Clo.	Fine	Clo.				
5			37 41 34	30 17 30 22		13 12	SSE	SE	Fog	—	Clo.				
6			36 39 39	30 11 30 01		12 12	S	S	Fog	Clo.	—				
7			40 42 39	29 95 29 71		11 12	W	W	Fog	Rain	Clo.				
8			42 46 44	29 69 29 75		15 16	SW	SW	Fine	Rain	—				
9			19 51 40	29 56 29 64		15 17	S	SW	Fine	Rain	Fine				
10			43 50 42	29 71 29 70		13 12	SW	S. Va.	Clo.	—	Rain				
11			45 49 41	29 76 29 87		15 15	SW	SW	Clo.	—	Rain				
12			43 50 40	29 95 30 00		16 15	SW	W	Fine	Rain	Fine				
13			41 47 39	30 12 30 03		17 15	W	SSW	Fine	Rain	Fine				
14			44 50 40	29 93 29 99		15 13	SW	W	Rain	Clo.	—				
15			45 49 44	30 10 30 00		13 17	S	SW	Clo.	Rain	—				
16			46 48 39	30 22 30 05		15 10	SW	SW	Fine	—	Clo.				
17			42 47 37	29 47 29 51		15 10	SW	SW	Rain	Fine	—				
18			40 45 40	29 58 29 79		11 13	WSW	W	Fine	—					
19			42 46 37	29 73 29 71		10 10	WSW	W	Fine	—					

The probable quantity of rain (the gauge having frozen and burst in the latter part of the month,) fallen in December is 1 inch and 29-100ths.

A REGISTER OF DISEASES

Between DECEMBER 20th, 1818, and JANUARY 19th, 1819.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	8		Febris <i>Typhus mitior</i> ..	14	
Abscessio	13	2	— <i>Typhus grav.</i>	5	1
Amenorrhœa	14		— <i>Synochus</i>	38	1
Anasarca	11	3	— <i>Puerpera</i>	1	
Aneurisma	1	1	— <i>Remit. Infant.</i> ..	6	
Aphtha <i>lactentium</i>	7		Fistula	5	
Apoplexia	4	1	Furunculus	2	
Ascites	7	1	Gastritis	1	
Asthénia	19		Gastrodynia	18	
Asthma	67	10	Gonorrhœa <i>pura</i>	13	
Bronchitis <i>acuta</i>	14	1	Hæmoptœ	6	
— <i>chronica</i>	18		Hæmorrhœis	11	
Bronchocele	1		Hemiplegia	5	
Cancer	2	1	Hepatalgia	3	
Carbunculus	1		Hepatitis	14	2
Cardialgia	7		Hernia	5	
Catarrhus	73		Herpes <i>Zoster</i>	2	
Cephalalgia	23		— <i>circinatus</i>	1	
Cephalæa	1		— <i>labialis</i>	6	
Chlorosis	2		— <i>præputialis</i>	1	
Chorea	5	1	Hydrocele	1	
Cholera	2		Hydrocephalus	5	4
Colica	10		Hydrothorax	6	4
— <i>Pictonum</i>	3		Hypochondriasis	2	
Convulsio	1		Hysteralgia	3	
Cynanche <i>Tonsillaris</i> ..	13		Hysteria	12	
— <i>Trachealis</i> ..	3		Icterus	5	1
— <i>Parotidea</i>	3		Impetigo <i>scabida</i>	4	
— <i>Pharyngea</i> ..	1		Ischuria	1	
Diarrhœa	33	1	Leucorrhœa	13	
Dolor lateris	2		Lichen <i>simplex</i>	2	
Dysenteria	13	1	Mania	7	
Dyspepsia	27		Melancholia	1	
Dyspnœa	11		Menorrhagia	15	
Dysphagia	1		Morbi Infantiles*	42	3
Dystocia	1		— <i>Biliosi*</i>	14	
Dysuria	1		Obstipatio	7	
Ecthyma	2		Odontalgia	16	
Eczema	2		Ophthalmia	21	
Enteritis	8	1	Otalgia	3	
Entrodynia	6		Palpitatio	3	
Epilepsia	3		Paralysis	8	1
Epistaxis	2		Paronychia	3	
Erysipelas	9	1	Peripneumonia	12	
Erythema <i>læva</i>	2		Peritonitis	10	1
— <i>nodosum</i>	1		Pernio	3	
Exostosis	1		Pertussis	9	
Febris <i>Intermittent</i>	1		Phlogosis	9	
— <i>catarrhalis</i>	73		Phrenitis	1	1
— <i>Synocha</i>	6		Phthisis Pulmonalis	30	8

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Pleuritis	13	1	Scrofula.....	12	
Pleurodyne	5		Spasmi.....	3	
Pneumonia	25	4	Stricture	2	
Podagra.....	3		Strophulus <i>confertus</i>	2	
Pompholyx <i>benignus</i> ...	1		Syphilis	22	
Porri ^o <i>larvalis</i>	1		Tabes Mesenterica.....	5	
——— <i>decalvans</i>	2		Tic Douloureux.....	1	
——— <i>favosa</i>	1		Tussis, &c.	4	
Prolapsus <i>uteri</i>	7		Vaccinia	17	
Prurigo <i>mitis</i>	1		Varicella.....	3	
Psoriasis <i>guttata</i>	3		Variola	13	3
Pyrosis	1		Vermes	27	
Rachitis.....	1		Vertigo	13	
Rheuma, <i>acutus</i>	25		Urticaria <i>febrilis</i>	1	
——— <i>chronicus</i>	41	2	——— <i>conferta</i>	2	
Roseola.....	1		Total of Cases	1412	—
Rubeola	8		Total of Deaths	62	
Scabies	111				
Scarlatina <i>anginosa</i>	1				

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct head; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

THE diseases of the last few months have been principally catarrhal affections of an obstinate and protracted character. Our readers will perceive that asthma, bronchitis, and catarrh, stand prominent in the list. Genuine phthisis has appeared to us to have recently displayed its ravages less extensively than was the case some few years since. Admitting this to be fact, to what is such fact to be attributed?

Anasarcal disorders, unattended with either hydrothorax or ascites, have occurred lately in more than their proportionate number. One case of anasarca has been marked by rather extraordinary features. The swelling in different parts of the body seemed to resist the usual remedies, until a kind of metastasis took place, and the brain became for a time the seat of the disorder. During one night delirium was so urgent that it was judged necessary to take away blood, which relieved the encephalic symptoms; but the anasarcous accumulations returned upon their subsidence. In about a week or two from this time blindness supervened; and in the course of another week there was true apoplectic stupor, accompanied by a sort of hysterico-epileptic fits. From this state the patient has recovered under the employment of large blisters to his legs and back, with sinapisms to the feet; the blindness, however, still continues; and there is reason to expect speedy dissolution, although the pulse is calm and quiet, the sensibility in a great measure restored, and very large drains of fluid still continue to pour themselves out from the cuticular abrasions occasioned by the epispastics and sinapisms. The event of this case shall be mentioned in the next Report.

One of our Correspondents writes "the case of anasarca, marked fatal, was combined with asthma."

"The morbus infantilis was a tumor on the forehead, and enlargement of the head like hydrocephalus, and accompanied with emaciation and pain. Upon dissection the tumor contained a cheese-like matter. The mesentery was a mass of disease."

A Reporter from a considerable district in the north-east part of the town states, that "there is no particular disease distinguishable at the present period. Fever is now rarely seen. Cases of asthenia are still very prevalent."

MONTHLY CATALOGUE OF BOOKS.

Remarks on the Treatment of Wounds and Ulcers, with Cases affixed, illustrating the high importance of Medical Surgery. By Thomas Bedford, Esq., of Liverpool.

Also by the same Author, a New Edition, Observations on the Advantages of a Union of Medical Science and Surgical Skill; together with some Remarks on Empirical Practice in Surgery.

A Practical Treatise on Tropical Dysentery, more particularly as it occurs in the East Indies. By R. W. Bampffield, Esq., Surgeon. Octavo.

Essays on the Morbid Anatomy of the Human Eye. By James Wardrop, F.R.S. Edin. Vol. II. Royal 8vo.

Transactions of the Associations of the Fellows and Licentiates of the King and Queen's College of Physicians in Ireland. Vol. II. Octavo.

Dr. Marshall Hall's Treatise on the Mimosiis. 8vo.

Medico-Chirurgical Transactions. Vol. IX. Part First.

Porter on Typhus Fever. 8vo.

An Essay on Catarrhal Fever and Inflammation of the Intestines from Cold. By J. A. Gaitskell, M.D.

An Account of the Epidemic and Sporadic Disorders which prevail this year, 1818, at Rochester and near it. By Walter Vaughan, M.D. 8vo.

Facts and Observations towards Forming a New Theory of the Earth. By William Knight, LL.D., &c. 8vo.

Medical Botany, No. I., to be continued Monthly. 8vo.

A Treatise on two of the most important Diseases which attack the Horse. In Two Parts. By William Wilkinson. 4to.

NOTICES TO CORRESPONDENTS.

Communications have been received this month from Dr. Gordon Smith, Dr. Walker, Dr. Southam, Dr. Dyer, Mr. Wansborough, and Mr. Stavely.

To Dr. D. and Mr. S. we shall forward private answers speedily.

The remainder of the Paper of M. Breschet, and likewise a Communication from Professor Clemot, of Rochefort, will appear in our next Number: an apology is due to these highly respectable foreigners, as well as to our readers, for permitting such delay in the translation and insertion of these Papers.

The Papers of Drs. Southam and Smith are also intended for our next Number: and Reviews of Orfila on Poisons, Johnson on Civic Life, Sir Gilbert Blane's Medical Logic, &c.

We are sorry not to have occasionally heard, as we had hoped, from A. N., M.D.

*** Communications are requested to be addressed (post paid) to Messrs. T. and G. UNDERWOOD, 32, Fleet Street.*

THE
LONDON MEDICAL
REPOSITORY.

No. 63. MARCH 1, 1819. Vol. XI.

PART I.

ORIGINAL COMMUNICATIONS.

I.

General Remarks on the Theory and Treatment of Fistula.
By M. BRESCHET, of Paris.

[Concluded from page 93, Vol. XI.]

I HAVE before remarked, that all the tissues of an organized body may become the seats, and contribute to the constitution of fistula, but that the cellular tissue, as existing in greater abundance, more especially about excretory canals, is the most obnoxious to fistulous formation. This tissue is exceedingly abundant near the verge of the anus, in the perinæum, &c.; now it is the change of this cellular into mucous tissue to which I am called upon more particularly to advert.

This change will be more or less promptly effected, according as the matter by which it is produced shall be of a nature more or less irritating; but the quality of irritating is not to be judged of in an abstract way, since the mildest and apparently most innocent material may, by being applied to the parts in question, prove to be possessed of the most active principles, as in the case of milk being introduced into the cellular tissue in the way before referred to, a fact which plainly indicates this tissue to be endowed with a sort of specific susceptibility. Suppose we take a living animal, and inject into the cavities of its cellular membrane, wine, alcohol, pus, bile, or urine, the effects which follow in such instance will by no means be found to accord with the degree of

acrimony or stimulating quality possessed by the respective fluids. And so it is with fistulous irritation, the development and progress of which have an especial reference to the particular properties of the part affected.

In the first stage of fistula an ulcerated surface is developed, which furnishes a larger or lesser quantity of purulent matter; by degrees the irritation becomes permanent in consequence of the fluids of the part being directed from their natural and appropriate conduits by the vitiated suppuration, whether this suppuration proceed from a carious surface, or otherwise; the tissue now becomes stamped with new characters; its colour changes to a red, which is owing to the development of vessels in its texture; and the continual passage through it of the secreted pus changes both its sensibility and its other properties from their natural condition. Its nutrition also becomes modified by these circumstances of change in susceptibility, and these changes at length operate a difference in the density of the part, so as to qualify it for the performance of new functions. By these successive changes then a red and villous membrane is eventually formed, which is very different both in its constitution and properties from the cellular tissue, and it is also very unlike other systems of serous tissue, inasmuch as it is transparent or diaphanous, and invariably presents the form of a sac without any opening (*en ce que celui-ci transparent et diaphane a constamment la forme d'un sac sans ouverture*). As the new membrane becomes more fully developed, it takes on more completely the character of a mucous tissue; and the secretion from its surface, originally purulent, becomes as distinctly mucous as is the natural discharge from those membranes to which the name mucous is applied. The quantity of this mucous excretion in fistula increases in the ratio of the diminution of purulent discharge, and after a certain time the discharge is merely mucous, without any mixture at all of pus.

The fistulous canal presents two surfaces and two extremities; the internal surface is modified according to the nature of the secreted matter; the external one forms itself from the parts in its vicinity from which it is separated by a bed of cellular tissue of greater or less density*; its superior extremity terminates either in a natural excretory duct, or in

* In this part of the manuscript from which we translate the characters are so difficult to decypher, that we are not sure whether we either read or understand the author aright. The whole sentence in the original, if we are not mistaken in the letters and words, runs thus: "l'externe recouvre les parties voisines dont elle est séparée par une couche plus ou moins épaisse de tissu cellulaire."—EDIT.

some surface, the conditions of which are such as were before stated to be necessary to constitute a fistulous ulcer; the inferior extremity is invariably bounded by a cutaneous or mucous surface.

This new membrane is endowed with organic properties in the same manner as that to which it is most analogous in its constitution. It contains blood-vessels which terminate by exhalent extremities, as is shown by the exhalation of mucous fluids; and it is fair to infer the existence of absorbents from the manner in which the parts increase.

Notwithstanding, however, the resemblance which obtains between the membrane of a fistulous canal, and the natural mucous ducts of the system, there exists a difference between the two sufficiently marked to arrest attention. In the first place this, which may be named accidental membrane, is without that cuticle which is observed on mucous surfaces; neither is its tissue furnished with those glandular corpuscles which are designated by the name of mucous follicles, and which serve for the constant secretion of an unctuous fluid for the lubrication of surfaces. But a further difference, and one which is of still more moment, in a practical point of view, consists in the constant tendency displayed by these accidental conduits to self-obliteration, (*à s'obliterer*), although both from their organization and the functions which they perform, it would be expected that they would continue open in the same manner as the natural excretories, which very rarely indeed thus cease of themselves. Compare, for example, the case of a fistula, even of long standing, but still susceptible of cure, with that of an unnatural anus (*un anus contre nature*), and mark their different phenomena.

The object of treatment in the first instance will be that of aiming to restore natural conduits for the matter which the fistula engenders, and to prevent, by the methods which the art of surgery has invented, an ulterior direction towards the newly formed cavity. These indications constitute indeed the whole of the curative principles in relation to fistula; while in the other case, viz. that of a newly formed anus, although all the fœculent matter of the intestines passes by this last orifice, the inferior portion of the alimentary tube is, nevertheless, preserved open, and its surface continues to excrete a mucous discharge*.

The new membrane of which we have been speaking

* This difference relative to the facility by which accidentally formed mucous membrane may be obliterated, and the great difficulty of effecting the same in the natural mucous conduits ought to be

possesses vital properties which in a still more marked manner establishes its analogy with mucous tissues. It possesses an actual sensibility, (*une sensibilité cérébrale*), the degree of which is varied by circumstances, as is proved by stillettes and sounds occasioning in some instances excruciating, and in others only moderate pain. I have already stated that the membrane secretes a mucous at first mixed with a purulent matter, and which afterwards is free from such admixture; and this secretion itself ceases when we succeed in diverting the course of the liquor or matter upon which it depends (*si on en détourne le liquide ou la matière*); a condition then is produced of parts, under which the obliteration of the fistula is effected.

The course and direction of fistulous sores present varieties according to the different circumstances of the cellular tissue upon which they open; the different degree of laxity of this tissue, the mode of its organization, and the direction of its constituent parts, all operate a modification of effect in reference to this particular. Beside the common sinuosities of fistulæ, they occasionally terminate in or border upon internal cavities, and the consequent accumulation of their fluids

recollected by those practitioners who calculate upon the permanency of canals, which they may make artificially across tissues; and it may serve to show the superiority of natural cures, or those, in other words, in which the natural passages are restored over those which are made by the formation of new conduits. Thus the forcible passage of conic sounds through the membrane of the prostate occasions a dilatation which is only maintained while the sound continues to be passed; but the tendency afterwards to narrowing and obliteration is by no means so great, when by a persevering use of bougies, we have endeavoured to re-establish the natural passage. It is on this principle also that in fistula lachrymalis, the methods of Hunter, Monro, and others, have proved of less avail, and have therefore fallen into disrepute, when compared with that plan of treatment which endeavours to restore the natural course of the tears. Nothing, however, is more common than the recurrence of fistula lachrymalis after the apparent cure of the disorder by the use of cotton threads, catgut, &c., and wherefore? It is because the malady in question has less to do with the contraction of soft parts than with the osseous canal. Introduce then into this canal, metallic canulæ, (*qui offriront aux parois osseuses plus de résistance qu'une simple membrane muqueuse*), and you will remedy, both promptly and radically, a disease which almost defied surgery before this method was adopted. M. Pupuytren has demonstrated the great advantages of this plan by successfully treating many hundreds of cases which had obstinately resisted other remedial attempts.

renders the disorder more complicated by the difficulty which the surgeon finds in meeting with them, and by the occurrence of new inflammation, and other untoward circumstances.

Callosities are common in fistulæ, the origin and development of which have reference to the continual irritation caused by the peculiar matter which runs through or crosses them. They are produced by local irritation engendered either by an interior or external cause. These callosities consist of a specific change, a kind of whitening and degeneracy of the internal membrane of the passage, resulting from the accumulation of white fluids, either in the tissue of this membrane or in the adjacent cellular tissue. This change was formerly regarded as partaking of a schirrous or cancerous nature, and upon such notion of cancerous degeneracy was founded the surgical treatment of fistula. But experience has proved that rest, emollients, &c. are equal to the dispersion of these callosities; and every thing that we now know of cancerous production shows that the changes in question have nothing in them allied to cancer. This distinction is practically important; since well directed efforts, for the purpose of suspending the degeneracy alluded to, may almost always be made to supersede the necessity of an operation, which, although in itself for the most part free from immediate danger, is at the best exceedingly painful, and is often productive of unpleasant consequences. I here allude to the treatment of fistula by extirpation, a severe and cruel operation, which, indeed, is now only practised by obscure and ignorant surgeons, or by those who hold by their first prejudices, in spite of the astonishing progress recently made in surgical science. Instead of this operation of extirpation, a simple one is at present usually had recourse to, and which, although varied according to circumstances, consists, with regard to its leading principle, in dilating the fistulous canal through its whole length, with a view to favour the free issue of the pus, and to present an opposition to the passage of liquids or aeriform fluids by this their new conduit, the deepest part of which should be the first to become reunited, (*de s'opposer au passage des liquides, des matières ou des fluides aëréformes dans leur nouveau trajet, dont la partie la plus profonde doit être la premier à se réunir*). This is the grand and indeed sole object which the Surgeon ought to have in his mind when directing the applications used in fistula.

In conclusion, then, I would remark :—

1. That fistulous ulcers are unnatural conduits maintained by a constant percolation of gaseous or liquid matter, which irritates their parietes, and thus prevents their union.

2. That invariably one extremity of these passages either receives or itself engenders the perpetually irritating matter.

3. That remedial attempts ought always to be founded upon a knowledge of the particular nature of this cause of irritation.

4. That there exists always in fistula a newly formed tissue, which is of a peculiar nature, but having more resemblance than any other tissue to mucous membrane.

5. That in some instances, as in simple fistula, the formation of this new tissue is the sole change in the organic condition of the part affected.

6. But that in the generality of fistulous sores there at the same time exists a species of degeneracy of a whitish cast (*dégénérescence blanche*), which it is very necessary to be upon our guard against either confounding with the cause of fistula, or considering the effect itself to be of a schirrous or carcinomatous nature, from which last it differs essentially.

7. That the extirpation (*l'ablation*) of the parts attacked with the degeneracy in question does not radically effect fistula, but applies only to one of its consequences, and that this effect would of itself cease, provided the cause of the disease were obviated.

8. That this cause consists essentially in the continual passage of excrementitious matter, of purulent fluid, of secreted liquids, or of gaseous substances.

9. That the proper indications in the cure of fistula are to prevent the formation of pus, or its passage through the fistulous canal, to re-establish the orderly course of secreted fluids, and to prevent the exit of air by the opening which communicates with one of the extremities of the conduit.

10. That the causes of the mischief being thus destroyed, it becomes the Surgeon's duty to obliterate the passage, either by breaking it up through its whole length (*en le fendant dans toute sa longueur*), by compressing it, or by so irritating it with caustic applications or injections, as to produce an inflammatory action through all its extent, from which inflammation may result the adhesion of its parietes.

II.

Singular Case of Hernia of the Stomach. By GORDON SMITH, M.D. of the Twelfth, or Royal Regiment of Lancers.

IN transmitting the following singular case, I am aware that the account may prove rather unsatisfactory. This does

not arise from the distance of the period at which it occurred; but from causes which the perusal will explain.

Private James Wilkie, 12th Light Dragoons, aged thirty-four, was wounded by a lance at the battle of Waterloo. He was admitted the same day into the hospital at Brussels; where, without any possibility on the part of the medical officers of the regiment of ascertaining the progress of his cure, he shortly recovered, and joined the regiment at Forges-les-Raux, in Normandy, on or about the 20th of August following, in apparent good health, making no complaint, and immediately resuming his duties as a dragoon. It may be proper to observe, that several others who had been wounded and had recovered joined along with him, and that the journey from Brussels was performed on foot. Wilkie, however, was taken ill on the 5th of September, with symptoms of enteritis, and died on the evening of the 7th.

The detachment to which he belonged was at some distance from Forges, where I was stationed; and I did not see him during his illness. The gentlemen, however, who attended him had neither doubt nor difference of opinion as to the presence of inflammation in the bowels, for the symptoms were unequivocal. The Surgeon of the regiment, the other assistants and myself met for the purpose of opening the body.

On raising the sternum, the right lung came into view, as in a common dissection; but a dark membrane appeared to be spread over the contents of the left cavity of the thorax, and to screen every thing else from observation. Upon feeling it, we discovered that there was beneath it a considerable quantity of fluid. At such an unexpected phenomenon we were not a little surprised. On prosecuting our examination, however, we found the supposed membrane to be the stomach, which had passed through the diaphragm into the thorax, leaving in the abdomen the two extremities, drawn close together by the constriction of the orifice, through which the whole fundus had passed. This (preternatural) opening was on the left side of, and rather anterior to the passage of the œsophagus. The fluid contained in the stomach resembled blood, was very dark-coloured, and in considerable quantity. The vascularity of the viscus was increased, more especially towards the cardia and pylorus, while there were marks of inflammation extending to the duodenum. Upon withdrawing the stomach from its singular position the orifice through which it had escaped admitted the fore-finger with difficulty; and the lung of the left side was found shrivelled and shrunk into the upper portion of the cavity, which in the healthy state it should have nearly filled.

Upon further investigation we discovered the cicatrix of a large wound on the left side of the spine, entering between the fifth and sixth rib; and demonstrably passing into the cavity of the thorax. From the nature of the weapon with which it was understood that this had been inflicted, and the appearances that presented themselves, the conclusion was, that the spear of the lance had passed through the lung, and perforated the diaphragm; of the probability, if not the certainty, of which there can be no question. So much for the facts and appearances, to which I beg leave to submit, in few words, a simple conjecture on the progress of those phenomena which during the life of the system in which they were operating were unknown and undreamt of. It might, perhaps, be desirable to know the history of the case during the period of treatment at Brussels. This it has never been in my power to obtain; and when the leading points in its subsequent progress are recapitulated, perhaps it may not appear of so much importance.

The wound was inflicted upon the 18th of June; and the recovery must have been rapid: for we find that he arrived perfectly well to all appearance from a considerable distance at the end of sixty-three days. Of these the journey must have occupied nearly a fortnight. He had, of course, been in a state of convalescence, nay, of established health for some time previous to setting out. For the full space of a fortnight further he continued to enjoy perfect health; during which period I ascertained that he never made any complaint among his comrades; and that down to the very day on which he fell sick he had regularly taken his food in such quantity as a natural appetite and a strong healthy man require.

The supposition that all this mischief took place at once is quite inadmissible. In the first instance the stomach would not have obtained the accommodation which it was found after death to occupy in the thoracic cavity, while the natural volume of the lung was there. Nor can it be imagined that the lung (in whatever way or from whatever cause it happened) having wasted to comparative nothing, left its natural residence unoccupied for a certain space of time, at the end of which the stomach burst through a preternatural opening (either recent or of long standing,) in the diaphragm; and becoming immediately strangulated in that opening, occasioned the symptoms that preceded and were connected with the death of the subject.

It has been said, and must be assumed as data, that a sharp-pointed weapon, of a length adequate to traverse the space in question, entered the thorax, passed through the substance of

the lung, and perforated the diaphragm. One of the first internal consequences of this violent outrage upon parts of such vital importance, must have been the opposition of the soft and convex surface of the stomach to the lacerated membrane in immediate contact with it. At first this may have acted as a dressing or tent, with the combined effect of preventing hæmorrhage and adhesion, and promoting cicatrization; eventually establishing a ring or permanent opening in the muscular substance of the diaphragm. We know that the intestines are ever ready to protrude through any opening in their containing parts. This orifice in the diaphragm, therefore, giving ample opportunity for a gastric hernia, the stomach passed out of the abdomen, and became strangulated.

An objection to sudden rupture has been offered, from the consideration of the lung, the force of whose resistance in its natural state would have opposed the advance of the stomach, and in all probability have occasioned much uneasiness. This organ, however, had been severely wounded, and was found in an extremely collapsed state. Interpreting this upon the principle of absorption, we can conceive that as it diminished in bulk, and abandoned its natural position, the stomach gradually extended itself upwards, until the whole of its capacity having passed through the orifice, the common consequence of hernia, stangulation took place, and proved fatal. It is perfectly unnecessary to remark how fully the symptoms which came on previous to death are explained by the dissection: nor would it answer any purpose to inquire into the probable consequences of this transposition of the stomach, if strangulation had not taken place. The supposition that this might not have taken place until some time after the protrusion of the stomach was completed, appears totally inadmissible.

A preparation of the parts concerned in this extraordinary derangement was made by the gentleman in whose hands the case more properly occurred, but by some accident or other was lost.

III.

Case of Delirium Tremens, in which the Use of Opium was conspicuously beneficial. By R. SOUTHAM, M.D., of Buckingham.

I WAS desired on the 27th of July last to see T. W., about thirty-three years of age: he had been in the habit of occasionally indulging in the use of spirituous liquors. I found him very much agitated, talking very fast, and rather inco-

herently; his hands were moist with perspiration, accompanied with great tremor; pulse 80; tongue covered with moist white fur: he had complained of being unwell for a day or two, with slight pain in the head, which had increased the preceding evening, and during the night became so violent, attended with delirium, that a Surgeon had been called at an early hour in the morning, who abstracted about twelve ounces of blood from the nape of the neck, by cupping, which almost instantly relieved the pain in the head: he had likewise taken a dose of ext. coloc. comp. and hydrarg. submur.; and afterwards a solution of magnes. sulph. He now (one P. M.) complained of a return of the pain in his head; as the purgative medicines he had taken in the morning were then operating, I directed his feet to be bathed in warm water, and a cloth wetted with cold vinegar and water to be applied to the head; after which the pain in the head abated, and he became much calmer. About seven in the evening I met the medical gentleman who had cupped him in the morning; the pain in the head and delirium had then returned with more violence than when I first saw him: as it appeared clearly a case of delirium tremens, it was proposed to give him a draught with tinct. opii mxx. (by measure) 3tia quaque hora: the head was directed to be shaved, and kept constantly covered with cloths wetted with cold vinegar and water, to be renewed as often as they became warm, and a blister to be applied between the shoulders.

Next morning, 28th, eight A. M., I was informed he had had some quiet sleep in the night; he was then more calm and composed than the preceding evening; pulse 80; skin soft; tongue as before, covered with moist white fur; less tremor in the hands, and not so clammy with perspiration: had taken four doses of the tinct. opii, which was now directed to be repeated every four hours through the day, and to take occasionally a cupful of beef-tea. Eight P.M. Has been more composed during the day; but complains occasionally of seeing different objects, as dogs, &c. moving about the room: repeat tinct. opii 4tis horis.

29th, eight A. M. Has passed rather a comfortable night; not so agitated this morning; pulse 80; having had no stool since the operation of the purgative medicines on the 27th, a common clyster was directed to be given: repeat tinct. opii 4tis horis. Eight P.M. Has had a copious evacuation from the clyster, and in every respect better: continue tinct. opii.

30th, eight A.M. Has had a comfortable night, with some refreshing sleep; head free from pain, and quite rational: the tinct. opii was now directed to be repeated every six hours.

Eight P.M. Not quite so well this evening; head uneasy, and talks incoherently; the medicine was therefore ordered to be repeated every four hours.

31st, eight A.M. Has had some sleep in the night, and appears better this morning: repeat tinct. opii 4tis horis. Eight P.M. No delirium; pain in the head abated: continue.

August 1st, eight A.M. Has had some refreshing sleep in the night, and in every respect better this morning. Eight P. M. continues to recover.

As there was little variation after this time, it would be tedious to report each successive day: it may therefore be sufficient to add that he continued progressively to recover: the cold applications to the head were used whenever the pain or delirium appeared to require it, and with evident advantage: the tinct. opii was repeated night and morning about a week or ten days after. During the space of six days the patient took ʒiiss of tinct. opii: although immediate relief was experienced in the first instance by cupping, yet I did not think it advisable to repeat the operation, being of opinion that even if a little present relief should be obtained from the most urgent symptoms, yet that it would be at the expense of greater future mischief; and the result has, I think, justified the practice.

IV.

Case of an extensive Fracture of the Cranium. By
W. STAVELY, Surgeon, Bideford, Devon.

JANE HOSKIN, ætat. 11 years, daughter of Mary Hoskin, washerwoman, Falmouth, on the morning of the 25th of August, 1817, whilst in the act of hanging a large quilt on a line from the window, 15 feet in height from the ground, fell from thence in consequence of the quilt containing a large quantity of water, as it was just removed from the tub; and being overbalanced she fell in a perpendicular direction, (the height above mentioned) and from the fall, in consequence of the pavement in the court containing large rough pebble stones, the whole of the superior part of the cranium was beat in. The friends being at that time perfectly unacquainted with the nature of the accident, and considering that it might be nothing more than a common contusion, sent for Mr. Fox, surgeon of that town, to attend the girl. Mr. Fox being absent in the country, induced them to send at my lodgings on shore, and on my arrival I found the girl sitting up, but not,

as I should have expected from such an extensive fracture, either in a state of insensibility or apoplectic stertor; nor was there any difficulty of breathing, or loss of voluntary motion, tremors, or convulsions: although previous to the operation being complete she became insensible, with sickness; but these were the only symptoms that accompanied this fracture, her pulse being also regular. On my placing her in a chair, by inspection I found an immense coagulum of blood, three inches in circumference, and by subsequent examination and scalping, that the junction of the two ossa parietalia, forming the sagittal suture, was completely beat in by the fall: and on further inspection, by scalping, that the fracture extended as far as the left orbit, and backwards to the occipital ridge. From its extent I certainly thought that the girl had no chance of recovery; but in consequence of the leading symptoms indicating compression, being at that time absent, which afterwards only appeared by her being at intervals, during the application of the trephine, incoherent, accompanied by vomiting, arising from the sympathy of the par vagum with the stomach, I was, under these circumstances, induced to hope, in a trifling measure, for success; and accordingly, as she was a full heavy girl, bled her very freely. I then had her removed to a table, secured by four people, and performed the operation by trepanning her on each side of the ossa parietalia, including a part of the depressed portion; and by means of Mr. Hey's improved saws, I was enabled to remove twenty-six large pieces of bone from the depression, which occupied me from nine to three. Just as I had completed the operation (being then under sailing orders,) my professional duty obliged me to go on board, and at 4 o'clock the same afternoon I sailed for the West Indies. The subsequent care of the case, such as dressing the wound, devolved on Mr. Fox (a most respectable surgeon of Falmouth), who witnessed the operation; and from him I learnt again, on my return to England, that the girl was alive and well, and, as might be expected, large exfoliations had taken place. It was eighteen weeks before the wound healed from this cause; and in consequence of her having taken at times large doses of aperient medicines, such as scammony and calomel, and the antiphlogistic plan being regularly enforced, she is now perfectly recovered.

My object for wishing the insertion of this case, and recovery, from such an extensive fracture, is, that it may at all times be a stimulus for the young practitioner to proceed, and never to despair, however great the depression may be, or however extensive the fracture.

V.

Appendix to Dr. WALKER'S Paper on the Topography of Huddersfield, &c.

THE following is a very incomplete list of the more rare lepidopterous insects of this district, transmitted to me by a very able entomologist; who has, however, omitted the insertion of several species of more general occurrence, as not of sufficient interest to form a part of this list. The arrangement is from Haworth's "*Lepidoptera Britannica*."

Papilio napi	Zygæna filipendulæ
—— cardamines.	Bombyx Pavonia.
—— Edusa.	—— quercus.
—— rhamni.	—— rubi.
—— Hyperanthus.	—— potatorius.
—— Pamphilus.	—— Vinulus.
—— Io.	—— Cossus.
—— cardui.	—— Bucephalus.
—— Semele.	—— Caja.
—— Galathea.	—— plantagineus.
—— Mœgera.	—— Libatrix.
—— Ægeria.	—— tremulus.
—— C. album.	—— ziczacus.
—— Polychloros.	—— coryli.
—— Antiopa.	—— furculus.
—— Atalanta.	—— salicinus.
—— Paphia.	—— antiquus.
—— Aglaia.	Hepialus humuli.
—— Euphrosyne.	Noctua Pronuba.
—— Silene.	—— typica.
—— Dictynna.	—— aprilina.
—— Artemis.	—— meticulosa.
—— Lucina.	—— trilinea.
—— quercus.	Phytometra Chrysites.
—— Phlæas.	—— interrogationis
—— Icarus.	of Haworth.
—— Adonis.	—— Iota.
—— Sylvanus.	—— arbuti.
—— Linea.	Geometra betularia.
—— Tages.	—— sambucaria.
Sphinx Atropos.	—— thymiana.
—— convolvuli.	Phalæna ulmata.
—— Elpenor.	Pyrallis urticae.
—— ocellata.	Tortrix viridaria.
—— populi.	Alucita pentadactyla.
—— stellatarum.	—— pterodactyla.

VI.

*On Sarsaparilla**. By RICHARD BATTLE, Chemist, &c.,
Fore Street.

NOTWITHSTANDING the long experience which the Profession, both Medical and Surgical, have had of the qualities of sarsaparilla, medical judgment is still divided respecting its efficacy in the cure of disease. It will, therefore, probably be considered fortunate if the ground of this difference of opinion can be satisfactorily explained.

In surgical practice, indeed, the credit of sarsaparilla has more uniformly been maintained, perhaps because Surgeons are more frequently called upon to seek the means which increase the restorative powers of the body, when reduced by the various accidents, and by the class of diseases on which they are more particularly consulted.

It is well known, however, that even the ablest Surgeons, notwithstanding their uniform opinion as to the efficacy of this medicine, have yet doubted whether the ordinary mode of preparing it was best calculated to preserve its essential properties; hence some have been led to prescribe sarsaparilla in the inconvenient and bulky form of powder, hoping, amongst the useless, at least to retain the efficacious parts.

In the course of my attention to the preservation and preparation of medicines in their active forms, I have been induced to pay some attention to this root; and I can assert, as the result of direct experiment, that its medical properties reside, exclusively, in the *cortical part*; and that such properties may effectually be disengaged by cold infusion in water; the root thus treated becoming a tasteless and inert substance. It follows that when the cortical part has been materially injured, or when, in the preparation of the medicine, the ligneous part of the root has been chiefly regarded, the remedy so prepared must be, in a great measure, if not wholly, inefficacious. Various modes of improving on the simple infusion will readily suggest themselves to practitioners; and I find that an elegant preparation is produced by infusing the *perfect root* in cold lime-water; a menstruum particularly calcu-

* It is needless to say that we feel much obliged to Mr. Battley for the present communication; and that we shall always have a particular gratification in presenting to our readers the Papers which he may be good enough to forward to us. We are convinced that in the present day of scepticism and simplifying, too little attention is given to the analysis and constituent parts of the medicines which are used in practice. — EDIT.

lated to improve its medical properties when administered to dyspeptic patients.

The component parts of sarsaparilla, as far as I have been able to ascertain them, I shall reserve for a future communication.

P.S. The Editors of the MEDICAL REPOSITORY have occasionally noticed a preparation which I have introduced to the Profession; a component part of opium dissolved in water, under the name of liquor opii sedativus. I shall shortly have occasion to offer some further remarks on this subject. I am in possession of various documents both from Physicians and Surgeons of the highest rank, agreeing, in the main, that it is a medicine of very extraordinary power, as well when externally applied as when internally administered. These testimonies will induce me to claim for it the earnest attention of the Profession, as a medicine acting powerfully on the nervous system, and more directly sedative than any other preparation of opium, and consequently affording more complete relief in the very extensive class of diseases of irritation.

VII.

On the Contagion by which it is believed Fever is excited. By
JOHN MITCHELL, M.D.

[The following article on the non-contagious nature of Fever, is an excerpt, translated from an Inaugural Dissertation by JOHN MITCHELL, M.D., *de Febris Continuis, et præcipuè de Medelis in iis adhibendis*. It is proper to mention that Dr. Mitchell published his Thesis so far back as 1802, on graduating as Doctor of Physic at the University of Edinburgh, where, at the time, his opinions on the subject were considered very heterodox. Although it is rarely that productions of this kind are calculated to appear beyond the occasion they were intended to serve, yet as the subject now excites much public attention, from the inquiry lately instituted in Parliament into the validity of the doctrines respecting contagion in Fever and Plague, and the policy of the present laws regarding Quarantine, we trust it will not prove unacceptable to our Readers to be presented with a faithful translation of the article in question, as it exhibits a concise view of some of the arguments of the anti-contagionists.]

MANY, as it has been often said, are the false theories and suppositions which have existed amongst Physicians with respect to fever, and many still exist. But none seem to me more conspicuous or worthy of notice here than that about contagion, which some will have to be the chief and most frequent; others the sole exciting cause of continued fever. Early in my studies, and before habit or prejudice had familiarized and given their indelible sanction to any theory or opinion, having been brought into a situation where it was my

lot to see, and my duty to scrutinize, into innumerable instances of the disease, I soon became convinced of the falsity of the latter of these opinions, which from what I had read as well as been taught, I otherwise might have adopted. In the Royal Infirmary of Edinburgh it was my duty daily to attend on many labouring under fever, who had not been nigh either a person or place from whom or whence they could have been supposed to catch such contagion; while causes quite adequate without it seemed manifestly to have given rise to the disease in them. A striking example of this fact was furnished by the military who happened at any time to be stationed in the Castle of Edinburgh, of whom a considerable proportion, and generally the most severe, of our fever cases was made up. The patients from this place, when questioned as to the cause of their complaints, almost uniformly answered that they had caught them from cold while on guard during the night. In the forenoon, in perfect health and strength, these soldiers had gone to the guard-house, the place of rendezvous, where during the night large fires are kept. For the short time they remain in it they generally indulge themselves in sleep, stretched out along the seats or boards; and then, as it were, half asleep and half roasted, they are called upon, each in his turn, to take their appointed stations without doors, where exposed to the cold, wind, rain, and all the inclemencies of the weather, they have not long remained until a sudden attack of fever seized them.

This fact, therefore, as I have already mentioned, could not fail easily to shake the faith of any unprejudiced person with respect to the *universal* influence of contagion; and I was hence induced to think upon, and pay greater attention to the subject. In a few of the above cases, and of others admitted, it might be argued, as I confess I indeed did at the time, that contagion gave origin to them, from the circumstance that one or more of the family from whence the sick person had been brought, laboured under fever, or at least that he had been accidentally near a febrile patient. But my general knowledge in medicine increasing, and having daily before my eyes how few these cases were, and on the other hand how great the proportion was of these to whom we could not even in this way trace contagion; for instance, the military we have mentioned from the Castle; others suddenly seized with fever in the open field while reaping during harvest time, with many other sporadic cases: add to this, that I had never seen a fair instance of any person in the Infirmary, either nurses or the sick of other diseases in a state the most predisposed to catch fever, having been infected from their attending on or being about those labouring under it; particularly that I myself in

the course of near three years had never been affected with this disease by my attendance on fever patients, even in the worst cases, notwithstanding that I had been repeatedly and successively called from my warm bed during the night time to the fever ward, when quite cold and shivering, with my rest broken, and my spirits depressed, I remained by the bedside of the patient administering to him wine and cordials, and doing what else he stood in need of, sometimes in contact with him, slowly drawing off his water by the catheter: nor, that amongst the Russian sick, then received into the Royal Infirmary from the ships in Leith Roads, I had taken no harm; although quite fatigued, I had frequently of an evening to take account of six, seven, or more cases; examining the state of the skin, pulse, tongue, odour of breath, and other matters which it was necessary for me to report in writing, besides now and then lending my hand in stripping off their clothes, and getting them comfortably laid in bed: lastly, considering that it was the decided opinion of Dr. Rutherford, the able Physician under whom I acted, that although he had been Physician to the Royal Infirmary for many years, he had never seen a case of infectious fever in it. From such considerations, I say, I lost my faith in the commonly received doctrine of febrile contagion; and now, so far from believing it to be the chief and most frequent exciting cause of fever, after attentively considering the subject, I am firmly persuaded that such a thing does not exist.

But however I myself may thus have had reason to be well convinced of the fact, neither my scanty stock of materials, my inexperience in arranging them, nor the limits of this Essay permit, that I shall convince others of it, by bringing forward a full refutation of the doctrine of febrile contagion. This is a doctrine than which there is no assumed and gratuitous principle in medicine that has longer and more extensively kept its ground, none whose admission has so well accorded with every theory and hypothesis of the time, and none which has had in its turn more plausible reasoning furnished it from all. Indeed it would seem as if Physicians of all and every sect had united themselves in finding arguments to support it.

But let us only give up the term *contagion*, a term meaning nothing, and such as Fordyce would emphatically say is only useful to fix a word for a matter in our minds; how contradictory, absurd, and whimsical, will the qualities, and every thing said about the Proteus appear to us! Until about a century ago, whenever an epidemic appeared in this country, imported contagion was resorted to for its origin. Physi-

cians looked for no other cause; nor did it matter how great a difference there was between the phenomena of the disease in the place from which and that to which it was imported; and every fever arising in a person as well then as when not epidemic, but sporadic, was thus never imputed to any other cause than contagion, or having been nigh another labouring under it. Such a supposition was supported by the most ridiculous reasoning, reasoning which reconciled the most opposite facts, and to them explained every difficulty. Every author had his favourite mode of conveyance for this contagion; and the most whimsical and far-fetched seemed, for the most part, to obtain the greatest belief. Cloth, old timber, goods, merchandise, and cattle of various descriptions yielded, in one instance, the palm in point of credit, to Mead's pedlars' packs and tailors' boxes, by which alone whole cities were held to have been depopulated and made desolate. Once imported, Physicians kept up, as it were, the farce, by explaining the action of contagion. For it either at once got activity; or if it did not, it lay pent up during frosty weather, in old houses, adhering to the walls, or perhaps frozen in the ice until the spring, warm weather, or a thaw gave it vigour and activity: during the summer again it lay harmless until cold weather had concentrated it, until wet weather had diluted and given form to it, until dry weather had permitted its ascension, volatilization, and evaporation, until it had assimilated the air to its own nature, until a peculiar unknown state of this had concurred with its operation; or, finally, until time itself should have had the effect of generating it.

But when at length the fancy for this imported contagion began to decline, at least when Physicians began to seek for the sources of contagion generating epidemic diseases in the places in which they happened, besides having recourse to similar explanations to give activity to it, as they used when imported, they advanced others not less absurd, and found the origin of it, thus home-manufactured, in every sort of matter. Whales cast ashore, cattle killed, slaughter-houses, small fish in the Adriatic sea, locusts, and other animal matter, from various circumstances becoming putrid, the effluvia of rotten hemp, flax, prunes, olives, almonds, capers, coffee, cabbage, onions, and black pepper, make some of the causes most generally fixed on. It is Benedictus, I think, who tells us, that the shaking an old feather-bed at Wratislau, which had lain by many years, raised a plague that destroyed no less than five thousand persons in twelve weeks.

With as little hesitation and difficulty did Physicians trace the origin of every sporadic case of fever; and perhaps their

sophistry in this respect, at the present day, receives more implicit credit than the suspicious origins mentioned above for epidemics. Such was Paracelsus's notion of this all-powerful agent, febrile contagion, that he firmly believed the disease could be communicated by imprecation, or that a person labouring under a fever had the power of bewitching his neighbour with it; somewhat similar to a notion of an eminent Physician, Dr. Ash, who maintained Small-pox were infectious at the distance of thirty miles. Perhaps in a few years hence, scarce less wonderful and incredible than these notions will appear the many stories that have been told, and at the present day are believed as Gospel. Thus, Forestus tells us of a man who was seized with the plague from only putting his hand into an old trunk; Fracastorius, that twenty-five Germans died of the plague, infected by putting on one after another an old leathern coat; Boccacio, that two hogs fell into convulsions, and died within an hour, only by tearing and snuffing at some ragged garments which had been worn by a man who had died of the plague. All that ever was, and still for the most part is, inquired of a fever patient, is, Whether any of the family from whence he comes are ill? Whether he had been near a person ill of fever, or any other, who, although retaining good health, had? It is ten to one but some of these incidents have happened, and thus the Physician rests confirmed in his opinion as to the agency of contagion. Upon such a supposition, however, it is plain that almost no person could escape fever; as a Physician, for instance, must carry it always about him, and, like the fabulous tree, the *Bohan upas*, he would poison and infect every one whom he approached. But should a person altogether insulated, without the possibility of having been even thus exposed to contagion, be seized with fever, blindly determined to take the existence of it for granted, we are then told that it is itself bred in the body. Thus reasons the celebrated Lind:—"We should never give a negative to contagion; the difficulties attending an inquiry into the nature and causes of infection, and the influence of various causes in its operation are great, and it should always therefore be suspected. Countries and cities might have escaped the dreadful scourge of pestilence had an alarm been taken, and the fever at its first breaking forth been deemed contagious." To reply surely to such reasoning, is like the impossibility of arguing with a madman against his own ravings, or with a person who should assert the moon was a globe of cheese. I could not hope to convince and bring to his senses the one; and as for the other, he will admit nothing but what the matter refuses, a demonstrative negative proof.

As to this person, I should certainly be justified in throwing the *onus probandi* of the assertion on himself; and every unprejudiced person will admit the justice of the same inference with respect to that of contagion being thrown on those who assert its existence. But unfortunately for them, notwithstanding all their attention to and research for it, so far from being able to show us it, to prove its existence, or tell us what it is, they know not even its qualities, some asserting one thing about it, and some another, so as to endow it with the most opposite. Some will have it to be of an animal, some of a vegetable, some of a mineral nature, and some of all these. Some think it is *animalculæ*. Again some will have the quantity necessary for infection and its sphere of action great, others small, others in any quantity and at any distance, and others by contact alone. Some think its mode of operation is by being received into the stomach, some by being inhaled by the lungs, some by its affecting the nerves of the skin, some by being transmitted through the absorbents, and some by all these ways. Lastly, some will have it to produce its effects instantaneously, some at stated and regular periods, and some say it will lurk in the system and excite fever at any distance of time, God knows how long. After stating these absurdities, I might be allowed to conclude that we know of no such thing as febrile contagion.

I shall, however, proceed a little further, and, for the sake of argument, admit, in its fullest extent, the existence of this contagion as the cause of every epidemic and of every fever that occurs; and I shall contrast it with one of the other contagion, *e. g.* the Small-pox. It will clearly be seen how little analogy there subsists between the two contagions. First then with respect to the small-pox. It is allowed by all that no other matter or cause will produce the disease in any one, except its own peculiar contagion; that this contagion is brought from and carried to any place, even the most distant, there infecting; that in climates the most different, the disease thus produced exhibits the self-same appearances, affecting at stated periods, after exposure or inoculation, and once produced, running its course in a regular manner, exhibiting on the same days of the complaint respectively its more remarkable phenomena; that during life the disease will not again recur; and, finally, that not one in a hundred to whom the matter has been fairly applied escapes catching the disease, provided he has not already had it, or does not at the time of its application labour under some general affection of the system, whose cause is more powerful than this contagion, which, if we judge from the mildness of the disease occasionally produced, is not very much so.

In the second place, with respect to fever in general; it is to be observed, that altogether different are the circumstances. We have said that no other matter except the variolous contagion will produce the disease; and of consequence if precautions were used to avoid exposure to it, as the philanthropic Haygarth says, it would in time be entirely extirpated. But when fevers and plagues are epidemic in a country, no precaution that can be used by shutting oneself up, and avoiding all communication with the infected, will have the effect of preventing a person being seized with the disorder; which, however, he ought not to catch, if we credit some enlightened and experimental physicians, who, although yet too strong in their prejudices to deny the existence of febrile contagion, yet maintain that it infects only by contact; an opinion which goes far to strengthen our own argument. Mosely tells us, "most of the Capuchins, the Jesuits, the Recollets, the Observantines, the barefooted Carmelites, the reformed Augustines, all the grand Carmelites, the grand Trinitarians, the reformed Trinitarians, the Monks of Loretto, the Dominicians, and the grand Augustines, who kept themselves secluded in their several convents, and took every precaution to avoid the plague while it raged at Marseilles, perished by it." And instances of a similar nature are every where on record. To explain, however, these facts, and show the existence of contagion, it is asserted that the very food conveyed to them served as a kind of *fomites* for it. It would be more plausible to say the air they breathed became infected with the contagion; but this, because actual contact with the sick is necessary, will not suit them. Even with *fomites*, however, I am at a loss to see how the disease should be produced; for if the contagion be a matter having a strong attraction for the substance possessing it, wherefore does it so readily part with it? Again, if it be a matter, so equally is the *marsh miasma* supposed to produce intermittents; but who, even the most zealous contagionist, ever seriously believed that intermittents were either contagious, or capable of communication by *fomites*? yet no reason can be shown why *fomites* should not exist as well in the case of intermittent as of continued fever, since by the hypothesis each is matter. Moreover, various causes, besides exposure to a person affected with fever, will induce the disease, allowing for one moment that it does so. Speaking on this subject, I have already had occasion to mention a few of the causes blamed for epidemics. We know for certain that the crews of newly built ships are remarkably unhealthy, chiefly from febrile diseases; yet if any place could be supposed free from contagion, they ought. Bad food alone and famine are like-

wise notable for producing fevers. Frank tells us, that the inhabitants at Buda, being besieged and obliged to use bad food, a bad putrid fever arose amongst them, whilst the besiegers, provided with every plenty, remained free from it, and did so, I dare say, after they got within the walls of the conquered. Sir John Elliot likewise mentions (see Lind's Essay on preserving the Health of Europeans,) that Naples, in 1764, furnished an example of the most malignant fever from scarcity of food. Lind, in his second book on Fevers and Infections, recites several cases of infection (of which he had no doubt,) arising from other causes than contagion. "The slightest degree of infection (says he) is derived from the bad smell of patients labouring under inflammatory diseases. A lady with bilious colic affected another lady passing by with retching and sickness, continuing for twenty-four hours, and a nurse with a fever, cut short, however, by a timely emetic." The same slight degree of infection he has known arise from people of a gross habit, labouring under other complaints as well as inflammatory. He states likewise cases of fever from going near a maniac, from putting a person in his coffin, and from small-pox. Dr. Currie, of Liverpool, mentions some bad cases of continued fever in the production of which contagion had not the smallest share. And Willan, a sturdy contagionist, in his Reports on the Diseases of London, confidently affirms that the slow nervous fever of Huxham (a species very frequent in this place, and which by all is said to be contagious,) neither takes its origin from contagion, nor becomes infectious in its course. Many examples of the same kind are to be found in authors. Some even contend, that in children and youth there is so strong a predisposition to fever, that it alone becomes the sole cause; and to this opinion, considering the delicate and curious fabric of the human body, I most heartily assent; and the more so because I am supported by the opinion of my illustrious preceptor, Dr. Rutherford, who, in one of those conversations which I have so often enjoyed with him, and which have so often opened new truths to my mind, in speaking on the subject, I remember took for its illustration the instance of *Paronychia*, and inquired where was the exciting cause that gave origin to it.

We have already given a specimen of the absurdities into which Physicians fell when they attempted to support the notion of exotic contagion being the cause of epidemics. I will venture to affirm that there is not one well authenticated instance of an epidemic arising from such a cause. If we were to admit such, it would appear singular that the yellow fever of the West Indies, the contagion of which, judging from its effects, must be in a degree the most concentrated,

malignant, and pestilential, has never once been imported and raised a plague here. But the truth is, as a few unprejudiced West India Practitioners are now well convinced of, that even there yellow fever is not a contagious disease. Nay, so far from contagion of fever being imported to one country or tribe of people from a different, we are told that if people labouring under the epidemic prevalent in one part of the same country are removed to another not far distant, they communicate the infection to no one. Thus Rush speaking of his contagious remitting fever of Philadelphia, says, "this fever did not spread in the country when carried there by persons who were infected, and afterwards died of it:" and in another place he observes, "during four times it occurred in Charlestown; in no one instance, according to Dr. Linning, was it propagated to any other part of the State." The celebrated Dr. Lind's works are full of facts to the same effect; and so also are Pringle's, and a variety of authors. Even in the noted instances of contagion, hackneyed by every author in proof of its existence, viz. that of the Blackhole at Calcutta, that at the Oxford assizes, and that at the Old Bailey in London, the sick in these places communicated the disease to no one. Of the first of these, no person doubts. Of the second, we learn from Lord Bacon's Natural History, that those only who were present or attended business sickened on it and died. And of the last, Pringle gravely tells us, "this sickness, as far as was known, spread no farther, there being at the time no distemper in the air, nor other concurring circumstances to propagate the infection." But how different, I repeat, from these circumstances are those which accompany the contagion of small-pox. Lind tells us that "Europeans have carried the small-pox to almost all parts of the world where they have opened a trade. This venom has been conveyed in an old blanket to nations of Indians, some of whom it hath almost extirpated. It will lie concealed for a long time in contaminated vestures, so as to be carried in them from England to the Cape of Good Hope, and even to China."

As to fever, in the next place, exhibiting the same regular phenomena, it is so well known to the contrary, that it may seem to consume time to say any thing. It is so far from observing the same appearance, that fevers not only in different climates, but even in the same, and almost at the same time, vary in infinite degrees; insomuch that authors, to account for this, at one time supposed the number of specific contagions giving origin to them were various. Now a days, however, when this supposition has been given up, their sophistry has fallen upon another mode of accounting for the

variety; that is, they say there is but one contagion, yet acting so variously and producing such different effects, that surely he does not merit the name of a philosopher who would ascribe such varied effects to the same specific cause.

Again, so far from the contagion of fever observing the same law with other contagious producing a general affection of the system, viz. that the disease does not recur in the course of one's life, (a law the wisdom of which cannot be sufficiently admired, since its final cause is the preservation of the human race); so far, I say, does it differ from this law, that from this deviation alone it might be inferred fevers are not contagious. Observation shows that some people have as it were a disposition to be affected with the disease at stated and regular periods; and every one at all engaged in practice knows too well how frequent the relapses in fever are, and how great caution there is necessary in respect of diet and regimen with febrile patients to guard against them.

It is scarcely necessary to mention that a fever once produced is in a thousand instances stopped and cut short by the timely exhibition of proper remedies, such as emetics, the cold bath, &c. When indeed morbid matter formed the proximate cause of diseases, and that the *vis naturæ medicatrix* was assigned the task of concocting and expelling this, few were the opportunities of witnessing the fact. But now that these suppositions are given up, and that recourse is had to active practice without fear of disturbing concoction, and the other operations of nature, or of leaving the latent poison in the body, Practitioners have the satisfaction of witnessing innumerable instances of fever cut short. Dr. Gregory, I think, says, that in the course of his practice he has seen about one hundred and fifty cases of fever cut short by the use of emetics alone; and Dr. Currie relates, that out of seventeen patients at one time labouring under fever, he was able, by means of the affusion of cold water, to put an end to the fever in fifteen.

Lastly, as to the circumstance that people are every where exposed to fever without catching the disease, much has already been said to show its truth. Mosely, formerly quoted, says, "that Rhazes lived 120 years, and often practised in plagues. Hodges remained in town and attended the sick during the great plague in London, in 1665. Kaye was in the midst of practice in the sweating sickness, in 1551, without any inconvenience. Procopius informs us, that during a terrible plague at Constantinople, in 543, which almost destroyed the whole city, no Physician or other person got the plague by attending, dressing, or touching the sick." Russel likewise acquaints us, that the dread of con-

tagion being worn off, he attended the sick with impunity. And it is a fact, that physicians, nurses, and other attendants on the sick, notwithstanding their fatigue, remain as healthy as other people, though, if we believe in the doctrines of contagion, their whole bodies ought to be saturated with it. Such facts, one should think, it would be puzzling to account for; but terms without meaning are the auxiliaries called in to explain them. Thus, all those escaping are said to have either a peculiarity of constitution, (although, by the bye, I should rather think, from the few affected, that it is these few in whom this peculiarity or idiosyncrasy resided,) or from habit, that they are familiarized to it. Pray how do they at first escape it before this habit is acquired? If contagion be any real matter existing, I deny that any matter can be thus applied to the human body, without producing its peculiar effects. Mercury, digitalis, emetics, cathartics, &c. all are known from the effects they produce, as also other contagions. Thus we read that a certain elector of Bavaria, who had kept himself carefully secluded from the contagion of small-pox until he had reached beyond the usual age for this disease, having been accidentally exposed to it, sickened from it and died. In short, this febrile contagion is nothing else than a fable. It is another Pandora's box of the ancients. It is a hobgoblin, it is a spectre, it is a ghost, about which, in our childish days, we have listened to the hair-erecting tales, when enslaving fear, with a Circæan wand, magnified and changed every midnight sound and form into the appalling Furies, before reason had taught us to dispel the clouds of superstition, or experience enabled us to combat the errors of prejudice, which, once imbibed, entangle all of us long, many of us, for ever.

DEPARTMENT OF NATURAL HISTORY, &c.

On the Plants belonging to the Natural Order of Solanææ.

By Mr. GRAY.

AMONG the studies which, although perhaps not absolutely necessary to the professional Practitioner of medicine, yet are of great use to him occasionally, and afford him a source of employment during his youth, until he acquires that maturity of years which is required to attain the full confidence of his patients, and consequent fulness of employment; there is none that rank higher than botany, and none that are of easier attainment, or that afford more pleasure in the pursuit. The botany here intended to be recommended is not

the mere remembrance of these uncouth names, whose signification is frequently at complete variance with the properties, or literary history, of the plant which they are intended to denote, or which commemorate persons known only to the writer; nor is it the knowledge of those plants which it is probable the student never will have the pleasure to see, and of course can be but little interested to know what are their botanical characters: but a plain, yet accurate account of the indigenous plants of the British islands, and of those usually cultivated for sale, with the uses to which they are applicable.

Previous to a particular account being given of any plants, it will be necessary to consider the arrangements which have been proposed, as their number is too great to be recollected without some mnemonic arrangement. The original cultivators of botany soon discovered that many plants had a family likeness; that the number of those well-marked families was but small, and that there were other plants which did not seem to belong to any of these families. The first attempt at scientific arrangement was made by Cæsalpinus, and followed, but not with equal skill, by Morrison: Ray, however, and Tournefort, have had the good fortune to share a greater portion of the public regard. Their arrangements were different, but they both agreed in retaining the natural families of plants, and in accommodating the system to them; in avoiding innovations as to the names hitherto given to plants by only choosing the names which appeared to be the best; and in using such characters to distinguish plants as were most easy to be perceived by young students. Ray followed Cæsalpinus in preferring the fruit for the basis of his system, as being the most perfect state of the plant; while Tournefort preferred the flower, as being that which is first produced, is the most attractive state of the plant, and which may frequently be observed in dried specimens brought from abroad, although the bringers have neglected, or not known the ultimate produce.

The many characters that were necessary to be taken into consideration in order to retain the natural families, rendering the arrangement difficult to be understood by the more hebetate kind of students, led Rivinus to propose a merely artificial arrangement, by which a student, on examining the corolla or bloom of a plant if it had any, or observing its absence, could from this single character distinguish its class; while a second examination of its fruit showed the subdivision under which it should be arranged, and these subdivisions followed each other in an invariable order in each class. The elder botanists had not given any names to the smaller

plants, but denoted them by their generic name with the addition of what is now called the specific difference: Rivinus, however, for the sake of uniformity, gave names to every plant, and these names were usually composed of two words, the first expressing the genus; the second, or trivial name, some remarkable character expressive of the species. His own works were published in a style too expensive for common use, and left imperfect by his death: his system, however, has had many followers; but most of these, as Ruppianus, have, from an aversion to innovation, left the usual designations of plants as they found them, so that the common and artificial systems went hand-in-hand together. It is, therefore, probable that had no stop been put to the progress of the science, it would by this time have been brought far nearer to perfection, and there would have been less discrepancy between the old and new botanists than at present.

Unfortunately in some degree, Linnæus arose like a meteor in the horizon of science. His consummate vanity caused him to profess the destructive maxim, that the whole of the old structure must be destroyed in order that he might have the credit of rebuilding it on his own plan: while the impurity of his mind, so clearly evinced by the obscene names by which he used to distinguish the several parts of bivalve shells, names which the most devoted of his followers have been obliged to forego, led him to choose the sexual parts of plants for the basis of his vegetable system. His real merit consisted in the perseverance with which he reduced most of the known plants to his own system: the rapidity of his publications in a cheap form rejecting the expense of plates; the extreme neatness with which he displayed the characters of his genera, and the differences of his species; as also the equal neatness of his descriptions, so that the eye is immediately directed to the information required; in which two last typographical particulars he was then unrivalled, and has scarcely been equalled since. A part also of his fame must be ascribed to the dexterity with which he avoided mentioning the plants, &c. he had not reduced to his system, without the least notice of their existence: whereas Ray, and since his time Jussieu, give lists of the plants which they cannot arrange in their systems for want of the necessary information: and thus on the one hand they candidly acknowledge the imperfection of their systems; and on the other stimulate the student to complete them. Linnæus did not in his earlier writings make use of trivial names, but employed his new specific differences; afterwards, however, he adopted the use of trivial names; and the invention of them has been ascribed to him, but falsely. He also laid it down as an axiom that what he styles genera are the work of

nature, and yet was equally positive that their characters, as had been previously stated by Rivinus, must be deduced only from the various structures of the flower and fruit, and not from any other parts: and he also considered the flower as more constant in its structure through the various species of a genus than the fruit. In consequence of the first of these opinions, his system, although confessedly an artificial one, contains numerous species which do not agree with their generic character, or which even belong to other classes than those in which they are placed: so that it neither exhibits the natural affinities of plants, as in the systems of Ray and Tournefort, and those to be next considered; nor has it as a whole that lucid neatness required in a mere artificial system, and which it really possesses in the lower divisions.

The apparent methodical exactness which pervaded the system of Linnæus caused the adoption of his system by the German and English naturalists, and they still retain it. Fortunately the national pride of the French, and the plates given with the Institutions of Tournefort, from the greater ease with which the eye conceives a print than the mind a verbal description, operated as checks to the progress of the Linnæan system in France and Italy: and the attention of the southern naturalists has ever been devoted to the improvement of the common system. They have, indeed, adopted not only the typographical arrangement of Linnæus, and his manner of description, but also his canon, that the characters of the genera should be taken from the fructification alone: still their labours are merely the same attempt to discover the natural affinities of plants, as was the intention of Ray and Tournefort; crippled however by the confinement of the character to the fructification alone. These self-imposed fetters produce in some cases, as in the reseparation of *abies* and *larix* from *pinus* with which they had been united by Linnæus, a necessity for the utmost subtilty in finding distinctions in the flower or fruit, and render the characters of these genera inconveniently long and recondite, as may be seen in Jussieu or Decandolle. Some men delight in exhibiting their feats of swimming in chains, and humorous rustics in the absurdity of races in sacks; so some naturalists seem to find equal delight in imposing difficulties upon themselves, which may, at once, show their own dexterity, and tend to prevent competitors from treading in their footsteps: thus Fabricius pretended to establish an arrangement of insects from the structure of their mouth alone, without taking any other part into consideration. The confinement of the generic characters to the fructification is grounded upon the flower and fruit being said to be the most essential parts of the plant,

and those for whose use the other parts exist; but, in fact, every part is alike essential to the existence of a plant, nor can one part be said to be more so than another: hence it cannot be doubted by any impartial student but the maxim of Ray, that the characters whereby plants are to be distinguished and recognised may be taken from all parts of them, and that their comparative merit depends upon the ease with which the plant may be identified by their means, is equally scientific, and far easier in its use than the limitation imposed by Rivinus and Linnæus, as also more analogous to the mode of classification recognised and practised in the other branches of natural history. And, in fact, notwithstanding Jussieu and Decandolle both insist upon the characters of the genera being taken from the fructification alone, yet they also annex characters of a secondary rank taken from other parts; and even Sir J. E. Smith has annexed to each species in his Compendium additional specific distinctions from characters rejected by Linnæus; a practice indeed not entirely unknown to the Swede himself: so that from their own showing it appears that these disgraced characters may yet be employed; and that they are in general easier in their application than the others, we may appeal to the judgment of every practical botanist.

It is my intention to review occasionally the families into which plants are naturally divided, to notice such species as are indigenous to our islands, or cultivated in them, and which are at the same time of use, particularly as diet or medicine. The present paper is on the *solaneæ*, a family of which the individuals are remarkable for their powerful action on the human frame.

SOLANEÆ.

Cl. VIII. Plantæ dicotyledones, monopetales, hypogynes.
Ord. 57. Les Solanées. Jussieu.

Cl. V. Ord. 1. Pentandria monogynia. Linnæus.

Calix five cut or five parted, often persistent.

Corolla regular, five cut.

Stamina five, inserted in the base of the corolla, alternating with its lobes.

Ovarium disengaged; style one; stigma simple or two-furrowed.

Fruit two-partitioned, many-seeded: sometimes capsular, bivalve, partition parallel to the valves; sometimes a berry with central seed bearing receptacles.

Seeds numerous; perisperm fleshy; corculum annular or spiral; cotyledons semicylindrical.

Stem herbaceous or frutescent.

Leaves alternate.

Flowers often extraxillary.

Obs. A fifth part of the flower is frequently deficient.

Essential Character. Corolla regular; stamina five; fruit bilocular; corculum annular or spiral; leaves alternate.

VERBASCUM, T. L. Blattaria, T.

Calix five parted.

Corolla rotate, five lobed, unequal.

Stamina five, unequal; filaments inclined, generally villous at the base.

Capsule two valved, ovate or globose.

Sp. 1. *V. Thapsus*. *Tapsus barbatus*; Great white mullein, High taper, Cow's lungwort.

Leaves decurrent, downy on both faces; stalk simple.—Spike cylindrical, flowers sessile, gold yellow.

Sandy road sides; flowering in July and August. Perennial.

Leaves slightly astringent, a decoction of them useful in diarrhœa, yield about one-third of an astringent extract.

Flowers slightly sweet-scented, sweet to the taste; distilled water slightly scented; essential oil small in quantity, and sweet-scented. Yield about one-half of an agreeably smelling, and sweetish extract. Their infusion, made with care to avoid taking the irritating down on the calyx, is used as a demulcent and relaxant in colds, coughs, and other diseases of the chest, especially by private Practitioners and Farriers, for which purpose it is very efficacious.

Down of the leaves rolled up is used instead of moxa as a cautery; and also for tinder.

2. *V. Lychnitis*. *V. album*, White flowered mullein.

Leaves oblong, wedge-shape, naked on the upper face; stalk angulato-paniculate; filaments bearded, yellowish.—Flowers on footstalks, white.

Chalky road-sides; flowering in July and August; perennial.

It has been used for the preceding, but is probably not so efficacious.

3. *V. pulverulentum*. Hoary mullein, Norfolk mullein.

Leaves ovato-oblong, rather serrated, powdery-downy on both faces; stalk cylindrical paniculate; filaments bearded, white; anthers bright red.—Grows very large and much branched; flowers gold-yellow.

Sandy ways; flowering in July; biennial.

4. *V. nigrum*. Sage-leaf black mullein.

Leaves oblong, heart-shaped, petiolate, crenate, rather downy; filaments bearded, purplish.—Spike loose; flowers gold-colour.

Light and chalky soils; flowering in July and August; perennial.

Root astringent, used in diarrhœas.

Leaves and flowers used instead of common mullein.

4. *V. virgatum*. Large flowered mullein.

Leaves oblong-lanceolate, toothed, sessile; radical leaves sublyrate, downy; stalk branchy; flowers aggregated, subsessile. — Grows six feet high, flowers very large, yellow.

Sandy fields; flowering in July and August; biennial.

5. *V. Blattaria*. *Blattaria lutea*, Yellow moth mullein.

Stalk branchy; leaves embracing the stalk, crenate, oblong, smooth; radical leaves sinuate; peduncles solitary. — Grows three feet high; flowers gold-colour; stamina purple.

Gravelly soils; flowering in June and July; annual.

This plant is said to attract moths.

Seeds used to inebriate fish in ponds so that they may be taken by the hand.

HYOSCIAMUS, T. L.

Calix tubulose, five cut.

Corolla funnel-shape; limb spreading obliquely, five lobed, lobes unequal.

Stamina five.

Stigma headed.

Capsule ovate, compressed on both sides, hollowed into a groove, covered with a lid.

Sp. 1. *H. niger*. Henbane. (Pharm. L. D. E.)

Leaves embracing the stalk, sinuate; flowers subsessile. — Hairy, stinking; corolla yellowish with purple veins.

Among rubbish, also cultivated for medical use; flowering in July; annual.

Leaves narcotic, anodyne, equal in their effects to opium, and not apt to produce costiveness; boiled are used externally in piles and the gout as an anodyne, applied to ulcers they have produced delirium, being eaten they occasion loss of sight and intellect, fainting, stupor, convulsions, pains of the bowels, and bloody stools: the inspissated juice in small doses has been lately employed in many obstinate cases.

Root less fetid than the leaves, tastes sweetish but acrid, is powerfully narcotic, used in toothach either rubbed on the gum, or inserted in the hollow of the tooth.

Seeds less narcotic than the root or leaves, but more so than the seeds of white henbane, although frequently sold for them; the fumes arising from them when heated being conveyed to an aching tooth by means of a funnel, have frequently been used with good success.

2. *H. albus*. White henbane.

Stalk-leaves foot-stalked, heart-shape, sinuate, acute; floral-leaves, not in the least notched; flowers subsessile; corolla bellied.

Where ballast has been thrown on shore, thus imported from the South of Europe, an annual.

All the parts of it are much milder than those of the black or common henbane in their operation.

NICOTIANA, T. L.

Calix pitcher-shape, five cut.

Corolla much longer than the calix, funnel-shape, five cut, regular.

Stamina five.

Stigma nicked.

Capsule two valved.

Sp. 1. *N. Tabacum*. Petum, Tobacco.

Leaves lanceolate-ovate, sessile, decurrent.

Cultivated in America, and upon the Continent, from whence it is imported, its cultivation, notwithstanding the separation of the United States, being forbidden in the British Islands, to the great loss of the landed interest; an annual.

Leaves yield with water about one third of extract, of a bitter and sharp taste; and with spirit of wine about one-sixth of a similar extract. They are emetic and cathartic to a violent degree, as also narcotic, vulnerary, detergent, and consolidating, and when properly prepared are equally efficacious with hemlock in the treatment of many stubborn diseases. The green leaves or their juice are used to burns and painful tumors or eruptions. The fumes inhaled are emetic, and produce vertigo in those unused to them, but to others they are anodyne and narcotic. They are also injected into the rectum in obstinate costiveness, ascarides, and to stimulate the intestines in cases of drowning. A decoction of zij to zv is used as a stimulating glyster in apoplexy. The leaves soaked in brandy or urine, and applied to the wrist, have had an emetic effect; and applied to the navel are used to purge untoward children, who refuse internal medicines: are also made into an ointment against the itch. Henbane leaves are frequently sold for them.

2. *N. rustica*. English tobacco.

Leaves foot-stalked, ovate, not notched; flowers blunt.

A native of America, sometimes found on dunghills in England. Cultivated by Gerarde in 1596. An annual.

Agrees in medical use with henbane.

Sold by herbalists for mandrake leaves and tobacco.

DATURA, L. Stramonium, D.

Calix large, tubulose, bellied, five cornered, five cut at the tip, soon falling off, leaving the orbiculate peltate base.

Corolla very large, funnel-shape; tube long; limb five cornered, five folded, five pointed.

Stamina five.

Stigma two plated.

Capsule thorny or smooth, ovate, two-celled; cells two or many parted; partition prominent.

Sp. 1. *D. Stramonium*. Thorn apple.

Pericarpia ovate, thorny; leaves ovate, sinuate, smooth, narrowed at the base into a petiole.—A very branchy, ill-looking plant; flower white.

A common plant in America, continually brought from hence with pots of plants, or ballast, and found on rubbish and dunghills; flowering in July. Annual.

Leaves stink like those of elder, and their distilled water is still more disagreeable; eaten for spinach it has frequently been fatal, or if taken in small quantity only produced a temporary idiotcy, with agreeable sensations, as does also the decoction. Boiled in oil till crisp, and the oil made into an ointment, useful in obstinate ulcers, and those that slough rapidly: boiled with lard, is much used for burns of all kinds, and cancerous breasts.

Herb dried and smoked is anodyne, and lately much used in asthma: the extract made of it is acrid, and crackles under the teeth like sugar candy: this has been used in epilepsy.

Seeds, in doses of half a drachm, are used as a trick in America to produce a kind of pleasant delirium and forgetfulness: the fume of them is also used to appease the itching of chilblains.

MANDRAGORA, T. Atropa, L.

Calix top-shaped, five cut.

Corolla scarcely twice as long as the calyx, bell-shape, five cut.

Filaments five, dilated at the base, convenient.

Ovarium with two glandules at the base.

Berry globose; receptacles prominent within.

Sp. 1. *M. officinalis*. Mandrake.

No other species. Cultivated in England, flowering in May. Annual.

Root supposed to be soporific and narcotic.

Fruit, like the root, the subject of many fables not worthy of repetition; said to be highly soporific; yet Lyncæus in his lectures once ate fasting a whole apple with its seeds without the least appearance of its producing any sleepiness, or indeed

any ill effects: this leads us to suppose the modern plant to be different from that of the ancients.

Leaves anodyne, used as an external application in erysipelas, and indurated glands. Henbane leaves are frequently sold for them in the London herb shops.

ATROPHA, L. Belladonna, T.

Calix bell-shape, five cut.

Corolla bell-shape, twice as long as the calyx, five lobed, equal.

Filaments five, thread-shape.

Berry globose, sitting on the calix.

Sp. 1. *A. Belladonna*. *Solanum lethale*, Deadly nightshade, Dwale.

Leaves ovate, not notched; stalk herbaceous.—A branchy dark colour plant; flowers deep purple.

An European plant, but only found here near buildings; flowering in June; perennial.

Root made into a poultice with milk, of great use in hard tumors and ulcers.

Leaves when fresh are applied also to tumors and ulcers; applied to the eye they cause a dilatation of the pupil, which slowly recovers its power of contraction, unless mechanically irritated, when it instantly contracts. They have been used internally in cancerous affections, and ill habits of body, in doses of one to three grains, increased gradually till vertigo appears.

Berries have often proved fatal to children; they produce a torpor of the stomach, so that the operation of emetics is suspended; hence vinegar and other acids are the most successful antidotes to their effects. The juice of them stains paper of a fine purple, and may be made into an useful anodyne syrup.

PHYSALIS, L. Alkekengi, T.

Calix five cut.

Corolla rotate, five cut.

Anthers five, oblong, erect, connivent.

Berry globose, covered with the enlarged bladder-like calix.

Sp. 1. *P. Alkekengi*. *Halicacabum*, Winter cherry.

Leaves in pairs, not notched, acute; stalk herbaceous.

Native of South Europe, but cultivated here.

Berries No. 10—15, or their juice, are diuretic, and highly recommended in dropsy by Cæsalpinus, as also in gravelly complaints.

SOLANUM, T. L. Lycopersicon, T. Melongena, T.

Calix five cut.

Corolla rotate; tube very short; limb five cut, spreading.

Anthers five, upright, connivent, opening at the tip with a double pore.

Berry roundish.

Corculum spiral.

Sp. 1. *S. Dulcamara*. *S. lignosum*, Bitter sweet, Woody nightshade.

Stalk unarmed, shrubby, climbing; heart-shaped, smooth, the upper ones eared; corymbi opposite to the leaves; flowers violet; berries scarlet.

Hedges; flowering in June and July; a climbing shrub.

Root diuretic, and may be substituted for sarsaparilla as a depurative in lues Venerea.

Leaves applied outwardly as an anodyne and resolvent application: the juice, in doses of two or three ounces, purges violently.

Stalks made into a decoction, or rather infusion, is an excellent diaphoretic and diuretic; useful in jaundice and glandular obstructions.

Berries operate violently both as an emetic and cathartic.

Sp. 2. *S. nigrum*. Common nightshade.

Stalks unarmed, herbaceous; leaves ovate, dentato-angulate; racemes nodding.—Branchy; flowers white; berries generally black, rarely yellow.

Near houses; flowering from June to September. Annual.

Leaves externally applied are refrigerant and abate pain; useful in erysipelas, headach, and swellings of the tonsils; an infusion of one or two grains taken at bedtime, occasions a copious perspiration, is diuretic, and usually purges the next day; and hence Gataker conceives they might be of great use in many obstinate diseases.

Sp. 3. *S. tuberosum*. Batatas, Potatoes.

Stalk unarmed, herbaceous; leaves pinnatifid, not in the least notched; flower-stalks subcorymbose.

Native of the Peruvian hills, cultivated in most parts of the torrid and temperate zones, as no herbaceous plant yields so much nutriment upon so small a space of ground, and with so little labour, as this plant. When first introduced into Europe, it was necessary to vaunt its aphrodisiac and febrifuge qualities to bring it into fashion: at present it is only considered as nutrient.

Starch of the root very soluble in water; hence distinguished from the common kind by the absurd name of arrow root; used as a food of very easy digestion.

Leaves generally wasted, but ought to be burned for the potash they yield.

Berries, the juice may be fermented and distilled for spirit.

Sp. 4. *S. Lycopersicon*. Poma amoris, Tomatoes, Love apples.

Stalk unarmed, herbaceous; leaves pennate, cut; racemes two-parted, leafless; fruit smooth, bunched.—Fruit scarlet when ripe.

Native of America, cultivated in gardens, but destroyed by the first frost, scarcely ripens its fruit. An annual.

Leaves anodyne, used in poultices.

Berries eaten in soup, and made into a beautiful red sauce, at present confined to the higher classes.

Sp. 5. *S. Melongena*. Mala insana, Egg plant, Mad apples.

Stalk unarmed, herbaceous; leaves ovate, not notched, downy; flower-stalks hanging, thickened; calyces unarmed.—Fruit resembling an egg in colour, size, and shape.

Native of India, cultivated in the south of Europe, and also here, but is very tender.

Fruit eaten raw is narcotic, but when dressed in a proper manner is used as food.

CAPSICUM, T. L.

Calix five cut.

Corolla rotate; tube short; limb five cut, spreading.

Anthers five, upright, connivent, opening horizontally.

Berry juiceless.

Corculum semicircular.

Sp. 1. *C. annuum*. Guiney pepper.

Stalk herbaceous; flower-stalks single.—Fruit when ripe scarlet.

Native of South America, but cultivated in our gardens. A tender annual.

Fruit very hot and acrid, used as a rubefacient; the tincture is equally hot, and the resinous extract left on distilling off the spirit is of an acrimony still more intolerable; none of the acridness is carried over by the spirit. It is much used as a stimulant sauce either in powder or pickled. It is also added to vinegar and spirituous liquors, to increase their apparent strength, and to porter and twopenny to give them a stimulant quality. An infusion in water or vinegar is used with great effect as a gargle in ulcerated sore throat, and an ointment made from it is used as a liniment for paralytic limbs.

These are the only genera and species of this family which are indigenous in this country, or cultivated here for sale.

PART II.

ANALYTICAL REVIEW.

I.

Secours à donner aux Personnes Empoisonnées ou Asphyxiées; suivis des Moyens propres à reconnaître les Poisons et les Vins frelatés, et à distinguer la Mort réelle de la Mort apparente. Par M. P. ORFILA, Médecin par quartier de S.M., &c. &c. 12mo. pp. 238. Paris, 1818.

PRINCIPALLY with a view of giving another and more especial recommendation of this important little volume, and stating the extraordinary claims which it possesses to the notice of professional men, have we been induced to revert to it: if, indeed, any eulogy which we may pronounce upon its merits can elevate in the public consideration a work stamped with the name of Orfila: a name already known and honourably distinguished wherever medicine is cultivated as a science; and to which the historian of future ages, in tracing its progress and revolutions during the nineteenth century, will have occasion frequently to recur.

The object of Professor Orfila, in the composition of the present work, is, as the Committee* appointed to examine the manuscript, in their report to the Faculté de Médecine de Paris, observe, to render popular the most important information contained in his well-known treatise upon poisons, and to point out every thing relative to the different species of asphyxia; the treatment of children seemingly still-born; the characters which distinguish real from apparent death; the management of burns; and various processes whereby the adulteration of wines may be detected.

The importance of a work, undertaken upon such principles, and by such a writer, and the utility of which it is calculated to be productive, are too evident to require explanation. Almost equally superfluous were it to add that the execution is every way worthy of the project. The various diseases which the plan of the publication is destined to comprehend; the poisonous substances, or other causes whereby they have been induced; and the methods of treatment which

* The gentlemen constituting this committee were Messrs. Percy, Pinel, and Vauquelin.

they respectively require, are described and exposed with all the accustomed clearness and accuracy of the Professor; and in language simple, precise, and from being as much as possible divested of all technical phraseology, universally intelligible.

The poisons are here distributed by Professor Orfila into four classes,—the *irritant*, the *narcotic*, the *narcotico-acrid*, and the *septic**. Under these are arranged, according to their supposed or acknowledged properties, all the various substances of the mineral, animal and vegetable kingdoms which produce, on their application to the organs of the human economy, deleterious consequences. The last class principally comprehends the injuries and diseases resulting from the bites and stings of venomous or rabid animals, and the ingestion or contact of those possessing from natural or morbid disposition a pernicious character. Upon the principles and peculiarities of this arrangement; the characters, physical and chemical, by which the various poisons may be best discriminated; and the methods whereby it is proposed to obviate or control their pernicious operation on the animal organs; we shall not pause to offer any comment or explanation; because we observe in them nothing essentially different from the opinions and practice inculcated by Professor Orfila in his larger work: and with this we presume that there is no conscientious or enlightened Practitioner in the whole country, who would not blush to acknowledge himself unacquainted.

In the *treatment of persons who have been bitten by a rabid animal*, encouragement of the flow of blood from the recent wound by the application of pressure or a cupping-glass; enlargement of it by the scalpel, if small and deep; diligent ablution with salt or soap and water; complete and even repeated cauterization, succeeded by blisters; and, if danger be still apprehended, by the institution of a purulent drain; are the means of prevention principally relied on by Professor Orfila. When the wound has been inflicted in the interior of the mouth, the actual cautery will be obviously preferable to such caustic applications as, by admixture with the saliva, would have their action extended to the surrounding healthy parts. In the vicinity of any considerable artery, it is advisable rather to touch the bitten surface with a pencil dipped in muriate of antimony, than to risk the occurrence of hæmorrhage, on the separation of the eschar produced by cauterization. If the bite be of *long standing*, and the wound consequently cicatrized, and there be a certainty that the animal by which it

* In the Professor's larger work, two other classes of poisons are introduced:—the astringent and acrid.

has been inflicted was really rabid, it should immediately be laid open, cauterized, and caused to suppurate.

M. Brugnatelli, it is observed, has recorded several facts which tend to prove that chlorine (oxy-muriatic acid) applied to the wounds which have been inflicted by rabid animals, will prevent the development of hydrophobia. A long time since, Cluzel announced that this remedy, administered internally, had saved several persons bitten by a rabid wolf. Until experience shall have decided upon the efficacy of this agent, the treatment of the wound by cautery should on no account be neglected.

The *internal treatment of the wound inflicted by rabid animals* consists in the administration of mucilaginous drinks; diaphoretics and opiates. Venesection is indicated by a full and hard pulse; emetics and purgatives by gastric disorder, and a foul state of the mouth and tongue. Light food and moderate exercise, and abstinence if febrile symptoms exist, should be enjoined. Immediately after the application of the cautery two doses of the root of the *alisma plantago*, the astonishing effects of which in hydrophobia have lately been loudly talked of, may be given at an interval of two hours. Each dose should contain from twenty to twenty-four grains of the powdered root.

This, upon the whole, appears to us to be practice somewhat more inert and temporizing than we should have expected from such a man and in such a malady. We feel surprised that the excision of the bitten part, unquestionably the best, and perhaps the only preventive of hydrophobia which may be confidently relied upon, is never once recommended or even mentioned. And it is almost equally strange that no allusion whatever is made to the employment of copious venesection, a practice of which we have heretofore received such flattering reports in actual hydrophobia; or to the opinions respecting the spinal seat of this terrible disease; which, with considerable plausibility and no despicable weight of evidence to recommend them, seem to be rapidly gaining ground both in England and on the Continent.

On the important sections of Professor Orfila's work which relate to *asphyxia*, and the *distinction of real from apparent death*, we shall not at present pause, or offer any comment. We are preparing an abstract of them for the foreign department of our ensuing Number, as we have done for that of the present, the section on the means of detecting the *adulteration of wines*, with which the volume closes.

It now only remains for us to notice the plan of treatment recommended by Professor Orfila in *burns*; and upon this subject there is nothing advanced which either, from its no-

velty or peculiar value, need detain us long. The practice consists in the topical employment, by immersion or wash, of cold water, ice, lime-water, either alone or mixed with liquor acetatis plumbi, and subsequently simple or saturnine cerate; or if the weight of dressings be intolerable, a liniment composed of equal parts of lime-water and linseed oil. Poultices consisting of linseed meal, mallow root, and poppy heads, are to be applied in the event of the development of inflammation; and in extensive superficial burns, bleeding, rigid abstinence, and antispasmodics, are enjoined. In a word, the practice here inculcated very nearly resembles that of the old-school Surgeons of our own country: nor is any allusion made to the stimulating treatment first introduced by Dr. Kentish; and which, although not susceptible of indiscriminate application, may, under certain circumstances, be employed with decided alleviation of present suffering, and the most obvious eventual success.

To the attention not only of professional men, but to that also of the gentlemen and clergy inhabiting situations remote from medical assistance, we beg leave then, in conclusion, to recommend the English translation of Professor Orfila's little work, which we are happy to learn is already on the eve of publication; and which we sincerely hope will escape the unmerited fate that, to the disgrace of our character as a liberal and enlightened nation, too frequently awaits the laudable effort to transplant, and, as it were, naturalize among us the most valuable productions of foreign medical literature.

II.

Elements of Medical Logick, illustrated by Practical Proofs and Examples; including a Statement of the Evidence respecting the Contagious Nature of the Yellow Fever. By Sir GILBERT BLANE, Bart., Fellow of the Royal Societies of London, Edinburgh, and Gottingen, Member of the Imperial Academy of Sciences of St. Petersburg, and Physician to the Prince Regent.

A READER has right to expect from an author that there should be as exact a correspondence as possible between the matter and the name of his book. Yet this is an act of fair dealing between man and man which is often violated. We admit that there is an extreme difficulty in affixing any title at all to some works, (we speak of works on medicine,) in which neither any definite subject nor end can be discerned. Such works might bear the general designation of libri medici, according to the practice of a poor bookseller with whom we are acquainted, who, when he despairs of trans-

lating the hard title-page of some Latin or Greek author, contents himself with inscribing on it, "liber Latinus," or "liber Græcus." Whatever difficulties, however, a reader might have in giving a name to such compositions, little is experienced by an author. Puzzled as he might, perhaps, be to find an appropriate designation, an attractive title readily offers itself. We do not mean to accuse Sir Gilbert Blane of having written the volume before us without a subject or an end; because his subject, or rather subjects, are interesting in their nature, and we are able, as we imagine, to discern his end. But to those who have been allured by this book in the same manner as ourselves; who, like us, have waited with anxious expectation to see how so important a subject would be treated, we cannot help signifying that it is *not* a work on the Elements of "Medical Logic." That the reader may judge for himself, we will lay before him an analysis of what is contained in this volume, according to the order which the author has observed, reserving, for the close of this review, some remarks on the nature and importance of medical logic.

Sir Gilbert Blane has divided this work into an Introduction—seven Sections—and a concluding Chapter.

The Introduction is occupied with a discussion of the question, Whether medicine is a useful art? or, rather, Whether it is an art at all? *An datur ars medecinæ?* Sir Gilbert Blane balances with much gravity and deliberation what he presumes may be said on both sides of this question; and determines, as might have been foretold, that it is an art, and a useful one. We think, with deference to the author, that to argue such a point in this country, at least, and in the present state of medicine, was to impose upon himself an unnecessary labour. The scepticism which he has struggled to overthrow, does really no where exist; for though it may be sometimes affected from a love of paradox, or for the sake of argument; though the blunders of the ignorant, and the tricks of the avaricious, do still supply the lively with jests, and the grave with invectives against us; the truth is, that medicine itself, both as a science and an art, is every day rising into greater estimation with men of all ranks. This Introduction occupies but a few pages, and is concluded by the following sentence, in which the author makes known the object of his work:—

"It is the author's intention, with unfeigned diffidence and humility, to endeavour to point out in what medical truth consists; what are the difficulties that have obstructed its progress, and what the means of obviating them; in other words (if he may be allowed to adopt professional technology), to expound the physiology, pathology, and therapeutics of the medical mind."

We cite this passage by no means with the presumption that we can make the "professional technology," in the latter part of the sentence, intelligible; but for the purpose of regretting that the good intention expressed in the former part, of endeavouring "to point out in what medical truth consists," was abandoned in the prosecution of the work, as we find it noticed in no other passage. The first of the seven Sections in this Treatise on Medical Logic comprises some preliminary observations, and an enumeration of what our author calls "the energies peculiar to life." From its length it forms a considerable part of the whole work. These preliminary observations are on the wonderful manner in which "every faculty of the mind is correlative with, or represents, and reflects, as it were, the elements and laws of universal nature." A sentiment which, as we are informed, is more fully illustrated in a lecture on muscular motion read before the Royal Society; and also "most ingeniously and appositely alluded to" in Madame de Stael's account of German poetry.

It is, perhaps, a little singular that a sentiment of this kind should find its way into such dissimilar compositions as a lecture on muscular motion, an account of German poetry, and a Treatise on Medical Logic. For what is there said upon it we refer to the work itself*: fearing, at the same time, that the remarks will not be found easy of comprehension to such as want a metaphysical niceness of mind. They seem to have been forced from their former situation (the lecture before mentioned and a discourse read before a literary society at Edinburgh), for no other reason than to save the labour of meditating a more appropriate introduction to the arrangement of "energies" before which they stand. It is certain they have no connexion which we can discover either with any other subject treated of in the book, or with the arrangement itself.

With regard to this arrangement, Sir Gilbert informs us that his motive in "submitting it," is to show what are the obstacles to physiological investigation.

"It is incumbent on those who allege that there are obstacles to physiological investigations seemingly so insurmountable, to specify what they are. The author, therefore, submits to the Profession the following enumeration of the properties peculiar to animated nature, meaning under it to describe all the ultimate facts, or primary elements, which form the grand work of physiological and pathological science."

These energies may be arranged as follows:—

1. The Generative.—2. The Conservative.—3. The Tem-

* Page 16, and following.

perative.—4. The Assimilative.—5. The Formative.—6. The Restorative.—7. The Motive.—8. The Sensitive.—9. The Sympathetic.

This arrangement differs from “any with which the author is acquainted, inasmuch as it is not founded on an enumeration of functions and organs, but on elements pervading and belonging to the whole animal system. It is meant to comprehend all the properties in which the essence of life consists, and which characterize and distinguish it from inanimate matter on the one hand, and from moral and intellectual nature on the other.”

We do not wish to speak captiously of the arrangement here proposed, especially as it is evident from the opening of the second Section, that although the author does not regard it as a perfect, he looks upon it as an original and important “scheme.”—“In an attempt (he says) which is new; in a subject of which he has taken a view peculiar to himself; he does not dare to think he has attained any thing like perfection. It is evident, however, that it is only by following out an analytical scheme of this kind, that a foundation can be laid for the genuine principles of theoretical medicine.” According to the opinion we have been able to form on the best method of classifying the phenomena of living bodies which are the facts of physiology, no stronger objection could be urged against any classification than what Sir Gilbert believes to be the peculiar excellence of his scheme, namely, that “it is *not* founded on an enumeration of *functions* and organs.” We are not indeed acquainted with any physiological arrangement of which an enumeration of organs forms a part; but since a function is the result, for the most part, of several organs working together to the same end, as in the example of digestion, it is impossible to form any precise idea of a function without adverting to the organs which concur to produce it. And this is one of the great advantages of a classification of functions, that the organs on which they depend are constantly called to mind, and thus anatomy and physiology preserve their natural relation to each other.

The object of physiological classification is to exhibit at one clear and comprehensive view the phenomena of living bodies by placing them in such an order as shall best serve to illustrate the nature of each phenomenon, its dependence upon others, and the harmony and co-operation of all. And what are the striking phenomena of living bodies but the *functions* themselves, digestion, circulation, respiration, sensation, loco-motion, &c.? Accordingly, the method pursued by the most eminent physiologists has been to distribute the functions into classes and orders. The faulty and imperfect

division of the old school into vital, natural, and animal functions, has given way in our time to the more luminous distribution of the French physiologists, Grimaud, Bichat, and Richerand*, who are indeed much more to be admired for their skill in arranging than for their precision in reasoning upon the facts of physiology. Nevertheless, Sir Gilbert Blane deviates from the method of these men, and from every other method with which he is acquainted. His classification is founded on "properties peculiar to animated nature," "on elements pervading and belonging to the whole animal system," and finally, on the simple enumeration of nine "energies." In a treatise on medical logic, containing a chapter on the errors which spring from "ambiguity of language," we did not expect to see "properties," "elements," and "energies," confounded together as if they had the same meaning. From this variety the term energy is, however, selected, as more appropriate than the rest; and in the account which follows of each particular energy, the language is diversified by employing the word "energy" or "faculty" indiscriminately. But does our author really mean any thing more by the generative energy than the function of generation; or by the motive energy, than the function of muscular motion; or by the sensitive energy, than sensation? To be convinced that he *does not*, nothing more is necessary than to pay attention to his own expressions in the remarks upon these particular energies. In the few words on the "generative energy," generation is the only term employed, p. 24. Mark what is intended by the motive energy: "The motive, by this is meant *muscular action* in its most extended sense." And in those on the sensitive energy, p. 56, "the sensitive. *Sensation* being a simple idea does not admit of definition," &c. Thus the generative, motive, and sensitive energies, are here declared to be nothing more than generation, muscular motion, and sensation; and what is still more strange, these very energies are by a singular forgetfulness at the 81st page, called "functions." We are always most anxious to avoid even the appearance of a vexatious cavilling about words, but it is upon words only that this question turns; for if this method of framing new classifications in physiology be once tolerated, if the coining of a new name is to be mistaken for the invention of a new system, which is to change the whole aspect of a science, and be proposed as the basis both for a "scheme of nosological arrangement and a plan of physiological instruction," we may soon be inundated by a torrent of new systems. We see no good reason why the *digestive*,

* See the Preliminary Discourse in Richerand's Physiology.

circulative, respirative, secretive, excretive, and several other “energies” should not have been admitted, which would have swelled the catalogue, and might have been easily manufactured by the same process. But we cannot forbear, at the same time, asking Sir Gilbert, what that distinguished philosopher*, to whom he has dedicated this volume, would say to that theorist who should resolve, in imitation of our author, to build a new system of metaphysics, by asserting that thought is the cogitative; remembering, the recollective; and imagination, the imaginative energy?

The generative energy is placed first in order; the next is the conservative, which means “that power by which the living body is prevented from running into putrefaction.” He follows Mr. Hunter in thinking this to be “a particular antiseptic principle in life.” We cannot now enter into the grounds of our dissent: we view it as depending upon the rapid and constant change of all the nutritive particles of the body—as the result of all those functions which produce the habitual composition and decomposition of our organs, and therefore not a distinct and independent principle.

The temperative succeeds the conservative. It is that power which the living body has of maintaining an uniform degree of heat. We are aware that both Chaussier and Bichat have classed this power as a distinct function, under the name of calorification. The sources of animal heat are undoubtedly still involved in much obscurity; but there is evidently more than one source, and the means by which a higher temperature is resisted differs from those by which we resist a lower. The first appears to be owing chiefly to the production of cold by the extensive evaporation which takes place on the surface of the body. The second appears to be partly dependent on respiration and the circulation of the blood, and partly on the new chemical combinations that are formed during the depositions of the secreted fluids and the various nutritive matter of the body. It is also indirectly influenced by the functions of the brain and nerves. As, therefore, the uniformity of animal heat arises from several different functions co-operating to produce it, it cannot on that account be called, with any propriety, either a separate function, or arranged as an “independent energy” in the system of Sir Gilbert: neither can the next energy, the assimilative, and for a similar reason. “This consists in the chemical changes brought about in the decompositions and combinations effected by the power and processes peculiar to life, as manifested in digestion, secretion, and the preparation of the

* Dugald Stuart, Esq.

materials for the growth and repair of the body." The assimilative, then, is no one energy, no one function, but the result of several. Of the "formative energy," our author tells us, "it has not usually been stated as a principle distinct from the last. The slightest reflection, however, must evince, that it is quite a separate act of nature, and as different from the assimilative as the construction of an edifice is from the preparation and collection of its materials." Still it differs little, if at all, from the function to which the name of "nutrition" is given by most physiologists; nor indeed does Sir Gilbert appear to intend by it any thing different. "The proper function of the formative faculty is growth and repair." Under the title of "Restorative Energy" are included two very different things, which it would have been impossible to anticipate, viz. sleep, and the *vis medicatrix naturæ*. It is unnecessary to make any remark upon this part of the arrangement, for we cannot persuade ourselves that it is intended seriously to attribute them to the same principle. To the "motive and sensitive energies" we have already referred. The sympathetic is distinguished in nothing from what we commonly understand by sympathy.

We have felt it to be our duty to object more strongly than out of courtesy we were inclined, against the method which Sir Gilbert Blane has taken to frame an original scheme; yet, in justice, we should assure the reader, that in what is said upon each particular energy, if no new physiological facts can be found, still there are scattered many very judicious, and some acute reflections.

The chief subject of the second Section is "the errors and abuses that arise out of false and misapplied theories." The view which is taken of it contains nothing either original or profound. The opinions of many great men are brought to show how even the pre-eminent for learning and for the highest endowments of mind, are liable to fall into these mischievous errors. But the examples are such as have been selected again and again with the same object. Aristotle is re-condemned for his "syllogistic logic." Bacon is once more introduced to show that so illustrious a philosopher "did not entirely disbelieve in amulets and charms." Hippocrates himself is, as usual, a flagrant exemplification of this liability, for he referred all diseases to "excess, defect, or vitiation of the four humors, blood, phlegm, black bile, and yellow bile. Illustration still more opposite is sought for in the false principles of the mechanical and mathematical physiologists, who flourished as contemporaries of Harvey, or immediately after him. We are again informed that "Borelli, in investigating the force of the heart by experi-

ment, estimated it at 180,000 pounds, Hales at 51 pounds, Keil at 1 pound," and that "the mechanical powers of the stomach were about the same time subjected to experimental research by Pitcairn, who gravely gave out that he found this viscus in the human subject exerted a force equal to 12,900 pounds in compressing food in the process of digestion*." But it is Boerhaave who furnishes to Sir Gilbert "the most singular and the most celebrated" example.

"Towards the end of the seventeenth and beginning of the eighteenth century physiologists had begun to perceive that life was regulated by laws peculiar to itself, and that some other principles than those of mechanism and chemistry ought to be resorted to in explaining the operations, whether of health or disease. Glisson and Willis, in England; Baglivi, in Italy; and Hoffman, in Germany, led the way in this reformation, and there was a fair prospect of a more legitimate system of reasoning being established. This was checked and retarded by the appearance of Boerhaave in the beginning of the eighteenth century. He was a man of uncommon capacity, great erudition, and indefatigable industry, and a zealous and honest searcher after what he conceived to be truth. But probably from the habitual application to his favourite study, chemistry, he suffered himself to be deluded into what is now viewed as a most fallacious train of reasoning. This he delivered in language so imposing, that his doctrines prevailed universally for about fifty years in the schools of physic, and among the Practitioners of all Europe; and it is equally astonishing and humiliating to contemplate how the assent of an enlightened age should have been won over to a body of doctrine so puerile and shallow."

Boerhaave's Theory of Inflammation and Principles of Pathology are then brought in proof of these "allegations," and their fallacy is exposed by arguments so obvious, that we need not repeat them. One great cause, in the opinion of Sir Gilbert, is to be assigned for these melancholy proofs of the dangers of false and perverted theories.

"The early physiologists, (he tells us,) in all their reasonings have almost entirely overlooked all those energies peculiar to life, which have been enumerated; namely, the generative, the conservative, the temperative, the assimilative, the formative, the restorative, the motive, the sensitive, and the sympathetic, not to mention the affections of the mind."

* In a note the author tells us that Dr. William Hunter (whose name he does not mention, even for the purpose that follows, without coupling it with a long and resounding eulogium,) was heard in his lectures to express himself wittily on the subject. "Some physiologists, gentlemen, will have it that the stomach is a mill; others, that it is a fermenting vat; others again, that it is a stewpan: but in my view of the matter, it is neither a mill, a fermenting vat, nor a stewpan, but a stomach, gentlemen, a stomach."

The author then proceeds to discuss the question, Whether anatomy and physiology are useful to medicine, and what is their use? His arguments in their defence may be thus briefly enumerated:— 1. They are useful in detecting false theories. 2. They serve as a sort of gymnastic exercise of the understanding. 3. They banish superstition and quackery. 4. Even the most powerful theories of physiologists “afford useful suggestions.” 5. They serve for the better discrimination of morbid affections. 6. At all events anatomy is useful in surgery. And, 7. the state of health ought to be fully known as a standard by which to measure the magnitude, as well as to ascertain the nature of diseases.” They who, like ourselves, estimate highly the uses of physiological knowledge; not as a matter of curiosity only, but as it is capable of extensive practical application to medicine, will feel no obligation to Sir Gilbert for so negative a defence. The cause would have been more successfully advocated if its bearings on pathology had been simply unfolded. The misfortune is, that physiology has been too generally cultivated, as if it were a distinct study. The individual, which is much less than the relative importance of this science, has been commonly the only standard by which its value has been measured; and to this cause, in our judgment, it should be ascribed, that the theories of physiology have been regarded, even by sensible men, to be barren speculations, and its facts to be unavailable in practical medicine. While, however, we think more highly than Sir Gilbert of this branch of medical knowledge, we admire the truth contained in the just and animated passage which follows:—

“But if the benefits derivable to medicine from physiological science are so limited, from what other and better source is improvement to arise? The answer is, from accurate observation; in other words, from enlightened empiricism. It seems an abuse of words to restrict the term science to physiology and pathology, and to withhold it from those processes of the understanding by which facts are ascertained and accumulated, and useful inferences deduced from them constituting observation. Shall we dignify with the title of science the absurd positions of Pitcairn; the puerile and shallow hypothesis of Boerhaave and Sylvius; and deny it to those solid and applicable truths, the fruits of chaste observation and sober experience, ascertained by those methods of induction which it was the great aim of Bacon to recommend and introduce, as the only parent of legitimate, substantial, and useful knowledge? The truth seems to be, that a higher order of intellect, a more rare and happy genius, a more correct and better tutored understanding, is required to elicit practical truths by observation, than to coin theories.”

The third, fourth, fifth, and seventh Sections need no particular notice; it is almost sufficient to mention the title of

each. The third is on the great diversity observable in the constitution of individuals. Some sensible remarks will be here found on Dr. Hamilton's work on the utility of Purgatives. The fourth is on the difficulty of appreciating the efforts of nature, and discriminating them from those of art. The fifth, which might have been altogether omitted, is on superstition. And the seventh, which is entitled, "on the Fallacy of Testimony," informs us that quacks are not to be trusted; that colchicum and hermadactylus are the same drug; and that *Tra. guaiaci ammoniata* will cure some cases of gout and rheumatism. We are sorry to meet with such matter under such a title.

The subject of the sixth Section is evidently one with which Sir Gilbert is familiar; one which deeply interests his feelings, and on which he has therefore written with a vigour of thought and animation of language, not to be found in any other part of this work. The chapter is entitled, "on the Ambiguity of Language;" but in reality it is a dissertation on the yellow fever. The controversy upon the contagiousness or non-contagiousness of the yellow fever of the West Indies is as remarkable as any known in the history of medicine for jarring opinion and irreconcilable evidence: for the numbers who fight for victory with obstinate and intemperate zeal, and the few who with moderation and firmness contend for truth. Since the time when Sir Gilbert wrote his work on the Diseases of Seamen, he has somewhat changed his views, and is now the warm advocate of the contagiousness and foreign origin of the West Indian yellow fever. The grounds on which he holds these opinions are fully unfolded in the present chapter. We pass over the historical account of the different periods of time at which this fever is recorded to have made its appearance, not only in the different West India colonies, but in America, at Charlestown, Boston, Philadelphia, New York, South Carolina, and all the maritime towns of the United States; and in Europe, at Cadiz, Gibraltar, &c., and as far north as Leghorn.

We may venture to say, in conformity with the opinion of Baron Humboldt, (who at the same time believes in the contagious nature of the disease,) that however strong may have been the ground of suspicion, there is no undeniable proof that it has or has not been carried by infected persons from one of these places to another. Whoever wishes to be acquainted with the *presumptive* proofs in favour of the foreign origin of this fever, to which Sir Gilbert gives the name of Pestilential Epidemic, will find them advanced with much force and eloquence in the 150 and three following pages of

this chapter. But neither the yellow fever, nor any other disease, is disproved to be contagious, because we are unable distinctly to trace its origin. Contagion is only known by its effects. Should a case of small-pox be seen for the first time, and pronounced uninfected because no source of infection could be detected, the error would soon be revealed by the only undoubted testimony of which the case admits; viz. the communication of the same disease to those who had not yet been affected by it. It is not therefore essentially necessary to the truth of their views, for the contagionists to prove "that this epidemic has never taken its rise but in seaport towns, where it can in most cases be traced to the arrival of shipping conveying infection." We agree with the author, that the simple question is, "Whether the present disease is communicable from one person to another?" It might be hastily imagined, that nothing would be more easy than to determine this simple question, while in reality few things are more difficult. Let the proof of this be sought for in the discordant sentiments of so many men, who nevertheless write each unalienably attached to opinions which are the fruits of his own observation.

The difficulty itself may be ascribed to several causes. If a disease were to exist distinguished from all other diseases by a train of remarkable symptoms, and if this same disease were manifestly communicable to others, none would hesitate to pronounce it contagious. But if a disease, believed to be contagious, bears a strong resemblance in its symptoms to other diseases, universally known to be non-contagious, some perplexity is the unavoidable consequence. This is exactly the perplexity in which the yellow fever is involved. It is agreed by all parties, that several diseases exist in the West Indies distinct in their origin, but in some important respects confounded as to their symptoms. Sir Gilbert enumerates three:—the endemic, or the marsh remittent, caused by marsh exhalations:—the pestilential epidemic, or typhus icterodes, assumed to arise from human effluvia, and alone contagious:—the sporadic, arising from several causes, such as change of climate, intemperance, &c.

This is of course the enumeration of a contagionist: a non-contagionist retains only two of these fevers, the marsh and sporadic. Granting the accuracy of our author's arrangement, the symptoms of the pestilential epidemic are acknowledged to have a striking similarity both with the marsh and sporadic fevers of the West Indies. "The most conspicuous point of resemblance is the colour of the skin: the resemblance, however, is not perfect here; for the colour of

the former is a dingy orange, in the other two a bright yellow*."

This is not quite correct. It is true that the yellow colour which attends the marsh is commonly bright; but yellowness of the skin is far from being a general character of this fever. While in the sporadic, or that fever which arises from the sudden effect of climate on the constitutions of young, robust, plethoric new-comers to the colonies, it occurs almost as an universal symptom. But it is seen in two distinct forms, at very different stages of the fever, originating from two separate causes, and affording a different prognosis. The first form is that here spoken of; a bright yellow of different shades, which commonly takes place early in the attack, depending upon the admixture of bile with the blood and other circulating fluids, which tinges the conjunctiva, the serum of blisters, the serous effusions into the cavities of the chest, belly, &c., and is not to be regarded as a very unfavourable symptom. The other form is the dingy brown or orange, and here assigned exclusively to the pestilential epidemic as its peculiar attribute. It appears in the last stages of the sporadic fever at the same period with the black vomit, and with passive hæmorrhages from the nose and several other parts; it depends either on the extravasation or transudation of the fluids in the capillary vessels. The black vomit, as it is now called, is likewise almost an universal symptom of the sporadic fever. It is also marked in its violent forms by phrenitic delirium in the beginning and coma at the end. The piercing pains in the eyes and head and violent cramps in the legs, are among the symptoms of this fever, as well as of that described by Dr. Chisholme, which is believed by him and the contagionists to be brought to Grenada in a ship from the coast of Africa, in 1793. But "one of the most material distinctions," says Sir Gilbert Blane, "is, that few of those who have had the true typhus icterodes, or pestilential epidemic, are liable to it a second time." We assert, that this is equally true of the sporadic, and future exemption is not only the consequence of one attack of this fever itself, but a total exemption is often the result of any other disease or mode of regimen which reduces the plethoric constitution of a new comer. Again; if it be maintained by the advocates of contagion, that the typhus

* Sir Gilbert suggests in his work on the Diseases of Seamen, and alludes to the opinion in a note to this passage, that this colour is "not owing to bile," but that it is an error loci, or depraved state of the red globules. The same colour, he observes, appears in the echymosis that follows contagion.

icterodes assumes the character of a malignant epidemic, rapidly spreading and widely destructive, the same may be said of the sporadic. It attacks perhaps an individual only when the arrival of strangers is rare, as at present; it attacks large bodies of men; it has attacked, and with terrible havoc, whole battalions, when the individuals composing them were equally strangers to the climate, and equally predisposed to the disease. And yet this sporadic disease has in no one instance been known to be infectious: those who have attended the sick have never taken it, nor has it been once observed to spread by the approach or contact of others. When it once disappears, nothing more is heard of it, till it returns with the arrival of more strangers from temperate climates.

If all this be true, it cannot surely create much surprise, that there have been, and still are, those who, after a long residence in the West Indies, during which they have again and again witnessed the ravages of this terrible fever of climate, showing itself with every formidable symptom, and attended with every peculiar circumstance employed to paint the malignant epidemic of the contagionists,—and yet not contagious, and yet not communicated, nor communicable: it cannot, we say, create much surprise, that these should maintain, and maintain obstinately, that they have seen the yellow fever, and that it is *not* contagious. We are aware that Sir Gilbert maintains the singular paradox, that those who have never been to the West Indies are better judges of the nature of the disease than those who have seen it on the spot. “A soldier,” he says, p. 149, “in the midst of battle, knows much less about the main incidents and results, than a shepherd on the neighbouring hill.” And *therefore* a Practitioner in the midst of 500 men labouring under yellow fever, knows much less about its contagiousness than a Physician who only reads an account of it at home. We hope that such an example of medical logic will not be imitated, though it is from the pen of one from whom we might reasonably have expected a better specimen of logical inference. Sir Gilbert has the candour to inform us, which may perhaps explain the foregoing quotation, that he knows little of the yellow fever from his own observation. “I have not experience of my own to decide on the various points of difference, for the four campaigns in which I served in the West Indies were in years comprehended in one of those intervals before alluded to between the appearance of these great epidemics. The mortality was indeed comparatively very moderate there during the whole of that war; chiefly owing, no doubt, to there not having been great bodies of land forces transported thither during that time:” and with this explanation we per-

fectly concur. If land forces had been transported, he would have seen in all probability the sporadic fever, which has been described as the effect of climate, attacking such numbers without being contagious, as to shake his confidence in the opinions he now entertains.

We are very far from supporting the extravagant doctrines of those who deny the existence of contagion as the source of any disease; nor would we be understood even to go so far as to assert that there has not existed a contagious yellow fever in the West Indies, for we speak of the West Indies only. But we are not as deeply convinced as Sir Gilbert "of the matter of fact as established by evidence."

There is in this dissertation much more reasoning on the probability than testimony as to the fact. To the authorities brought in favour of contagion, might be opposed a much greater number against it, and the historical view will be found to supply nothing but suspicions, which may or may not be well founded. But while we do not deny that there may have been a contagious yellow fever, we affirm with confidence that there *has been* a *non-contagious* yellow fever, assuming, whenever it had food to prey upon, all the characters of a malignant epidemic. We should do an act of injustice to Sir Gilbert Blane if we did not, on taking leave of this subject, express our admiration of the manner in which the discussion is conducted. Without one intemperate expression, he has continued to infuse into the question all the honourable spirit of controversial zeal.

The limits of this review have imperceptibly extended so far, that no room is left for the few closing remarks we had intended to offer. Our ample and, we fear, tedious analysis of the contents of this volume, will convince our readers at least of the justice of that criticism which we ventured to pronounce at the outset, viz. that whatever its title may be, this work is *not* on the elements of medical logic. Instead, however, of expressing our opinion at large on this subject, as we promised, we must be content to refer the reader to an admirable paper on one important branch it should have included, viz. the nature of medical evidence, which is to be found in the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge. The author of this paper is Dr. George Fordyce, a man whose name and memory we reverence; and whose penetrating mind, precision of language, and philosophical habits of viewing every question, would have admirably adapted him to treat the whole of this subject with all the method and comprehensiveness it requires.

PART III.

SELECTIONS.

Observations on the Medico-Chemical Treatment of Calculous Disorders. By W. T. BRANDE, Sec. R.S., &c.

(From the Quarterly Journal of Science and Arts.)

[Continued from page 144.]

THE mineral acids, namely the nitric, the sulphuric, and the muriatic, have each been employed; and there are perhaps particular cases, in which one is more proper than the others; but they are all of them improper in cases where there is much irritation of the urinary passages; and as they are apt to produce this, though effectual in checking the formation of white sand, they require to be cautiously exhibited, and their effects prudently watched over.

The *nitric acid* may be exhibited in doses of from five to twenty drops night and morning, or thrice a day. It may be taken in plain or barley water. From ten to thirty drops of the dilute sulphuric acid, and from five to twenty of the muriatic acid may be taken in the same way; that is, diluted till they become palatably acid.

Of these acids the nitric is perhaps most apt to disagree, and to occasion those symptoms of indigestion which are announced by flatulency and eructations; and in a few particular cases, its long continued use has rendered the stomach reluctant as to food, though many instances might be cited of its tonic effects, as a promoter of digestion and increaser of appetite.

The *sulphuric acid* may most properly be termed a *tonic*; it generally admits of being longer persevered in than either of the others; it seldom gripes or nauseates, and almost always promotes the functions of the stomach, where they are sluggish or irregular.

The *muriatic acid* agrees, in most cases, with the stomach, but not so with the bowels, which always become more relaxed during its use, than where the other acids are employed. This circumstance, however, often recommends it; for constipation very frequently attends the state of body which favours the formation of white sand; and hence aperient medicines are alone adequate, in some cases, to suspend or prevent the disorder.

Where the mineral acids agree, they are usually very effec-

tive, and in a few days they diminish, or entirely prevent the formation of the sabulous deposit; but where they disagree, they rather increase its quantity, or they tend to the production of a mucous secretion, probably from the coats of the bladder, which envelopes, and is voided with the sand; and which, in particular cases, may certainly tend to increase the risk of its agglutination, and of the formation of a concretion in the bladder. The mineral acids too, almost always disagree with children, who are equally liable with adults to an increased secretion of the phosphates, and in whom prompt and effectual treatment is equally requisite to prevent the formation of stone in the bladder.

Here then recourse must be had to another mode of treatment, namely, to the vegetable acids.

The *tartaric acid*, either in its pure form, or as it exists in *cream of tartar*, may be used in pretty liberal doses; of the former, from five to twenty grains, and of the latter, from twenty to forty, or sixty grains may be used, either dissolved in barley water, or administered in any convenient vehicle. The cream of tartar is more apt to relax the bowels than the tartaric acid; a circumstance, which, as has been hinted above, often tends to its beneficial efficacy.

The *citric acid*, however, seems on the whole preferable to the tartaric: it may be given in the same way, in doses of from five grains to half a drachm; it rarely proves inconveniently purgative, and is very effectual in modifying the secretion of urine.

Cases are by no means uncommon in which a white sabulous deposit in the urine, often going to a great and alarming extent, appears symptomatic of, or in some way connected with irregularity of the biliary secretion; pain in the region of the liver, sallow complexion, whitish brown and dry tongue, are its usual concomitants in these cases; and there is a very troublesome irregularity of bowels, generally tending to costiveness of an obstinate kind; sometimes succeeded by or alternating with relaxation. I have known persons returning from warm climates, in this predicament, and upon being questioned as to their complaint, gravel and sand are usually uppermost in the mind. They often have recourse to the solvents of *empyrics*, which, with very few exceptions, are strong alkaline solutions; or they consult medical men, who, hearing of the sand, and inadvertent as to its kind, prescribe soda water, solution of potash, magnesia, and the like ordinary preventives. This alkaline treatment invariably does harm; the patient's digestion, already feeble, becomes more impaired; the sand previously perhaps small in quantity, is rendered abundant; the bowels pass from occasional to constant irregularity, and every symptom becomes slowly, but mischievously, and in many

cases irretrievably augmented. Cases of this kind I describe with the more confidence, having seen several. I allude to them now as particularly improper in most cases for the mineral acids in large doses, whereas by the vegetable acids they are always greatly benefited. But in these, and a number of similar cases, the best and simplest plan of treatment, is not to employ medicine, so much as diet; to adopt a general acid system; to abstain from soda water, and all alcalis; to refrain from malt liquor; to take weak lemonade, and an occasional glass of cider as ordinary drink at meals: if accustomed to wine, to prefer champagne and claret to Madeira or port, but to take little of either; if the bowels remain constipated, to take a drachm or two drachms of Epsom salt in a half pint tumbler of lukewarm water in the morning fasting; or, what is more pleasant, to stir a teaspoonful of magnesia into an occasional glass of sour lemonade; to eat salads and acid fruits, and more especially oranges, which in this state of things are an heroic remedy.

I have said that there are few cases in which the vegetable acids, properly administered, produce any aggravation of the symptoms, or where they can be said to disagree; yet such cases do occur, and a very copious deposition of white sand shall be attended with a peculiar irritability of bladder (independent of calculus, for those cases I propose afterwards to consider), which is aggravated by any of the above-mentioned acids, and yet in which they are most decidedly indicated. In a paper which I presented to the Royal Society in 1812 (*Philos. Trans.* 1813, p. 213,) and in which I have detailed some cases illustrative of the operation of acids in preventing the white deposit, I have spoken of the beneficial effects of *carbonic acid*, where, from peculiar circumstances, the other acids disagree; and since that period several cases have occurred, attended by equally beneficial results. The mode of exhibiting this acid is, either simply dissolved in water, in which case it may easily be prepared by the patient in a *Nooth's apparatus*, or procured from the dealers in artificial mineral waters; or it may be administered in the form of a saline draught in the state of effervescence, as by dissolving thirty grains of carbonate of potassa, and twenty grains of citric acid, in separate tea-cups of water, mixing the solutions in a large tumbler, and drinking the whole during the effervescence. This dose may be repeated two or three times a day, or oftener if expedient.

It may now be asked in what manner the acids which have been mentioned, act. Do they pass off by the kidneys, and produce a direct effect upon the urine by rendering it more acid, and capable of retaining the phosphates in solution; or do they act indirectly upon the digestive and assimilating organs, so as to modify the action of the kidneys, and, consequently,

to affect their secretion. In my communications to the Royal Society, I have briefly discussed this question, which, though undoubtedly curious, does not appear practically important; and I have now little to add upon the subject. The experiments which I made on the passing off of carbonic acid by the kidneys, I have since repeated with similar results. The recently voided urine was introduced into a phial, furnished with a bent tube, passing into lime water, and the whole apparatus put under the receiver of the air-pump. I invariably found carbonic acid evolved during the exhaustion, and observed its quantity to be greater after drinking liquors containing it in an uncombined state. I am quite aware of the uncertainty of experiments of this kind, and of the ever-varying composition of the urine; but I cannot give up the opinion that the existence of a large quantity of carbonic acid in the stomach is connected with its secretion in the kidneys.

I have stated above that the uncombined carbonic acid of the urine often acts an important part in retaining the earthy phosphates, but more especially the ammoniaco-magnesian phosphate, in solution; and its escape is, in these cases, attended by the deposition of the triple salt, in the form of a film upon the surface of the urine, the cause of which was first pointed out to me by Dr. Wollaston.

I have already adverted to the importance of attending to the diet in cases of white sand, and to the necessity of keeping the bowels open by the occasional use of mild aperients, where the acid regimen alone is insufficient. It frequently happens, I believe, that much of the benefit of the mineral acids may be referred to their mere tonic effect, to mending the digestion, and thus improving the general state of health. The febrile affections of children are very frequently attended by an apparently alarming deposit of white sand in the urine, and a dose of calomel will often carry off both the fever and the sand. It is thus too, that air and exercise, bark, bitters, and mineral tonics, are often successfully resorted to in urinary complaints of the kind we have been considering.

(To be continued in our next Number.)

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

PATHOLOGY (INCLUDING MORBID ANATOMY) AND
PRACTICE OF MEDICINE.

I. *Intestinal Worms*.—Several interesting communications on this subject have recently been published in the Foreign

Journals. Of these, as relating to a class of diseases than which none are attended with more obscure and equivocal symptoms, or give rise to more frequent and serious errors in practice, we shall proceed to lay before our readers a correct abstract. The first paper we shall notice is on the vermis *Tricocephalus*, or *Trichuris*, by Dr. Pascal*.

This variety of intestinal worm, discovered by Rœderer and Wagler, has been described with considerable minuteness by Wrisberg. They all erroneously regarded the filiform appendix which terminates the animal anteriorly, and to which the head is attached, as its tail. It may exist in the human body, even in great numbers, without manifesting its presence by any external phenomenon; but this will depend on the degree of sensibility, natural or acquired, of the individual affected. When, however, from any cause, its numbers are such as to constitute a morbid state, certain symptoms, yet but little understood, announce its presence. In the following cases the characters of the disease which it induces are displayed in their utmost simplicity.

Case 1.—A girl of strong constitution, and highly sanguine temperament, and previously healthy, became, at the age of three years and a half, spiritless and languid. She sensibly wasted, without any diminution of her appetite. In November, 1817, she was suddenly seized with universal rigor, which was succeeded in about two hours by copious vomiting of a red fluid, resembling wine lees. On Dr. Pascal's visit in the evening, the child complained of severe pains in the abdomen, which was somewhat swollen. Two stools had been passed during the day, but respecting their appearances nothing was known. The pulse was small, wiry, extremely rapid; the face red, irregularly coloured, or rather striped; the eyes prominent, and pupils dilated; the breath acid; the tongue covered with a yellowish mucus; and the whole abdomen painful on the slightest touch. Syrup of wormwood, with sulphuric ether, was prescribed.

Next day, 26th, pulse and countenance unchanged; the eyes immoveably fixed; respiration stertorous and interrupted; trembling of the lower jaw, and grinding of the teeth. Three grains of calomel produced two liquid and highly offensive evacuations.

27th.—Tetanic stiffness of the limbs and trunk; deglutition impeded; two evacuations by the bowels, the first scanty and yellowish, the latter more copious and blackish; insensibility.

28th.—Pulse intermittent and very rapid; deglutition impracticable; other symptoms unchanged.—Died on the morning of the 29th.

* Bulletin de la Faculté de Médecine de Paris, &c. 1818.—No. III.

Dissection twenty-eight hours after death. — General appearance pale and discoloured; face violet; abdomen largely inflated, and its whole inferior part occupied by an ecchymosis. On opening the abdomen, there escaped a great quantity of intolerably fetid gas. The stomach contained about six spoonsful of a whitish semi-transparent fluid. Its mucous membrane, and that of the small intestines, were of a pale colour, and very abundantly smeared with mucus. The cœcum and greater part of the colon were in a very advanced state of putrefaction, and exhaled a horrible stench. A prodigious quantity of tricocephali was found in them; but neither this, nor any other portion of the intestinal canal, contained ascarides or lumbrici.

Case 2. — A boy, aged nine, of delicate constitution, complained, in January, 1814, of extremely severe pains in the head, which lasted from twenty-four to thirty hours. During this paroxysm, the pulse was small and wiry, the tongue dry, and respiration oppressed; but the temperature of the surface was not raised. It terminated by partial and transitory sweats; was succeeded by perfect health; and recurred at uncertain intervals. The child having, some time before, frequently voided lumbrici, his complaints were attributed to the presence of these animals; but a remedy, administered with this view, failed in procuring the expulsion of any. In February, the paroxysms recurred more frequently; and the intervals of a pyrexia, which at first continued several days, were now restricted to a few hours. The tongue at that period was white, and covered with apthæ; the breath acid; the abdomen swollen, and sore on pressure; fæces scanty, dry, and brownish; pulse small, wiry, slightly intermittent; face red and streaked; headach intense. Five grains of calomel produced several stools, and the discharge of six tricocephali; and the decoction of filix mas was prescribed as common beverage. Dr. Pascal's visits were discontinued till the 15th of March, when he learnt that the paroxysms had increased both in frequency and violence; that the boy became insensible during the invasion, the muscles of his face were convulsed, his eyes rolled in their orbits, his respiration was oppressed; and that, in the calm which succeeded these violent agitations, his strength was exceedingly depressed. These various phenomena were observed indiscriminately at the commencement, middle, or termination of the paroxysm. The face was constantly red, and, as it were, marked with wheals. The appetite, during the transient intervals of tranquillity, was restored; and tricocephali had several times been voided in the stools. The pulse was now feeble, contracted, very rapid, and intermittent. The expression of the countenance, bathed in a cold and clammy sweat, announced im-

pending death. Violent convulsions, during which the hands of the patient were mechanically directed towards the head and abdomen, preceded this event.

Dissection fifteen hours after death.—General appearance pale; trunk and extremities stiff; face injected. A large quantity of serum in the pericardium.—Abdomen. Several of the mesenteric glands enlarged and scirrhus. The stomach distended with gas. Several tricocephali in the ileum, and an innumerable quantity in the cœcum and colon.

Case 3.—A boy, aged five, stout, but subject to nasal hæmorrhage, and who had frequently voided lumbrici and ascarides, complained at bed-time, on the 8th of October, of violent headach. At midnight he started from sleep with an acute and inarticulate cry, and was found in extreme agitation; his eyes prominent; his face red and streaked; and his hands incessantly directed towards the head and abdomen. Next morning the pulse was small and contracted, although the epistaxis had not, for some time, recurred. Two leeches applied behind the ears took away a considerable quantity of blood; and the afternoon and night were passed in tranquillity.

11th.—Agitation extreme. The patient rose and fell back again on the bed; face red and streaked; pulse intermittent, small, and concentrated; screaming, with stertorous respiration. Six grains of calomel were administered, after which the child vomited a dead lumbricus, and passed, by stool, eight living tricocephali.

12th.—Same state; stiffness of the trunk and lower extremities; perspiration; urinary and fœcal discharges involuntary, the latter containing a living lumbricus, and twelve tricocephali; aphonia. During the night the agitation attained its utmost bound, and the child expired in dreadful convulsions. No examination took place.

Tricocephali are frequently found in the intestines of persons who have died of mucous phthisis; but it does not necessarily follow that the presence of the animal is a characteristic phenomenon of the disease. It may be regarded as an accidental circumstance, or rather as a complication.

In January, 1817, Dr. Pascal examined the body of a man, aged 69, who had died of mucous phthisis in the last stage of marasmus. The intestinal mucous membrane was abundantly smeared with thin mucus; but after the strictest search, a few tricocephali only were discovered.

The body of a man, aged 40, and of athletic stature, who previously enjoying robust health, had been executed for murder, displayed a perfectly healthy state of all the organs, with the exception of a slight adhesion of the left lung, and the presence of a great quantity of tricocephali in the cœcum

and colon. The same observation was made in April, 1817, on a robust man, aged 50, who had committed suicide.

By several authors it has been asserted, that the mucus which obstructs the intestines in mucous affections, is the source of tricocephali: but this opinion, wholly destitute of probability, experience has completely refuted. A more plausible inference is that of Messrs. Alibert and Gardien, who think that the abundance of intestinal mucus met with in these diseases is the effect of the irritation produced by these worms on the mucous membrane: but even this opinion, founded as it is on the physiological theories of the day, observation frequently contradicts; for in persons who have died of mucus phthisis, and whose intestines have consequently been covered with mucus, scarcely any worms have sometimes been found.

In proof of this assertion, may be cited the dissection of the subject of 69 years, which has just been recorded, and that of the body of a man, aged 64, who, previously very robust, died in January, 1815, in extreme marasmus, from decidedly marked mucous phthisis, probably attributable to poverty and unwholesome food. Yet dissection showed only a scirrhus state of some of the mesenteric glands, and the obstruction of the intestinal canal from the stomach to the arch of the colon, with ropy mucus, while merely a dozen of tricocephali, and one lumbricus, were discovered. To these examples may be added that of the dissection of a delicate subject, suffering from asthma, and strongly disposed to mucous phthisis, who, after having been several times under the care of Dr. Pascal, died suddenly in the fields at night, in April, 1817. On dissection, serous effusion into the ventricles of the brain was discovered. The stomach contained about two ounces of an homogeneous pulpy matter, and the large intestines some indurated fæces. The intestinal tube was copiously smeared throughout with mucus; yet five tricocephali and two ascarides only could be found.

From the preceding cases Dr. Pascal concludes:—1. That tricocephali almost invariably exist in the human subject; at least, in the prosecution of his researches on mucous phthisis, he had never examined a body without discovering some of this species of worm. 2. That the affection produced by tricocephali is independent of the mucous disease, and ought to be considered as a phenomenon of the latter, but as a distinct malady, although the two affections are sometimes complicated. 3. That the following phenomena especially characterize the disease produced by tricocephali, and distinguish it from all other verminous affections:—Small concentrated pulse, such as is observed in all abdominal maladies, but at the same time irregular or intermittent; face red and

streaked; eyes prominent; intense headach; griping pains in the lower part of the abdomen; and the symptoms of other verminous affections in their most violent degree. And, 4. that worms have nothing to do with the augmentation of the intestinal mucus which takes place in mucous diseases. Dr. Pascal closes his communication with a promise of hereafter demonstrating that the fluid, found upon the intestinal membranes of persons destroyed by mucous phthisis, differs essentially from that which lubricates these surfaces in the healthy state; and that there exists between the two fluids but a very slight analogy.

The *second case** which presents itself, is one of that rare variety of intestinal worm, the *ditrachyceros rudis*†, first dis-

* Bulletin de la Faculté de Médecine de Paris, &c. 1818, No. V.

† The following is the notice of this singular and uncommon worm, recently published by Dr. Cloquet:—The genus *ditrachyceros* at presents comprehends but one species, the *D. rudis*, *bicornis rudis*, Sultz; *cysticerus bicornis*, Zeder; *diceras rudis*, Rudolph. Characters—Body oval, one line and a half long, flattened, terminating in a point posteriorly, firm, contained in a membranous bladder, and furnished anteriorly with a bifurcated horn which appears rugose to the naked eye; but, when viewed in the microscope, is seen set with narrow and elongated spikes. Habitation—Unknown as to the precise part of the intestinal canal which it occupies. Description—Colour fawn-like; length altogether about four lines. Body composed, 1st, of an external, delicate, floating membrane, completely enveloping it without adhesion, except in the vicinity of the horns; 2dly, of a membrane more strong and thick, which also adheres to the base of the horns, and forms a sac without any opening; and, lastly, of a vesicle smaller than the two preceding, and contained in the cavity of the second. Both horns, each possessing the volume of a horse-hair, conical, rugose, and somewhat flattened towards their larger extremity, where they unite and form a very short common trunk, moveable in every direction, as on a pivot. Examined with the microscope, these horns seem to be composed of a homogeneous substance, in which are hollowed cells increasing in size as they approach the peduncle. A kind of axis of a fragile substance traverses them longitudinally, and numerous pyramidal spikes beset the surface. The cavity of the body contains a very limpid fluid. The membrane forming its parietes, when examined with a microscope, appears to be studded, both internally and externally, with tubercles of a very variable figure, oval, rounded, triangular, or lozenge-shaped, notched in their circumference, and separated by grooves. The interior vesicle of the body is of a deep brown colour, and exhibits, both internally and externally, distinct grooves; but has no outlet, and contracts to a point superiorly where it adheres to the internal parietes of the body.—See Dictionnaire des Sciences Médicales, tome xxii, article Hydatide; and also the Natural History department of the last Number of the REPOSITORY.—EDITOR.

covered and described in 1801, by Dr. Sultzer, of Strasburgh, and never, we believe, again met with from that time to the present. Although, if the symptoms to which it gives rise were more correctly understood and distinguished, and the alvine discharges in every suspected case minutely examined, this curiously organized animal might prove to be less rare in occurrence than has hitherto been supposed.

In the hope of its affording some positive data for the establishment of the diagnosis of the disease resulting from the presence of this worm in the intestinal canal, Dr. Le Savage has detailed the history, of which the following is an abridgment:—A female, aged twenty-three, of dissolute habits and nervo-sanguineous constitution, had suffered in her health from repeated attacks of syphilis, when about two years since she was suddenly seized with violent pains in the abdomen. At first, a regular exacerbation took place about eleven o'clock in the morning, and terminated at four in the afternoon. During this seizure the patient writhed about on the bed with expressions of the severest pain. In two or three weeks the paroxysm subsided, and the pains continued with a diminished but more regular violence: occasionally, however, some variations in their intensity were experienced. In July, 1817, the condition of the young woman was unchanged, and general uneasiness, with anorexia, prevailed. At this time, by the operation of a purgative, a very considerable quantity of worms, of the *ditrachyceros* species, was discharged. Dr. Le Savage then first visited the patient, and had an opportunity of examining the worms, which had been preserved for his inspection. Purgatives, administered both by the mouth and rectum, produced no further evacuation of them. The patient was considerably relieved, but not cured. At the date of the last report she continued to feel pains less violent in degree and often momentary in duration: they were constantly felt in different points of the abdomen without any one region being more affected than another. This singular circumstance is explained by Dr. Le Savage, from the great irritability of the young woman, on the supposition that these pains are principally nervous, and mask the uneasy sensation which must necessarily reside in the region apparently occupied by the worms.

M. Gaultier de Glaubry, in the third place, has communicated to the Medical Society of the department of the Seine, several cases of convulsions induced by the presence of worms in the intestinal canal*. A young female child, who had been attacked with convulsions, died on the sixth day. The abdomen, on dissection, was found greatly distended, and eleven

* Recueil Périodique de la Société de Médecine de Paris, tome lxiv.

large and very long worms lying on the intestinal mass. The stomach was pierced with holes, through which these animals had passed: several were yet in the very act of passage. In the interior of the stomach fifty-two others were contained; and in the intestines only two.

In another child, destroyed on the seventh day of seizure by a similar affection, M. Gaultier discovered, 1st. a large quantity of serum effused into the brain and its ventricles; and 2dly, lumbrici distributed here and there on the intestinal mass. The stomach was completely lined with worms; some just commencing the process of perforation, some half way passed, and others almost completely through. Altogether there were twenty-seven engaged in the parietes of the stomach, and thirty-six upon the intestines. The stomach, indurated and voluminous, farther contained an enormous mass of lumbrici.

In a third more successful case, the evacuation of a great number of these worms was effected by the employment of anthelmintics.

The two first of the preceding cases are rendered very remarkable by the passage of the worms into the peritoneal cavity. Most of the Physicians who have treated on the history of intestinal animals, consider the worms of the human subject, and particularly the *ascaris lumbricoides*, as incapable of perforating the membranes of the digestive canal: yet they all agree in admitting the occasional passage of these worms into the thorax or bladder, when in consequence of the detachment of an eschar or of ulceration, a breach exists in the intestinal tube. The orifices made by perforating worms are commonly strait, corresponding nearly to the diameter of the animal; while those resulting from gangrene or ulceration are usually much larger. Of the perforating worms, never more than one passes by the same orifice; while in the other varieties a single hole serves for the transit of a great number. The escape of the first is always active; that of the latter invariably passive, and determined rather by the contractions of the stomach and bowels than by any effort of the animal itself. Hence, we think, with the editor of another French journal*, that it is very doubtful whether in the cases which M. Glaubry has recorded, the perforations of the stomach had actually been accomplished by the worms; or, at least, that they had not occurred previously to the extinction of the vital principle.

By Dr. Stiebet, we have *lastly* to observe, a new species of intestinal worm has recently been discovered†. He distin-

* Nouveau Journal de Médecine, Juillet, 1818.

† Nouveau Journal de Médecine, Août, 1818.

guishes it by the name of *dyacanthos polycephalus*. This animal, now in the possession of Professor Blumenbach, of Gottingen, was voided, living and enveloped in mucus, by a boy aged eleven, who had for eight years been subject to a spasmodic affection bordering on epilepsy; and for which, at the period of the evacuation of the worm, valerian and flowers of zinc had been administered.

The animal in question is an assemblage of about twenty individuals united by one common trunk, after the manner of the compound zoophytes. The head of each presents two tentacula, and two lips furnished with a minute hook. The tentacula support interiorly a kind of horn-like claw, extremely sharp pointed. They are, like the branches of polypi, prodigiously retractile, and capable not only of shortening but also of withdrawing as into a tube. The point where the retraction takes place is moreover indicated by a slight elevation. During the repose of the animal, the tentacula are applied one against the other, and the labia raised so that the cavity of the mouth is completely closed; but in the act of suction, the tentacula are separated on the sides and anteriorly. Behind the lips, in the cavity formed by the insertion of the tentacula, is the mouth, rounded and encompassed by a circular elevation. At the will of the animal there issues from it a sucker; the anterior extremity of which constitutes a small absorbent tube, and the posterior, by dilatation, the digestive canal. Another part, which may be regarded as the genital organ, projects behind the œsophagus, and terminates in an open tri-lobulated cavity.

Dr. Stiebet is inclined to think that this animal is reproduced by a mode of generation, placed midway between proper procreation and gemmation.

II. *Fatal Inflammation of the Cerebral Membranes, unaccompanied by Fever*.—Practitioners experienced in the observation of diseases, cannot fail to have remarked, that while in general any considerable affection of even the more unimportant organs is followed by a degree of constitutional disturbance, corresponding to the severity of the local disease, serious lesions of the viscera most essential to life do occasionally occur, and run their fatal career, without exciting in the system any phenomenon indicative of their existence, or calculated to arouse the attention and energies of the unsuspecting Physician. More than once has it fallen to our lot to see the fair reputation of the too hasty or unobservant Practitioner irreparably wounded, and the hopes of a family implicitly confiding in his opinions destroyed, by the event of some obscure disease of the heart, brain, or abdominal organs, which has pursued an insidious course, unwatched and

almost unimpeded, to its destructive close. Such cases breathe a lesson to which no professional man, who properly estimates the value of his character and the high duties of his calling, can, or at least ought to be insensible.

The curious and important fact in pathology which has elicited the preceding remarks, is well illustrated by the history of inflammation of the cerebral membranes, a short time since given to the public by Dr. Chomel*, and rendered especially interesting by the rapidity of progress of the disease, and the obscurity in which its diagnosis was involved.

A gentleman, aged forty-seven, of robust constitution and sanguine temperament, of active and impetuous character, extremely irascible, and addicted to spirituous potation, became, in consequence of severe disappointments, more than ever irritable in his temper and dissipated in his habits. From such imprudence, debt and difficulties naturally resulted. In August he first complained of abdominal pains, with general uneasiness and debility, and of deafness of the left ear; in which he, moreover, felt a severe pain extending towards the forehead and sinciput: otherwise, his intellectual faculties were unimpaired and his gait free. He was advised to go to bed, and in the evening took several injections without relief. There was some thirst, but no increased frequency of pulse or elevation of temperature. The application of leeches to the neck was prescribed, but not adopted: the night was passed with little sleep; and the patient, incommoded by its heat, several times left his bed. On the morrow, the colic had given way to copious fecal evacuations; but the headach had become concentrated about the forehead. Some relief was obtained from application of cold to the part, and the employment of pediluvia. At three o'clock convulsions suddenly came on, with turning up of the eyes, and violent and vociferous delirium. At eight the exclamations had ceased; but subsultus tendinum now prevailed; the eyes were drawn forcibly upward; and the limbs were seized at times with transient stiffness. The patient never spoke, and seemed utterly insensible to surrounding objects. His gestures, however, upon being pinched, conveyed an expression of pain: he could not be made to drink. His respiration, commonly tranquil, became at rare intervals suspicious.

On Dr. Chomel's visit at ten o'clock he found the patient in bed. His eyes were open, and directed without object from side to side. He replied neither by word nor gesture to any questions. Some automatic motions were executed by both sides indiscriminately; the pupils displayed an uniform dilata-

* *Nouveau Journal de Médecine*, Août, 1818.

tion and equal sensibility; the face was neither pale nor flushed; the pulse regular and unaccelerated; and the temperature natural. All fluids introduced into his mouth were invariably rejected.

The train of phenomena above delineated, led Dr. Chomel to the conclusion that their source existed in the brain; and he prognosticated the speedy termination of the disease. Its precise nature, however, he did not attempt to determine, although, from the sudden invasion of the symptoms, their developement in consequence of a moral affection, their instability, and the absence of fever, he was inclined to consider them as of a *nervous* character. The application of sinapisms to the lower limbs, and employment of antispasmodic injections, were only prescribed. During the night the condition of the patient remained unaltered. Between eight and nine o'clock on the following morning he recovered for a while his consciousness, and answered correctly some questions addressed to him. The thorax was pointed out by him as the part principally affected. A little broth was administered during this interval of tranquillity. At half past ten he again became insensible, and sank into a state of profound stupor. Hiccups succeeded, with vomiting of a yellowish matter. In this state he was conveyed at noon to *La Charité*, where venesection was performed in the foot, and fresh sinapisms were applied. The left pupil was now observed to be more dilated than the right, and that the limbs of the right side were the least insensible. Respiration became frequent and laborious; the drowsiness increased; frothy mucus filled the mouth and nostrils and oozed upon the lips; the pulse grew intermittent; and the patient died at five in the evening, twenty-six hours after the accession of the convulsions and delirium. On dissection, forty hours after death, the exterior of the body offered nothing remarkable. The stomach contained about eight ounces of a brownish, turbid, and inodorous fluid. The portion of mucus membrane surrounding the cardia, displayed a reddish colour. The lungs were sound; the heart somewhat larger than natural; the gorged capillary vessels of the cerebral membranes gave to them a rose-like colour, which was also observed in the substance of the brain. The arachnoid covering the hemispheres exhibited, in several points, adhesions formed by albuminous granular concretions. On the inferior and lateral surfaces of the brain, traces of membranous inflammation were also evident. Puriform matter, of a greenish-yellow colour, and of a consistence between liquids and solids, was lodged between the pia mater and arachnoid, and dipped a little into the interstices of the cerebral convolutions. The lateral ventricles

were dilated, and contained, each, about three ounces of a dirty-looking fluid, not unlike unclarified whey, and containing some albuminous concretions, which were more evident about the choroid plexus than elsewhere. A small quantity of similar fluid occupied the third and fourth ventricles. The inflammation extended to the whole medulla oblongata; but the spinal marrow was not implicated*.

III. *Peritonitis*.—Professor Portal has, in the commencement of the present year, published a memoir, the object of which is to prove the non-existence, or at least the very great infrequency, of primary peritoneal inflammation†. Our limits will not allow us to enter into a very minute analysis of the production: and this we are the less disposed to regret, since it appears entitled to our attention, rather from the name of its venerable author, than the intrinsic value of the materials which enter into its composition.

In illustration of the doctrine that the inflammations of the various membranes exhibit, in their external phenomena, no difference from those of the organs which they respectively invest, Professor Portal cites the testimony of Coiterus, who first demonstrated from anatomical researches, that in phrenitis, previously supposed to have its seat in the cerebral meninges, the disease consisted of inflammation, not of the membranes, but of the brain itself. The same author also, in tracing the history of an epidemic peripneumony which prevailed at Rome in 1563, asserts that he discovered the seat of the disease to be in the lungs, and not in the pleura. Platerus, Valsalva‡, and several other distinguished pathologists, were conducted, by the light of dissection, to the same inference. The declaration of Morgagni, that pleurisy differs from inflammation of the lungs neither in its diagnosis, nor in the treatment which it requires, is, on this point, considered

* Inflammation of the tunica arachnoides, it is observed by Dr. Chomel, differs from that of the other serous membranes in a very remarkable circumstance. In these, purulent exhalation takes place on their free (or unattached) surfaces; while in the former it almost invariably occurs on the adherent surface of the membrane, that is, between the arachnoid and pia mater, except it be in the interior of the ventricles, when the pus is secreted by the free surface of the arachnoid. This fact is almost constantly observed by those who sedulously cultivate morbid anatomy.

† Journal Universel des Sciences Médicales. Janvier, 1819.

‡ Valsalva discovered no remarkable alteration in the pleura of subjects who had previously exhibited all the symptoms commonly considered as characterizing pleuritic inflammation.—MORGAGNI, *de Sedibus et Causis Morborum*. Lib. II. Epist. 58.

particularly valuable and decisive; inasmuch as he once had held contrary opinions, and those opinions had yielded only to the evidence of facts. A memoir, in farther corroboration of this doctrine, was moreover published by the Professor himself in 1789, and honourably mentioned, as he does not forget to remind us, by Tissot.

In the face of such evidence, the Professor is astonished to see that some estimable Physicians still continue to regard as signs characteristic of particular inflammation of the peritoneum, the phenomena more correctly referrible to inflammation of the abdomen, or of some one of its contained organs. The most celebrated physiologists of modern times have not, he observes, been able to discover in this membrane the sensibility or irritability possessed in an eminent degree by most of the abdominal viscera. Yet he does not attempt to deny that membranes may acquire from disease a sensibility not naturally inherent in them. This change, however, always takes place with less facility and violence in membrane than in those organs which are naturally the most sensitive and irritable.

The sole method of correctly deciding the point at issue, obviously consists in the cautious selection and impartial detail of facts deduced as well from anatomical as from clinical observation. The following are the results of the researches prosecuted by Professor Portal in the theatres of anatomy.

1. The peritoneum has rarely exhibited traces of inflammation without evident inflammation of the neighbouring parts: but as the nature and symptoms of the disease were, in such cases, necessarily unknown, no conclusions could be drawn respecting the morbid characters. Yet the peritoneum has sometimes been found very red in persons who have died of various eruptive diseases, and occasionally the surface of the membrane has displayed, independent of this redness, graniform elevations, either filled with serum and resembling small hydatids, or of a fleshy or wart-like consistence. Sometimes they have been softened, and as it were ulcerated, but invariably so different in figure, volume, colour and consistence, from the cutaneous eruption observed previously to the death of the individual, that no resemblance existed between them.* The ensuing are ex-

* This seems to confirm the opinion of Cotunni, who thought that in small-pox, pustules, resembling those of the skin, were not formed in the interior of the body, but did not deny the existence in such cases of internal pustules, varying in extent and in the intensity of their red colour. See his masterly dissertation *de Sede Variolarum*, 8vo. Neapoli, 1769.

amples wherein the peritoneum displayed a red appearance, resembling inflammation, and yet the subjects, during life, had experienced neither abdominal tension nor any of the symptoms which are supposed characterize an inflammatory affection of the membrane. A gentleman had his body, and particularly his face, covered with a very red eruption, which receding either spontaneously or under the influence of medical treatment, was followed by general dropsy. On dissection, the peritoneum was found much reddened and covered by places with an eruption, remarkable for some small elevations of an irregular figure. The liver was altered both in its substance and volume. In another person who died of pulmonary phthisis after the repercussion of itch by a muriatic acid lotion, the pleura investing both the lung, ribs and diaphragm, and the peritoneum of the abdominal parietes and viscera were covered with red patches, of unequal elevation in different places and by a kind of irregular tubercles.

2dly. As to peritoneal inflammation, complicated with that of the parts covering it externally, few examples are detailed by authors; but some cases, observed by himself, the Professor has here recorded.

A gentleman who had long been subject to paroxysms of gouty and rheumatic pains, regularly increasing in frequency and violence, and principally affecting the lower limbs, consulted Dr. Portal. Atrophy at length seized the right inferior extremity, and violent pains were felt in the corresponding lumbar region, where also a hard and painful swelling was, on pressure, perceptible. The patient could soon no longer walk, or scarcely sit. The pain and emaciation went on augmenting. Impeded respiration rendering impracticable the recumbent posture slight fever supervened, and severe orthopnœa terminated the struggle. On dissection, the muscles of the left (right?) lumbar region, including the quadratus lumborum, the internal and posterior membrane, and posterior portion of the transversus abdominis, were very red, swollen, and softened. The posterior portion of the peritoneum was also of a deep red colour, bordering on violet. Between the quadratus and sacro-lumbalis, a collection of concrete albuminous matter had taken place. In this instance, it may be remarked that, although the peritoneum was inflamed, none of the phenomena set down as particularly characteristic of peritoneal inflammation had been exhibited during life.

In a woman who had died of hectic fever and dropsy, consequent on an attack of zona herpetica, with violent pains in the lumbar region, Dr. Portal also found the external and

internal oblique muscles, the transverse and those of the back, very red and soft beneath that part of the integument which was affected with the eruption. The anterior and internal aponeurosis of the transverse muscle and the portion of peritoneum covering that and the adjacent parts, were likewise much inflamed. This woman had never displayed any symptom of peritoneal, or rather of abdominal inflammation.

Again, on dissection of a child, who after having been for several years affected with symptoms of vertebral disease, had apparently died from hydrothorax, consequent on pulmonary phthisis, the bodies of the last dorsal and two first lumbar vertebræ were found by the Professor reduced in volume and attacked with incipient caries. Their anterior ligaments, the adjacent portion of peritoneum, and both the costal and pulmonary pleura, were very red and swollen. The lungs were moreover ulcerated and full of steatomatous concretions, and a quantity of reddish fluid was effused into the chest.

3dly. Of inflammation of the peritoneum, conjoined with that of the abdominal organs, examples abound in the works of pathological writers, by whom, from their frequent silence respecting it, such inflammation would seem to be regarded as of little consequence. In decided phlegmasiæ of the abdominal viscera, the Professor has observed that, while their investing peritoneum and the adjacent portion of the membrane exhibited traces of inflammation, the more remote parts of it were perfectly free from any such appearance. And commonly in metritis the peritoneum which covers great part of the external and superior surfaces of the uterus, and forms its ligamenta lata and rotunda, are more or less inflamed. Hence, he confidently infers that, in these cases, the morbid action has been propagated from the inflamed organ to the peritoneum, instead of being originally seated in and spreading from the membrane to the former. Such transmission, he further contends, is effected by the medium of the nerves, blood-vessels, and lymphatics, enclosed in the common cellular structure. And thus most metastases may be said to take place *in* rather than *by* the cellular membrane.

After attempting to support this doctrine by a reference to the natural inirritability of the peritoneum and its consequent proportionate insensibility to injury and disease on the one hand, and the exquisitely irritable constitution and susceptibility of the abdominal and pelvic organs on the other, Professor Portal proceeds further to substantiate his theory by observing that the accumulations of fluid, which occur in the peritoneal and other serous cavities, may be referred, not so

much to any disordered action of the exhalant or absorbing vessels of the membrane investing them, as to a lesion of some one of the solid viscera which they contain; and that organs, which have been the seat of inflammation, frequently exhibit only a dull or white colour, while the membranes covering them are found to have assumed the highest degree of redness. From these remarks, and the facts developed in his Memoir, the Professor considers himself completely borne out in the following conclusions:—

1st. The most decided traces of inflammation are frequently found in the peritoneum of subjects, who during life have experienced none of the symptoms regarded as characteristic of phlegmasia of this membrane. 2. When such symptoms really occur, one or more of the abdominal organs will be found to have suffered from inflammation, and hence doubtless the ancients were satisfied with the generic term of inflammation of the abdominal viscera, without distinguishing it by a name expressive of its restriction to a membrane, whose structure appeared to them ill calculated to produce the symptoms characteristic of inflammation. 3. If the peritoneum be inflamed, such increased action is commonly seen in the vicinity of some other inflamed organ or organs, the lesions of which have been indicated by characteristic symptoms preceding death.* 4. The propagation of the inflammatory process from the abdominal organs to the peritoneum is a very frequent occurrence, while that of peritoneal inflammation to the former rarely takes place, and ought even then to be referred rather to the nerves, blood-vessels, and lymphatics, than to the agency of the peritoneum in the abdomen, or the serous membranes in the other cavities, the principal function of which is to serve as a support to the nerves and vessels. And 5. Peritonitis, as it is now generally termed, no more constitutes a disease distinct from phlegmasia of the other abdominal viscera, than phrenitis from inflammation of the brain, or pleuritis from that of the lungs.

* Professor Portal does not deny that, in some cases, the cause of the inflammation may be so intense as to display its action simultaneously on the peritoneum and the other abdominal organs; but, even in such instances, he is disposed to think that the external phenomena presenting themselves, are attributable rather to the inflammation of the solid viscera, than to the affection of the membrane; recurring to his favourite argument respecting the occasional existence of peritoneal inflammation in subjects who, during life, have displayed none of the characteristic phenomena of peritonitis.

MEDICAL JURISPRUDENCE.

IV. *Adulteration of Wines.*—Wines may be adulterated by a variety of substances. The object aimed at in the commission of this fraud is to conceal some defect of the wine, or impart to it colour, smell, or strength.

Among the substances employed by wine-merchants, some are wholly void of danger. Others, on the contrary, are poisonous, and cannot be taken internally without inducing pernicious or even fatal consequences. By this consideration, Professor Orfila has been led to expose the means whereby any one may be enabled to determine whether or not wines have been adulterated.*

Wines adulterated with lead.—In order to soften acid and tart wines, acetate of lead, ceruse, or more frequently litharge, (protoxide of lead) is added to them. These preparations communicate to the wine a sweet flavour. Of all fraud this is the most dangerous. Persons who drink liquids thus adulterated experience all the symptoms characteristic of the poison of lead.

White wines, adulterated with lead, exhibit, independently of their sweet astringent flavour, several properties by which they may be distinguished. 1. They scarcely redden tincture of litmus, because the acid which they naturally contain is saturated by the oxide of lead. 2. Sulphuric acid, or aqueous solutions of the various sulphates, as sulphate of soda or magnesia, render them turbid, and produce a white precipitate, which immediately collects at the bottom of the containing vessel, and does not disappear on the addition of water. 3. Muriatic acid, or solutions of the muriates, such as salt water, yield also a white, heavy precipitate, soluble in twenty-five or thirty times its weight of water. 4. The subcarbonates of potash, soda and ammonia, operate in the same manner. The white precipitate which they determine, insoluble in water, dissolves with wonderful facility in pure nitric acid. 5. Chromic acid and chromate of potash produce a beautiful canary yellow precipitate. 6. The hydro-sulphuric acid, the hydro-sulphates, or aqueous solution of sulphuret of potash, blacken these wines, and yield in a few minutes a black precipitate. 7. If the precipitates resulting from the means just indicated be collected on a filter, if, after being dried, they are mixed with charcoal powder and pure potash, and exposed for half an hour to red heat in a

* Secours à donner aux personnes empoisonnées ou asphyxiées, &c. Paris, 1813.

crucible, we obtain metallic lead easily recognizable by its deep blue colour; the facility with which it is scratched by the nail, and the promptitude with which it dissolves in nitric acid, yielding a liquid salt of a sweet flavour, and endued with the property of forming a white precipitate with the various sulphates, muriates, and carbonates. 8. These wines, so adulterated, yield a white precipitate to aqueous solutions of potash, soda, and ammonia. 9. Evaporated in a capsule at the temperature of 212° , they yield a mass which, being calcined to redness with powdered charcoal, furnishes at the end of thirty or forty minutes, metallic lead. This character suffices to establish the existence of lead in wines.

Red wines, adulterated with preparations of lead, never exhibit a colour so deep as they possessed previously to such admixture. They become of a pale red hue. The presence of lead in them may be demonstrated by means of the same agents which serve to detect the metal in white wines. It is necessary merely to note — 1. That ammonia commonly precipitates them of a dirty green colour; while, in white wines, the precipitate determined by it is white. 2. That the hydrosulphates may involve in error, if their operation be but superficially examined. In fact, red wines, adulterated with lead, yield to these agents a black precipitate; but most red wines, even when containing no lead, exhibit nearly the same appearance, for they turn black, and ultimately deposit flakes of a blackish violet colour. Hence it is of consequence, in availing ourselves of the character afforded by the hydrosulphates, to observe that the blackish precipitate which they form in red wines only, indicate the presence of lead, if after having been collected on a filter and calcined with potash and charcoal it yield metallic lead.

Wines adulterated with alum.—The object of this adulteration is to render wines of a deeper red colour and less changeable, and to give them an astringent flavour. The consequences resulting from such fraud are indigestion, vomiting, visceral obstructions, and hæmorrhoids. The adulteration may be detected by the following characters which belong to alum:—1. The flavour of such wines is acid, slightly sweet and astringent. 2. They decidedly redden litmus paper, because, independently of the acid peculiar to them, they contain the uncombined sulphuric acid of the alum. 3. They yield with ammonia a white or coloured precipitate, not soluble in an excess of alkali. 4. Solution of pure potash renders them turbid, but the precipitate disappears in an excess of potash. 5. The subcarbonate of potash precipitates them, but does not re-dissolve the deposit. 6. The acetate, nitrate and muriate of barytes produce a copious white pre-

precipitate insoluble in water and in pure nitric acid.* 7. Of all the means proposed for the detection of alum in wine, the following appears to merit the preference. From the evaporation of several bottles of wine in a capsule, a reddish mass is obtained, consisting of alum and the colouring matter and tartar which form a part of the wine. This mass should be dissolved in a considerable quantity of water and boiled with charcoal. By these means an almost colourless liquid is produced: this should be filtered and evaporated in a capsule by a gentle heat, until a pellicle forms on the surface, when it should be removed to a cool place. The tartar crystallizes, and the supernatant fluid contains alum: this fluid should possess a sweet astringent flavour, and yield with ammonia and pure potash a white precipitate; that, resulting from the latter alkali, should be soluble in an excess of potash. Water of barytes and its acetate and muriate ought to render it turbid and produce a white precipitate, insoluble in water and in nitric acid.

Wines adulterated with chalk.—This substance is sometimes added to white or red wines which possess disagreeable acidity, in order to saturate the acetic and tartaric acids and destroy their tart flavour by combination with the lime of the chalk. Wines thus treated are in reality more soft, but when containing an inordinate portion of acetate of lime, they may induce disagreeable symptoms. The fraud then may be detected by the following characters:—1. Several bottles of wine should be boiled in a capsule, or in close vessels if the collection of the alcohol be an object. The liquor, when reduced almost to the consistence of a syrup, should be mixed with five or six ounces of distilled water, shaken together for ten or twelve minutes, and filtered; it will be found to contain acetate of lime formed by the acetic acid of the wine and the lime constituting the chalk. The tartar contained in the wine will remain undissolved on the filter. 2. Oxalate of ammonia poured into this liquid will, if the wine really contained lime, produce a white or coloured precipitate of oxalate of lime: this precipitate, washed and dried on a filter, will yield quicklime upon calcination in a crucible. 3. Quicklime may be distinguished by its properties

* If, under some circumstances, the wines containing alum exhibit the characters just indicated, it is equally proved that certain wines, not possessing an atom of this substance, offer some of these properties, and especially that there are others in which, notwithstanding the presence of alum, it is impossible to develop all the characters which have been specified, because they contain various other substances. Hence we may conclude that such characters possess not the value set upon them, and should be regarded as merely secondary.

of dissolving in water, rendering green the syrup of violets, being precipitated white by carbonic acid, and not rendered turbid by sulphuric acid.

Wines adulterated with brandy.—Weak wines are sometimes corrected by the addition of brandy: wines also are occasionally manufactured by mixing cider or other spirituous liquor with santal, logwood, or various colouring substances. Such fraud has no other inconvenience but that of more readily producing intoxication, and frequently headach. The admixture of brandy may be detected by the following characters:— 1. The wine will possess a much more penetrating smell of alcohol than pure wine which contains only the alcohol developed during fermentation and intimately combined with the other parts of the fluid; while in wine to which brandy has been added, the spirit is in some degree uncombined, and hence manifest to the organ of smell. 2. For similar reasons, the flavour of such wines is much hotter than that of unadulterated wine. 3. According to Remer, when wine, containing brandy, is distilled by a very slow fire, and the receiver is often changed, the brandy will be observed to pass over first, even previously to ebullition; the water some time afterwards; and, lastly, the alcohol. Wines, on the other hand, which contain no brandy, and are submitted to a similar experiment, yield, first, water, next alcohol, and last water: but this character is probably not to be depended upon.

Means employed in imparting colour to wines.— Old wines in general possessing a deeper colour than the new, wine merchants frequently attempt to impart an additional one to the latter.

White wines, when pale, are sometimes exposed to the air, whereby their colour is rendered deeper. This process is without danger. 2. As is also that which consists in colouring them with caramel. 3. A yellow colour is imparted to them by sulphurous acid gas. With this view they are poured into a cask in which sulphur has been burnt. This is a dangerous fraud if the acid be in considerable quantity: wine, thus adulterated, exhales an odour resembling that of burning sulphur, but loses it by ebullition for fifteen minutes. 4. Pale wines are sometimes coloured with the berries of the *vaccinium myrlittus*, or logwood, substances which possess equally the property of rendering them more astringent. This innocent fraud may be detected by the difficulty of effacing from linen the spots produced by such wines.

Wines adulterated with sweet and astringent substances.—The admixture of sugar, raisins, sweet wines, or extract of oak or willow bark, is not dangerous.

Wines adulterated with other substances, as arsenious acid, copper, or antimony, may induce the most violent symptoms. Such a fraud has probably never been contemplated; but, as these deleterious substances may become accidentally combined with wines, it is necessary to expose the means whereby their presence may be detected.

Wines containing arsenious acid.—1. A mixture of ten parts of red wine and one part of solution of the acid, is precipitated of a deep yellow colour by hydro-sulphuric acid, blackish blue by ammoniac of copper, and white by nitrate of silver. 2. A mixture of ten parts of the wine and seven of the acid is precipitated of a golden yellow colour by hydro-sulphuric acid, green by ammoniac of copper, and white by nitrate of silver. 3. The best mode of detecting the presence of arsenious acid, consists in collecting upon a filter the yellow precipitate formed by hydro-sulphuric acid, and heating it in a long and narrow glass tube, with equal parts of caustic, potash, and charcoal. Exposure for some minutes to a red heat, suffices to volatilize the metallic arsenic of the lustre of steel, which attaches itself to the parietes of the superior part of the tube, and thrown on live coals, exhales the odour of garlick.

Wines containing a preparation of antimony.—1. These, when evaporated in a porcelain capsule and calcined in a crucible with charcoal and potash, yield metallic antimony. 2. They are not precipitated by water. 3. They yield with hydro-sulphate of potash a deep red precipitate, unless much of the hydro-sulphate be employed when the precipitate is black. 4. With sulphuric acid a deep yellow precipitate, slightly verging to grey. 5. With tincture of nut-galls, a dirty-white precipitate. It sometimes happens that red wines, containing tartrate of antimony, are precipitated of a reddish yellow or green colour by hydro-sulphate of potash, deep violet by sulphuric acid, and bright violet by tincture of nut-galls. Hence we may conclude, that it is necessary in establishing the existence of an antimonial preparation in wine, to separate the antimony in a metallic form by calcination with charcoal and potash.

Wines containing a preparation of copper.—1. A mixture of ten parts of red wine with one of concentrated solution of verdigris, is precipitated of a black colour by hydro-sulphate of potash, soda and ammonia, chesnut-brown by prussiate of potash, and deep grey by ammonia. This last precipitate is not wholly soluble in an excess of alkali, and the supernatant fluid is never blue. 2. The same quantity of wine, mixed with seven parts of solution of verdigris, yields similar precipitates, except that the product of the ammonia is black.

3. The surest way of demonstrating the presence of a coppery salt in wine, consists in evaporating the latter and calcining the residuary mass with charcoal and potash. After half an hour's exposure to red heat, copper, recognizable by its colour, is obtained.

MIDWIFERY.

VI. *Extra-uterine Pregnancy*.—Dr. Recamier sometime since reported to one of the medical societies of Paris* several examples of aberrations of this nature; among which is the following:—He was consulted by a woman of about thirty-six years of age, suffering from slight dysentery, which readily yielded to sedative remedies. Six weeks afterwards this woman was suddenly seized with most violent colic, prostration of strength, and decomposition of the features. She was dying when Dr. Recamier arrived. Her abdomen, rather more voluminous than natural, was not very sensible to the touch. She expired in a few hours. On dissection, there was found in the abdominal cavity, among the intestinal convolutions, a foetus, which, having been developed in one of the Fallopian tubes, had escaped by a rupture, about two inches in length, the borders of which were still bloody.

VI. *Spontaneous elongation of the anterior labium of the Uterus during Parturition*.—Among the obscure and embarrassing circumstances which so frequently present themselves in the practice of Midwifery, we have seldom been called upon to notice a fact more curious in itself, or more important as it regards the conduct of the Accoucheur, than that which constitutes the subject of a paper lately published by Professor Duclos, of Thoulouse†.

A lady, aged thirty-four, during the apparently favourable progress of her fifth labour, uttered in the midst of a severe bearing pain a continued cry, and exclaimed that the child was born. The midwife, however, on examination, found a long substance hanging between the thighs, which she took for the placenta prematurely expelled from the uterus. Hæmorrhage and syncope prevailed for a while. The pains subsided; but considerable alarm and agitation ensued. Dr. Duclos arrived four hours after the accident. The uterine contractions had then ceased, and the hæmorrhage was slight. The paleness of her countenance, and the smallness and debility of the pulse, were such as to excite great apprehensions for her safety. On examination, a cylindrical tumor was found by Dr. Duclos, pendant from the vulva; about four inches long,

* Bulletin de l'Athénée de Médecine de Paris. Bibliothèque Médicale, Tom. LVIII.

† Bulletin de la Faculté de Médecine de Paris, &c. 1818. No. IX.

and two inches thick in the middle; broader at its exit from the vagina than at its lower extremity; of a red vinous colour; slightly puckered; resistant and insensible. A small quantity of black blood oozed from it. The Professor insinuated his hand beneath the tumor to its base; but the head of the foetus, partly engaged in the pelvic cavity, prevented its introduction anteriorly into the uterus. The flattened base of the tumor seemed to lose itself backward, and become confounded with the posterior labium of the uterus; the orifice of which was completely dilated. At first Dr. Duclos was inclined to regard it as a polypus rendered more voluminous by the contractions of the womb, and the pressure exercised on its base by the head of the foetus. But this opinion was abandoned on receiving the positive assurances that it had existed only four hours, had suddenly formed during a violent pain, and been attended with hæmorrhage. Nothing particular had been previously remarked in the dilatation of the uterine orifice.

After much embarrassment and reflection as to the nature of this unusual phenomenon, Dr. Duclos concluded that the tumor must be formed by an elongation of the anterior labium of the uterus; and that this part, strongly compressed on one side by the pubic arch, and on the other by the head of the foetus, had descended into the pelvis, and became gorged with blood during the expulsive efforts of the uterus. Under these circumstances, immediate delivery by the forceps was determined on, and the rectum in consequence evacuated. His patient having been conveniently disposed, Dr. Duclos then ruptured the membranes, from which a little fluid only escaped. The child's head occupied a great portion of the pelvic cavity; the occiput had nearly arrived beneath the pubic arch. On raising it a little, the remnant of the liquor amnii escaped. Meanwhile, the contractions of the uterus gradually returned, and hence the application of the forceps was suspended. Yet, although the process went on, the head of the child advanced with difficulty; and the tumor obstructing the passage became more elongated, notwithstanding the pressure exercised upon it from summit to base by Dr. Duclos. The head, engaged in the vulva, being now arrested in the passage by the tumor before it, he applied his left hand on, and pressed strongly the occiput, in order to maintain the anterior flexion of the head; while with the indicator and middle finger of the right introduced into the rectum, he endeavoured to reach the forehead. This point attained, he pressed it with force, in order to facilitate the expulsion of the head and provoke the dilatation of the perineum. By this manœuvre it was also hoped, that the injury which might otherwise have been inflicted by the passage of the head on the base of the tumor would be avoided. The

expulsive pains seconding the manual operation, the head of the child at last, with difficulty, cleared the vulva, and thus the delivery was safely accomplished. After this the patient was put to bed, and had the tumor and genital parts fomented with an emollient decoction every four hours. Next day the tumor had lost nearly half its volume, and the lochia were abundant. Thirty-six hours after delivery, the tumor was no longer seen, except on the borders of the labia. The fomentations were continued, and the secretion of milk took place without fever.

On the tenth day the tumor had wholly disappeared, but the anterior labium of the uterine orifice preserved yet its nipple-like form. This, however, was no longer to be seen on the 20th, and the orifice of the womb presented no peculiar disposition. In fine, both the woman and child eventually did well.

In 1816, two years after the occurrence just described, the same lady was again confined, and exhibited a similar phenomenon. Delivery was, in this instance, advantageously accomplished by laying the patient on her back upon the bed, and compressing the uterine elongation against the arch of the pubis with the left hand, while the right was engaged in operating the anterior flexion of the head of the foetus. The elongation, on the ensuing day, could not be seen externally; and on the fifteenth not the slightest vestige of it was discoverable.

The third and last case, in which Dr. Duclos has observed this curious circumstance, was that of a young woman in labour of her first child. In this instance, he regards the violent contractions of the uterus as its cause. The anterior labium of the organ was elongated to the extent of two inches, and slight hæmorrhage took place. The manœuvre employed in the first case was here resorted to with success.

On the fifth day after delivery, the uterine elongation presented itself under the form of a small nipple only; and the termination of the case was perfectly successful. No further comment on the importance of these cases is necessary. Dr. Duclos, in conclusion, observes, that whenever the resistance of the parts forming the vulvo-vaginal orifice has been such as to obstruct the passage of the foetus, he has commonly effected its delivery without the aid of the forceps, by introducing his fingers into the rectum, and exercising a strong pressure on the child's forehead, so as to force the occiput to slide in front of the pubis.

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

HOSPITAL FOR THE SMALL-POX, FOR INOCULATION AND FOR VACCINATION, AT PANCRAS.—An account of the number of deaths occasioned by the casual small-pox, extracted from the register for twenty years before the practice of vaccination, and also for twenty years since; also the number of deaths as reported by the Parish Clerks of London, &c. copied from their general bills of all christenings and burials for the same periods:—

<i>Before Vaccination.</i>			<i>Since Vaccination.</i>		
A. D.	Hosp. Reg.	Par. Reg.	A. D.	Hosp. Reg.	Par. Reg.
1779			1799		
to	1867	36,189	to	814	22,480
1798			1818		

Decreased in deaths since the practice of vaccination was introduced—at the Hospital, 1053; in the Parishes, 13,709.

Vaccination was introduced into practice at the Hospital for inoculation, by Dr. Wm. Woodville, with the disease taken from the cows belonging to Thomas Harrison, Esq. of Gray's Inn Road, on the 19th January, 1799. Six patients were vaccinated by the Doctor in the presence of Sir J. Banks, Bart., Sir W. Watson, Drs. Garthshore, George Pearson, Robert Willan, and several other Medical Gentlemen. The number vaccinated from that date to the 1st of January, 1819, amounted to 43,394 at this Hospital.

J. C. WACHSEL, Resident Surgeon.

NOTICES OF LECTURES.

Mr. Clarke and Mr. Blagden will commence their next Course of Lectures on Midwifery and the Diseases of Women and Children on Wednesday, March 10th. For particulars, apply to Mr. Clarke, 10, Saville Row; Mr. Blagden, 22, Sackville Street; or to Mr. Stone, 2, Upper John Street, Golden Square.

LITERARY NOTICES.

An Essay on Strictures of the Urethra; comprising a Summary of what was already before the public on the subject, and an Account of several Material Improvements in the Treatment; particularly by an Instrument substituted for Bougies or Sounds, which dilates and contracts in the Passage at will, and with any force. With an Appendix, noticing the Application of this new Surgical Instrument to Gleet, and to Hæmorrhage, and other Diseases of the Urethra, Œsophagus, Rectum, &c. By James Arnott, Member of the Royal College of Surgeons in London, formerly Surgeon in the Hon. East India Company's service.

Mr. J. S. Peckstone, of the Chartered Gas Light and Coke Company's Establishment, Peter Street, Westminster, has in the press a Practical Treatise on Gas Light; exhibiting, amongst other matter, an Historical Sketch of the Rise and Progress of the Science, the Theories of Light, Combustion and Formation of Coal; describing the Qualities of different Species of that Article, on the most approved Apparatus and Machinery, now successfully employed for generating, collecting, and distributing Coal Gas for the purpose of lighting Streets, Houses, &c. &c. Illustrated with appropriate Plates.

A METEOROLOGICAL TABLE,

From the 21st of JANUARY to the 20th of FEBRUARY, 1819.

KEPT AT RICHMOND, YORKSHIRE.

D.	Barometer.		Therm.		Rain Gauge.	Winds.	Weather.		
	Max.	Min.	Max	Min.					
21	29	05	29	05	37	28		W..	1 Sun...
22	29	02	28	87	37	29	09	S..	1 Cloud... 3 Rain. 4 Starl...
23	29	22	29	22	37	31		SW...	1 Sun..
24	28	94	28	89	39	31	41	SE..	1 Cloud.. 2 Rain....
25	28	89	28	50	40	34	38	SSW..SE..	1 Sun. 3 Rain...
26	29	19	29	14	40	29		SW..	1 Sun...
27	29	22	29	17	38	32	1 39	SW..NE..	1 Sun.. 2 Cloud... 4 Rain....
28	29	16	29	14	40	36	73	NE..	1 Rain.... 4 Cloud...
29	29	16	29	14	38	35		E..	1 Mist...
30	29	18	29	16	40	33	14	NbE..	13 Cloud... 2 Sun.. 4 Rain..
31	29	22	29	16	36	26		NW..	1 Sun...
1	29	15	29	13	34	26		W.SW.	1 Sun...
2	29	30	29	25	33	26		W...	1 Sun....
3	29	18	29	03	34	29	11	SW.SE.	1 Sun. 3 Snow..
4	29	36	29	32	36	26		WbN.	1 Sun...
5	29	17	29	08	37	28	05	SW.	1 Sun.2 Mist..3 R.4 Moon...
6	28	89	28	83	40	34	31	SW...	1 Sun.. and Show....
7	29	31	29	06	39	34	06	SW....	1 Sun... 3 Show. 4 Moon...
8	29	48	29	31	42	36		SW..	1 Sun... 3 Cloud.. 4 Moon..
9	29	15	29	10	48	39	18	S..	1 Cloud.... 4 Rain..
10	29	41	29	39	42	37	16	SW...	1 Sun.. and Showers..
11	29	22	29	15	45	38	15	SW...	1 Sun.. and Showers..
12	29	27	29	13	42	32	03	W..	1 Sun...andShow.4Moon....
13	29	58	29	50	39	31	01	WNW..	1 Sun...andShow.4Moon...
14	29	69	29	54	36	29		NW..	1 Sun...
15	29	39	29	15	40	34		SW..	1 Sun.
16	28	95	28	92	46	38	31	SE..	1 Cloud... 2 Rain....
17	29	13	29	11	46	35	17	SW..	1 Sh.&Sun..3 S.. 4 Starl...
18	28	98	28	74	43	36	60	SW..SE..	1 Sun...3 Cloud...4 Rain....
19	29	30	29	04	44	35	08	S..SW..	1 Rain. 2 Sun.. and Show.
20	29	38	28	69	42	36	62	SW.SE..	1 Sun...3Cloudy...4Rain....

The quantity of rain during the month of January was 6 inches 33-100ths, which is much more than has been observed by the Reporter before in an equal space of time.

Observations on Diseases at Richmond.

The disorders under treatment were Abortio, Asthenia, Cynanche tonsillaris, Dyspepsia, Febris catarrhalis, Febris simplex, Fistula, Gastrodynia, Incubus, Lumbago, Menorrhagia, Obstipatio, Ophthalmia, Phthisis pulmonalis, Vaccinia, Varicella, and Variola.

THE METEOROLOGICAL JOURNAL,

From the 20th of JANUARY, to the 19th of FEBRUARY, 1819,

By Messrs. HARRIS and Co,

Mathematical Instrument Makers, 50, High Holborn.

D.	Moon	Rain	Therm.			Barom.			De Luc's Hygrom.		Winds.		Atmo. Variation.		
									Dry.	Damp.					
20			39 41 37			29 67 29 48			11	11	SSW	S	Fine	—	—
21			39 43 39			29 50 29 58			12	12	S	SW	Fine	—	—
22			41 45 38			29 60 29 48			12	12	SSW	SW	Fine	Rain	Fine
23			41 47 40			29 65 29 79			13	12	SSW	S	Fine	Clo.	—
24			44 49 40			29 62 29 55			10	11	SE	SE	Fine	—	Rain
25			43 46 40			29 44 29 42			11	13	SSE	SSW	Clo.	Rain	Fine
26	☾		43 45 42			29 48 29 52			11	11	S	ESE	Clo.	—	—
27			45 47 39			29 41 29 40			11	12	SW	S	Clo.	Rain	Clo.
28			42 47 41			29 43 29 55			11	11	S	S	Clo.	—	—
29			44 50 40			29 49 29 46			11	10	SE	ENE	Fine	—	Clo.
30			44 48 39			29 39 29 42			12	11	ENE	N	Rain	—	Clo.
31			41 46 34			29 51 29 65			10	10	N	NNW	Clo.	—	—
1			34 38 33			29 64 29 57			10	11	SE	SW	Fine	—	Rain
2	☾		35 38 30			29 61 29 78			9	10	NNW	W	Sno.	Fine	—
3			33 37 38			29 58 29 52			10	10	N	W	Fine	Clo.	Rain
4			41 46 39			29 70 29 84			10	11	WNW	WSW	Fine	Rain	Clo.
5			42 45 40			29 72 29 65			11	12	SW	SW	Rain	—	—
6			40 43 42			29 67 29 65			11	12	SW	W	Fine	—	Rain
7			45 47 38			29 65 29 60			11	11	SW	SW	Fine	Rain	Fine
8			41 46 44			29 89 30 02			11	12	WSW	SW	Fine	—	Clo.
9			46 49 41			29 94 29 80			14	14	SW	SSW	Rain	—	—
10	●		43 47 40			29 88 30 07			11	11	SW	SW	Fine	—	—
11			43 47 39			29 98 29 92			10	10	SW	W	Fine	Clo.	—
12			40 46 40			29 69 29 62			11	13	WSW	W	Fine	Rain	—
13			42 46 38			29 85 29 91			12	15	W	NW	Rain	—	Clo.
14			40 43 37			30 00 30 11			15	14	NW	W	Fine	—	—
15			40 46 35			30 00 29 70			12	12	W	W	Clo.	—	Rain
16			40 46 36			29 61 29 44			12	15	SW	SSW	Clo.	—	Rain
17	☾		39 46 35			29 50 29 54			14	12	SSW	S	Rain	Clo.	—
18			41 47 38			29 64 29 55			13	15	W	S	Clo.	—	Rain
19			44 49 40			29 61 29 73			13	12	SW	W	Rain	Fine	—

The probable (the gauge being not quite perfect) quantity of rain fallen in the month of January is 2 inches and 11-100ths.

A REGISTER OF DISEASES

Between JANUARY 20th and FEBRUARY 19th, 1819.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	6		Febris <i>catarrhalis</i> ...	69	
Abscessio	7		—— <i>Typhus mitior</i> ..	10	
Amaurosis	3		—— <i>Synochus</i>	34	1
Amenorrhœa	9		—— <i>Puerpera</i>	1	
Anasarca	13	1	—— <i>Remit. Infant.</i> ..	12	1
Angina Pectoris	2		Fistula	3	
Aphtha <i>lactentium</i>	8	1	Furunculus	2	
Apoplexia	5	4	Gastrodynia	15	
Ascites	6		Gonorrhœa <i>pura</i>	13	
Asthénia	12		Hæmatemesis	1	
Asthma	69	3	Hæmaturia	1	
Atrophia	2		Hæmoptœ	8	
Bronchitis <i>acuta</i>	5		Hæmorrhœis	12	
—— <i>chronica</i>	3		Hemiplegia	3	
Bulimia	1		Hepatalgia	4	
Calculus	1		Hepatitis	9	
Cancer	2	1	Hernia	3	
Carbunculus	2		Herpes <i>Zoster</i>	4	
Cardialgia	9		—— <i>labialis</i>	1	
Carditis	1		Hydrocele	2	
Catarrhus	60		Hydrocephalus	4	2
Cephalalgia	31		Hydrothorax	2	1
Cephalæa	5		Hypochondriasis	2	
Chlorosis	1		Hysteria	4	
Chorea	4	1	Hysteritis	1	
Cholera	6		Icterus	3	1
Colica	7		Impetigo <i>sparsa</i>	4	
Contractura	1		Ischias	1	
Convulsio	2	1	Ischuria	5	
Cynanche <i>Tonsillaris</i> ..	20	1	Lepra	2	
—— <i>maligna</i>	1		Leucorrhœa	9	
—— <i>Trachealis</i> ..	4		Mania	2	
—— <i>Parotidea</i>	2		Melancholia	2	
—— <i>Pharyngea</i> ..	1		Menorrhagia	14	
Diarrhœa	25	1	Morbi Infantiles*	57	2
Dolor lateris	2		—— <i>Biliosi</i> *	21	
Dysenteria	6		Nephritis	1	
Dyspepsia	40		Neuralgia	1	
Dyspnœa	8		Obstipatio	9	
Dysuria	2		Odontalgia	16	
Ecthyma	4		Ophthalmia	13	
Eczema	2		Otalgia	1	
Eneuris	1		Paralysis	7	
Enteritis	4	1	Paraplegia	2	1
Entrodynia	5		Paronychia	1	
Epilepsia	4		Pemphigus	1	
Epistaxis	4		Pericarditis	1	
Erysipelas	6		Peripneumonia	18	1
Erythema <i>lava</i>	2		Peritonitis	18	2
Febris <i>Intermittent</i>	7		Pernio	5	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Pertussis	16	1	Scabies	87	
Phlegmasia <i>dolens</i>	1		Scarlatina <i>simplex</i>	3	
Phlogosis	13		Scirrhus	1	
Phthisis Pulmonalis	26	6	Scorbutus	2	
Physconia	1		Scrofula	14	
Plethora	2		Spasmi	2	
Pleuritis	15	2	Splenitis	2	
Pleurodyne	4		Stricture	2	
Pneumonia	27	3	Syphilis	23	
Podagra	5		Tabes Mesenterica	5	3
Porrigio <i>larvalis</i>	2		Tussis	4	
——— <i>decalvans</i>	4		Vaccinia	11	
——— <i>scatolata</i>	2		Varicella	7	
——— <i>favosa</i>	2		Variola	26	4
Prolapsus	2		Vermes	21	
Prurigo <i>mitis</i>	2		Vertigo	16	
Psoriasis <i>guttata</i>	6		Urticaria <i>febrilis</i>	3	
Pyrosis	2		Total of Cases	1296	—
Rheuma, <i>acutus</i>	28		Total of Deaths	48	
——— <i>chronicus</i>	31				
Rubeola	12	2			

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from den-
tition or indigestion, and which may be too trivial to enter under any distinct head; *Morbi*
Biliosi, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

FEVERS of a distinct and decided kind are by no means so generally pre-
valent as was the case a few months since. Those instances which have
recently occurred under our more immediate care, have been such as
without a view to a prevailing epidemic, would scarcely have been con-
sidered as cases of genuine fever. But these febrile ailments have occa-
sionally run in families in a way that our ingenious correspondent, Dr.
Mitchell *, would find it difficult to explain upon any other supposition than
of imparted miasma.

Pulmonic complaints of a catarrhal and asthmatic nature still continue
prevalent and protracted.

It is painful to see so large a register of small-pox cases, and some of them
fatal.

The instances of croup that have fallen lately under our care have yielded
to two grains of calomel every four hours, with an ointment to the chest,
composed of five grains of tartrate of antimony, and five of opium, to a dram
of ceratum cetacei.

A curious circumstance has occurred in one family of dispensary patients,
viz. that all the individuals of it, the mother excepted, (five in number,) have
within a very short time discharged several of the lumbrici teretes. No
symptoms or appearances of worms had been observed in any of them pre-
viously. The mother states, that they have been living for some time in

* See the present Number of the REPOSITORY, page 191.

the neighbourhood of Cheshunt, where the water was exceedingly foul and muddy.

The following remarks have been forwarded to us by our correspondents with their reports:—

“Ophthalmia Mem. has become prevalent during the last three or four days by the river side in Lambeth and Westminster; in one family of poor children on the other side the water it is attacking each successively. The application of leeches, and cooling collyria, with the exhibition of antimonials and purgatives, and particularly blisters to the temples *well covered* with the antimonii tartras to remain on forty-eight hours, have generally produced a speedy abatement of the symptoms.

“Bleeding has been tried in the anasarcons cases. It has generally relieved the difficulty of breathing for a few hours; but two have died.”

“The case of hernia was umbilical, many years’ standing, and became strangulated about three months ago, which (after several hours) the reporter reduced. The same case now reported became strangulated again about three weeks ago, which could not be reduced. She was sent to the Middlesex Hospital, where the patient underwent the operation by Mr. Bell, and is doing well.”

“The fatal cases of small-pox were accompanied with an immense number of large petechiæ.”

Our reporter from the North Eastern District having been prevented, by an unforeseen circumstance, from sending the regular reports, states, that “there appears to have been, during the last month, nothing particularly observable. Inflammation of the lungs and pleura have been among the most prominent diseases. Fever appears to be declining; it existing at present only in one or two spots, where want of ventilation allows it to retain its contagious influence.”

Quarterly Report of Prices of SUBSTANCES employed in PHARMACY.

		s.	d.			s.	d.
Acaciæ Gummi elect.	lb.	5	0	Cardamomi Semina	lb.	9	0
Acidum Citricum	-	32	0	Cascarillæ Cortex	-	3	0
— Benzoicum	unc.	5	0	Castoreum	unc.	4	6
— Sulphuricum	P. lb.	0	9	Catechu Extractum	lb.	4	6
— Muriaticum	-	2	0	Cetaceum	-	4	0
— Nitricum	-	4	0	Cera alba	-	4	0
— Aceticum	cong.	4	6	— flava	-	3	10
Alcohol	M. lb.	5	6	Cinchonæ cordifoliæ Cortex (yellow)	-	8	6
Æther sulphuricus	-	12	0	— lancifoliæ Cortex (quilled)	-	10	6
— rectificatus	-	14	0	— oblongifoliæ Cortex (red)	-	16	0
Aloes spicatæ extractum	lb.	7	6	Cinnamomi Cortex	-	20	0
— vulgaris extractum	-	6	0	Coccus (Coccinella)	unc.	2	8
Althææ Radix	-	1	6	Colocynthis Pulpa	lb.	12	0
Alumen	-	0	6	Copaiba	-	6	0
Ammonia Murias	-	2	3	Colchici Radix	-	-	-
— Subcarbonas	-	4	0	Croci stigmata	unc.	5	0
Amygdalæ dulces	-	3	6	Cupri sulphas	lb.	1	4
Ammoniacum (Gutt.)	-	11	0	Cuprum ammoniatum	-	10	0
— (Lump.)	-	7	6	Cuspariæ Cortex	-	3	0
Anthemidis Flores	-	2	6	Confectio aromatica	-	8	6
Antimonii oxydum	-	7	0	— Aurantiorum	-	3	0
— sulphuretum	-	1	5	— Opii	-	5	0
Antimonium Tartarizatum	-	8	0	— Rosæ caninæ	-	2	0
Arsenici Oxydum	-	2	6	— Rosæ gallicæ	-	3	0
Asafœtidæ Gummi-resina	lb.	6	6	— Scennæ	-	1	8
Aurantii Cortex	-	4	4	Emplastrum Lyttæ	-	6	6
Argenti Nitras	unc.	6	6	— Hydrargyri	-	3	6
Balsamum Peruvianum	lb.	30	0	Extractum Belladonnæ	unc.	2	6
Balsamum Tolutanum	-	22	0	— Cinchonæ	-	3	0
Benzoinum elect.	-	12	0	— Cinchonæ resinosum	-	6	0
Calamina præparata	-	0	6	— Colocynthis	-	4	0
Calumbæ Radix elect.	-	4	0	— Colocynthis comp.	-	1	9
Cambogia	-	9	0	— Conii	-	0	9
Camphora	-	7	0	— Elaterii	-	36	0
Canellæ Cortex	-	6	6	— Gentianæ	-	0	8

		s.	d.
Extractum Glycyrrhizæ	lb.	6	0
— Hæmatoxyli	unc.	0	6
— Humuli	-	1	0
— Hyoscamii	unc.	1	6
— Jalapæ	1s. 6d. Res.	3	6
— Opii	-	4	6
— Papaveris	-	1	0
— Rhæi	-	2	0
— Sarsaparillæ	-	2	0
— Taraxaci	-	0	9
Ferri subcarbonas	lb.	1	4
— sulphas	-	1	6
Ferrum ammoniatum	-	5	6
— tartarizatum	-	5	0
Galbani Gummi-resina.	-	16	0
Gentianæ Radix elect.	-	1	2
Guaiaci resina	-	7	6
Hydrargyrum purificatum	-	6	6
— præcipitatum album	-	9	0
— cum creta	-	5	6
Hydrargyri Oxymurias	unc.	0	8
— Submurias	-	0	9
— Nitrico-Oxydum	-	0	8
— Oxydum Cinereum	-	1	6
— Oxydum rubrum	-	6	0
— Sulphuretum nigrum	-	0	4
— — rubrum	-	0	6
Hellebori nigri Radix	lb.	3	0
Ipecacuanhæ Radix	-	20	0
— Pulvis	-	22	0
Jalapæ Radix	-	6	6
— Pulvis	-	7	6
Kino	-	10	6
Liquor Plumbi subacetatis	M. lb.	1	8
— Ammoniac	-	3	0
— Potassæ	-	1	6
Linimentum Camphoræ comp.	-	6	0
— saponis comp.	-	4	0
Lichen	lb.	1	4
Lytta	-	11	0
Magnesia	-	10	6
Magnesiæ Carbonas	-	3	6
— Sulphas	-	0	8
Manna	-	0	0
— communis	-	4	0
Moschus pod, (54s.)	in gr. unc.	60	0
Mastiche	lb.	6	6
Myristicæ Nuclei	-	18	0
Myrrha	-	7	6
Olibanum	-	4	6
Opopanax gummi resina	-	24	0
Opium (Turkey)	-	50	0
Opium (East India)	-	-	-
Oleum Æthereum	oz.	2	0
— Amygdalarum	lb.	3	9
— Anisi	unc.	3	0
— Anthemidis	-	7	0
— Cassiæ	-	8	6
— Caryophylli	-	6	6
— Cajuputi	-	5	6
— Carui	-	1	6
— Juniperi Ang.	-	3	6
— Lavandulæ	-	5	0
— Lini	cong.	6	6
— Mentha piperitæ	unc.	4	0
— Mentha viridis Ang.	-	5	0
— Pimentæ	unc.	6	0
— Ricini optim.	-	10	0
— Rosmarini	unc.	1	0
— Succini 2s. 6d.	rect.	5	0
— Sulphuratum	P. lb.	1	6
— Terebinthinæ	-	1	2
— — rectificatum	cong.	2	0
Olivæ Oleum	-	24	0

		s.	d.
Olivæ Oleum secundum	-	14	0
Papaveris Capsulæ	(per 100)	4	6
Plumbi subcarbonas	lb.	0	8
— Superacetas	-	2	6
— Oxydum semi-vitreum	-	0	9
Potassa Fusa	unc.	0	8
— cum Calce	-	0	6
Potassæ Nitras	lb.	1	2
— Acetas	-	10	0
— Carbonas	-	4	0
— Subcarbonas	-	1	4
— Sulphas	-	1	3
— Sulphuretum	-	4	0
— Supersulphas	-	0	9
— Tartras	-	3	6
— Supertartras	-	1	8
Pilulæ Hydrargyri	unc.	0	6
Pulvis Antimonialis	-	0	9
— Contrayervæ comp.	-	0	4
— Tragacanthæ comp.	-	0	4
Resina Flava	lb.	0	6
Rhæi Radix (Russia)	-	40	0
— (East India) opt.	-	10	0
Rosæ petala	-	14	0
Sapo (Spanish)	-	2	6
Sarsaparillæ Radix (Lisbon)	-	6	6
Scammoniæ Gummi-Resina	unc.	3	6
Scillæ Radix siccata, opt.	Ang. lb.	4	6
Senegæ Radix	-	4	0
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Sodæ subboras	-	4	6
— Sulphas	-	0	6
— Carbonas	-	6	6
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Soda tartarizata	-	2	6
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— Lavandulæ	-	5	6
Spiritus Myristicæ	-	3	6
— Pimentæ	-	5	6
— Rosmarini	-	4	6
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— — Nitrico-oxydi	-	3	0
Uvæ Ursi Folia	-	2	6
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NOTICES TO CORRESPONDENTS.

We are much obliged by the Communication of Mr. Fosbrooke, which, on account of the immediately important topic on which it treats, shall be inserted (at least part of it) in our next Number.

* * * Communications are requested to be addressed (post paid) to
Messrs. T. and G. UNDERWOOD, 32, Fleet Street.

THE
LONDON MEDICAL
REPOSITORY.

No. 64.

APRIL 1, 1819.

VOL. XI.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Some Remarks upon the late Epidemic Eruptive Diseases, supervening on Variola and Vaccinia, and upon Professor THOMSON'S Theory of the Identity of Modified Small-pox and Chicken-pox; with some Contributions to Diagnosis.
By Mr. FOSBROOKE, a Member of the Profession.

Post ignem æthereâ domo
Subductum, mæcies et nova febrium
Terris incubuit cohors.—Hor.

THE event of an eruptive epidemic subsequent to vaccination and variola, and upon which the medical world are not unanimously agreed, has occurred and been variously agitated. In the former *opusculum* which I had the pleasure of transmitting to the REPOSITORY, I endeavoured to trace the causes of secondary small-pox *in general* to various sources of duplicity and deception, in the process of obtaining the prophylactic effects of vaccination: we now find a peculiar eruptive disease stated in an excellent philosophical form of data, by Mr. Hennen and Dr. Thomson, in the Edinburgh Medical and Surgical Journal for October last and January. In a series of hypotheses offered by Dr. Thomson, these are generalized into modified small-pox, and identified with chicken-pock.

As a zealot of vaccination, so far I conceive such an hypothesis to involve the reputation of vaccination, that it would be impossible to concede to any opinion so conclusive without very serious deliberation; and if it results from the labour

of inquiry and comparison that I am compelled to break a lance with the learned Professor, I must confidently premise that it is with much regret that contrary belief rushes upon my mind, after the truly diffident and undogmatical mode in which he has brought forward the subject, and the candour with which he has invited opposing as well as auxiliary statements; and in imitation of his example, I must offer this article to one of the first of British medical miscellaneous publications, with the same holding clause of retracting, if the evidence of accumulated investigations may force upon me any retrocession from present convictions. Previous to the adduction of any reasoning or facts, I must be permitted to sketch in an analysis, the leading features in Mr. Hennen's cases; and, at the same time, compliment the writer upon the scrupulous and accurate attention with which he has executed his *adversaria*, and so well deserving of imitation in the framing of data, from which any difference of opinion is likely to arise.

Mr. H. states that small-pox had for some time existed in this city and its neighbourhood (Queensbury House), both under the usual and modified form, and likewise varicella contemporaneously in its genuine and unequivocal form.

Cases in Series, with Remarks.

No. 1. Unequivocal Varicella.—The papulæ become vesicular, their appearance commencing two days after indisposition. Their vesicular appearances retained two days, ended in crustaceous desquamation. *Note.* This case seems to have given origin to all the rest.

No. 2. Variola.—Commencing symptoms, four days' febrile affection. May 17th to the 19th, Vesicular. 20th, 21st, Completely pustular. The usual course of mild confluent variola, with pitting.

No. 3. Previously vaccinated.—Concluded to have varicella. May 17th, First appeared ill. 20th, 21st, Mixed pustular and vesicular eruption; distinct; decided by Dr. Thomson to be varicella from coming out by fresh crops in succession.

No. 4. Had had variola well marked. Taken June 7th, 9th. Eruption of papulæ, "which, did he not bear marks of variola, might be taken for that disease." 11th, Vesiculated. 13th, 14th June, become pustular. They desquamate after a transition into *horny scabs*. Considered by Dr. Thomson to be a good specimen of the modified small-pox, so well described by Dr. Willan.

No. 5. Mr. Hennen's child.—On Tuesday the 9th, taken. 11th, Papular eruptions; vespere vesicular 12th. The 13th,

I took *limpid* fluid from the *pustules*. 14th, He says, with more precision of language, that the fluid in the pustules becomes thick and yellow. Vaccinated; considered by Mr. Bryce and Dr. Monro to be modified small-pox. *Note.* It does not appear from this case that a mild disease is always propagated by the most important form of contagion. Mr. Hennen's child catches the severe eruptive anomaly from the trivial complaint of his brother; and in fact the whole series originates with No. 1, a case of mild varicella.

The next cases are very important. The six children inoculated from the last case, "who had never had small-pox, cowpock, nor varicella."—"The experiment, highly important in itself if the disease communicated was purely varicella, became doubly so on the supposition that it should turn out to be small-pox, for we had been taught to believe that the modified *small-pox produces the real disease in persons who have never gone through it before, or who have not been previously vaccinated; but that it still retains its modified character in persons who have previously undergone either of these diseases.*" *Note.* In some authorities which I shall hereafter cite from Dr. Pearson, &c., the same result followed, whether the subject had been variolated or not; *i. e.* it was mild and irregular. On this principle, which Mr. Hennen sets out with a just confidence in, inoculation from the virus of cases which were supposed modified small-pox, the production of genuine variola was considered the *experimentum crucis*; but here we find that the contagion obeys no undeviating law of propagating its kind: in some cases it assumes the shape of varicella; in others variola unequivocally; and, finally, neither. I shall now continue the abstract of such particulars as will be necessary for reference in the course of this article.

No. 6. June 13th, Inoculated from Mr. Hennen's child. 17th, fifth day of eruption, papulæ appeared. 18th, 19th, 20th, 21st, Pearly coloured vesicles. 22d, A second eruption of minute pearly coloured vesicles, depressed in the centre, distinguished from the first by a great diminution of size; the first resembling the cowpock vesicle; but, "instead of being exactly circular, have angular projections from their circumference." Fifth day of the second eruption. The first vesicles acquire a yellowish hue, discharge a thick purulent looking fluid when punctured. Seventh day, The eruption goes off partly in a vesicular, partly in a pustular state; slight pitting. The brown coloured centre of the vesicles horny and semi-transparent. *Note.* It is to be regretted that it is not remarked whether the pitting succeeded vesicular scabs. I presume that the second eruption arises from the constitutional diathesis of the first, and forms that

peculiar protecting crisis of eruption which occurs in variola. No. 7, 8, 9, 10, 11. The disease observes no material variation of phenomena at equal periods of time. In cases 7, 8. The secondary eruption appears a day later. Disappearing with vesicles and pustules, and finally with pustules; the eruption on the face in the majority of instances pustular; in the lower extremities vesicular*. *Note.* These conclude the inoculated cases, which, though in some instances more severe than others, as tests do not prove the disease to have been genuine variola. No. 12, 13, 14, 15. The *three first had had small-pox*: 13 in the natural way; a severe case; the eruption at first vesicular, afterwards partially pustular; matter in some of these cases found to be purulent, in others clear lymph. In No. 13 the eruption vesicular in the early stage; an exudation on the face "like broken down jelly strewed over the pustules" takes place: the eruption in the end discharges a serous fluid; the secondary eruption not marked in this case. Case 14 had repeatedly been with people labouring under small-pox with impunity. Secondary eruption papular and vesicular; towards the conclusion pustular in the face, with purulent discharge. No. 15. A fatal case. The eruption papular and vesicular running into bags of purulent matter conclusively; caught from No. 12. *Note.* It is worthy of observation that three out of four of these have this disease with the greatest severity, secondary to small-pox: That the fatal case was genuine small-pox, no one that saw him expressed the least doubt. Here terminate these very authentic records? Dr. Thomson had seen 72 cases when he penned his first letter. Of this number, eight after having small-pox; twenty-seven after passing through the cowpock; two co-existent with cowpock; and thirty-five had not passed through either small-pox or cowpock. "Three of the children affected with this disease after cowpock had *previously passed through an eruption of the same sort*, and in one of these I had the best opportunities to observe that the disease had each time exhibited the appearances which have been supposed to be characteristic of chicken-pock." In his second letter (Edinburgh Journal for November) there are some additional cases, in those who had either variola or vaccinia mild; *in two cases it recurred twice*; in others, who had neither

* In case 8, The vesicles form on the site of an herpetic eruption additional proof of the disposition of the cuticular system to symptomatic disease; where it is at all unhealthy or more delicate, as exemplified in small-pox and vaccinia, where there is a breach of continuity; and, again, where there are erythematous vestiges of inflammation.

pock, in some instances mild ; others severe, and a few fatal. Professor Thomson says he could discover in no stage or appearance of the disease, as it occurred in those who are vaccinated, " any symptoms by which he could distinguish it from the three varieties of chicken-pock described by Dr. Willan, or from the numerous cases which he had seen before or since the practice of vaccination. He repeats the same remarks more than once.

It is my intention rather to illustrate and contribute to the diagnosis of these diseases, than to positively affirm that they are all of any specific kind ; and if what is recorded of the past histories of varicella and variola be brought into a clearer foreground, and may cast any light upon its general nature, I shall be satisfied with the utility of what is done.

In the first place, I am not exactly of opinion that it was varicella ; because the disease that the inoculated children underwent does not meet the regular descriptions of systematic writers. In the second place, a doubtful disease of another character, and unequivocal variola, was derived from it ; (Mr. Hennen's son probably gave rise to all the diseases that occurred in the Castle). In occurring a second time, in the same individual, it does not, as far as I am instructed by authors, obey the general law which nature has almost uniformly stamped on chicken-pox, small-pox, cowpox, and other exanthemata, *that of non-reproduction* ; and, again, where it thus recurred, it was in both instances, it is said, similar ; so that it could not be said to be the divided operation of a double contagion. If Dr. Thomson's subsequent theory is admitted, of the identity of varicella and modified small-pox, varicella must have occurred twice in almost all the Cupar cases.—(See report of the Cupar cases.)

In ensuing after variola and the vaccinia, it does not differ from the general law of varicelloid disease. In Dr. Heberden's first account of chicken-pock (Vol. II. Medical Transactions, p. 427), the characteristics of the mild varicella are the first day reddish, second day a small vesicle, sometimes full, of a watery and colourless, sometimes of a yellowish, hue. Third day, arrived at their full maturity. In cases No. 1 and 4 of Mr. Hennen, the disease is certainly thus regulated ; but Mr. Hennen's inoculated cases contained lymph the second day, and did not arrive at their maturity till the sixth or seventh day of the second eruption ; occupying a space of time from fifteen to eighteen and nineteen days after the papulous appearance, before arrival to maturity. Of the malignant kind of varicella, Heberden says, the eruption appears on the fourth or fifth after indisposition ; the

most striking coincidence of progression which I observe with the Castle cases appearing always five days after inoculation. He remarks neither in the mild nor malignant any secondary eruption. He says "the progress of the eruption in the chicken-pock differs from the other, the one dies away in about four days; whereas the progress of the eruption in the mildest kind of small-pox, from its first appearance to the time of full maturation, is seven days; and the pustules dry away more slowly than those of other diseases." "These two distempers," says Dr. H., "are not only different on account of their different appearances, *but because those who have had the small-pox are capable of being infected with the chicken-pock; but those who have once had the chicken-pock are not capable of having it again.*" Baron Dimsdale is one of the next who remarked the duplicity of resemblance in these two diseases. He had found a case of a mild disease in a child, in which the "pustules were more numerous than he had ever seen in the chicken-pox." He gives other cases in which the disease strictly resembled small-pox, but states that they afterwards underwent small-pox with the regular appearances. He adds, that the diseases which have been frequently taken for small-pox are swine-pox and chicken-pox, which differ from each other in scarcely any circumstance, except the size of the pustules, and have by some been supposed to be the same. Those cases in which either are attended with a great number of pustules certainly resemble very much a mild kind of small-pox. His discriminative characteristics are much the same as given by Dr. Heberden, "seldom if ever accompanied by fever which deserves attention as such." (The inoculated children of Hennen had severe fever in some, if not all). Dr. Young, in the Nosology of his Medical Literature, says the "swine-pock pimples are larger and more pointed." I mention swine-pock to aid inquiry.

Wilson on Febrile Diseases, Vol. II. 378, gives it as a discriminative test, that "the matter of the former (vesicles of chicken-pock) never acquires the purulent appearance which it always does in the distinct small-pox; *the only form of disease which can be confounded with chicken-pock.*" In this particular it is at variance with the inoculated cases.

If we admit, however, that these diagnostic descriptions have by no means fully completed the pathology and pathogenic characteristics of varicella, and that only two of Mr. Hennen's cases bear an exact relation, we must examine if they can be identified with the more modern descriptions of Willan and Bateman. The lenticular varicella of Willan is evidently the resembling variety: on the third day the con-

tained lymph becomes straw coloured; the change in the contents of the vesicles to a purulent fluid does not ensue till the eighth or ninth day; on the fifth day they begin to scab; in the other cases a great deal later: on the ninth and tenth days they fall off, leaving for a time red marks on the skin *without* depression; but in the other cases they frequently leave tubercles and pits. The conoidal and globate* species are the same, I am inclined to think, as the two species of Heberden, the swine-pock and the lives, as it is popularly termed: as all these *criteria* of the three species sometimes exist together (but "one greatly predominates"); we cannot insist upon this, an arbitrary objection to Mr. Hennen's cases being varicella; *but the horny nature of the scabs, and their assimilation to irregular cowpock, is very anomalous.* The reviewer of Willan (Med. Chirurg. Rev. for 1806,) acutely observes, that diversities "in small-pox and varicella are equally great; the regular cases are easily distinguished; it is the irregular ones that excite, and these it is probable will still be found occasionally to puzzle Practitioners in their attempts to discriminate between variola and varicella. It is not to be forgotten, that one author (Willan) himself has been mistaken in his judgment on this point; conceiving that to be varicella, which subsequent inoculation proved to be small-pox." The *maculæ* or defecation of the skin on the site of the pustules is, I believe, not peculiar only to small-pox or chicken-pock. Pitting, according to a writer whom I have quoted in my notes anonymously, is usual in mild small-pox and varicella; which is certainly a contrariety to Willan and Cullen. Dr. E. G. Clarke maintains that pitting may occur in varicella. Moss (on Diseases of Children, p. 226,) says, "chicken-pock has given rise to the opinion of persons having small-pox twice, as they often pit like the small-pox." "Some certain and easy criterion," says the Editor of the London Medical and Chirurgical Review, 1807, "is still much wanted to enable us to discriminate between small-pox and chicken-pock. It is not to be found in the appearance of the pustules, for, though in general in chicken-pox they are smaller and more acuminate than in small-pox, it is not always so; many of the pustules in a severe case of chicken-pox being as large and

* The globated vesicles (almost globular, says Mr. Hennen, of his cases,) not having resemblance to variolous pustules, distinguish, according to Willan, the varicella from the small-pox. Pustules indiscriminately occur in both; and in small-pox the matter of the pustules may consist of a colourless fluid, as in that variety termed *variola discreta chrystillina*.

globular, and sometimes with indentations as in the small-pox. In duration also they sometimes equal the small-pox; for we have seen in repeated instances lately, the pustules full of matter, were semi-transparent or opaque, as late as the tenth day of the eruption. The constitutional disorder is likewise often very severe, both before the eruption and during its progress to maturation." This eruptive disease was prevalent in the metropolis in 1807, and the foregoing extract gives me reason to imagine was very much of the same kind with the northern maladies. We may infer that there is no deviation so eccentric as to render it entirely impossible that these cases were varicella, if we admit these striking testimonies to its frequent irregularity. But is it not probable that they were concealed under a like veil of deception? We must recollect the derivation of numerous fatal cases, and others severe beyond the known nature of varicella. The horny scab has been witnessed in modified variola *after vaccination*; but it occurs here where it is not modified. If it is chicken-pock, should it not leave a future susceptibility to the genuine vaccine or variolous diseases, and may not this be tried on the *un-vaccinated* or variolated patients as a test? Two series of experiments are related by Mr. Hennen; six persons were inoculated from unequivocal varicella; and others who had had the small-pox, with the matter of the eruptive disease, *without effect*.

That ingenious, but frequently loose, writer, the late Dr. Adams, names very confidently as a test (*vide last edition of Morbid Poisons*), the slough always being found beneath the pustules of the small-pox, and never in varicella; "and the only exception to its being traced with the same certainty are those irregular vesicular small-pox which have appeared after cowpock, *and on some other occasions*." How unsatisfactory! We regret that this has been unnoticed in the cases before us. But let me not anticipate my real ideas of the nature of this disease during comparison and analysis.

I must now proceed to that part of the subject which more immediately relates to the varioloid character of this disease. Dr. Thomson finally generalizes the whole into modified small-pox upon the following postulates:—First, Upon a conviction that the descriptions of the progress and appearances of the eruption in small-pox, by our best systematic writers, are in many respects imperfect; that the diagnostic marks which have been particularized between small-pox and the disease termed chicken-pock are not to be relied on. 2dly, That secondary small-pox has occurred more frequently

than recorded*. 3dly, That there is every reason to think that small-pox has an analogous power of modifying secondary small-pox with vaccinia. 4thly, That what has been described as chicken-pock must consequently have been variceloid disease: he supposes that cases of modified secondary small-pox which may have occurred much, have been described as cases of chicken-pock, *since we no where find any part of the possible co-existence of these diseases, or of danger in which medical Practitioners are of confounding them together.* 5thly, He does not think that this hypothesis can be set aside, till it shall be proved that chicken-pock eruptions occur generally in persons who have not passed through the cowpock or small-pock; and prevail epidemically without cases of small-pox appearing among them. 6thly, On supposition that those who have passed through the mild sorts of small-pox are less secure against a second attack, than those who have passed through the severe; it will then be rendered probable that many of the cases which have been considered as cases of chicken-pock, preceding small-pox, were, in fact, only cases of mild small-pox.

With respect to the first part of Dr. Thomson's first problem, it is natural to deem it singular that there should be any inaccuracy or want of precision in the knowledge of a pestilential disease so awfully diffused during the eighteenth century; and that that vast experience should be likely to furnish imperfect histories of variola or varicella must be conjectural, when we reflect that the necessity is urged of discriminating between spurious and regular small-pox. Dr. Willan has added little to the relations of Dimsdale and Sutton. "Morton," says Dr. Heberden, "mentions it, as if he supposed it to be a very mild genuine small-pox."

Mr. Ring observes, (Vol. VIII. Bradley's Journal,) it is well known that the small-pox is a Protæform disease, assuming almost every colour and shape. Hence it follows that there is no complaint with which the human body is afflicted, that has given rise to more mistakes. Errors of this kind are continually occurring; and if you wish for cases of this sort, it

* Dr. Adams (vide Popular View of Vaccine Inoculation, and Rev. Ed. Med. Journal, Vol. IV. p. 337,) maintains, in coincidence with the Professor, that cases of second small-pox after small-pox have already been suffered to occur as frequently as these severe cases of small-pox after cowpock. This he believes would never have been doubted, had we not unfortunately been in the habit of estimating the security of the patient by the severity with which he has passed through the disease.

would not be a difficult matter to collect a sufficient number to fill a journal once a month. Thence I conclude that the most perfect descriptions, which we have the strongest internal evidence of having been given, would not, in as far as description goes, form decisive diagnoses of small-pox. As they were aware of the duplicity of resemblance, it must have strengthened the motive to describe distinctly and with precision. Dr. Pearson saw eruptions in four cases from the *vaccine* inoculation, resembling so much those of small-pox, that he should not have hesitated to consider them as belonging to this disease, if he had not excited them by a different poison from the variolous (Vol. III. Bradley). My father, the Rev. T. D. Fosbrooke, a celebrated literary character, in the same volume expresses an opinion that they were entangled with variolous contagion. Mr. Bryce, if I recollect correctly, had seen something of this nature. Dr. Joseph Adams says, the secondary eruptions of vaccination are like the chrystilline small-pox. He vaccinated some people who were out of the reach of the variolous contagion, in all of whom the disease took place in the chrystilline varioloid character; with others the small-pox has *vice versâ* assumed the vaccine character. See Mr. Hennen. Mr. Ring had cases of vaccine inoculation not distinguishable from variola by any diagnostics with which he was acquainted. See his remarks on Andre's variolous-like eruptions at Petworth. I believe I might add to these many other like opinions that appearances would not always accurately decide the identity of variola. I shall now endeavour to arrange any points of description which seem to point out the nature of the Queensbury House cases, and their unconformable characteristics.

The eruption of the distinct small-pox seldom appears later than the third day (the only species with which varicella can be confounded). Mr. Hennen's cases all on the fifth day. In the distinct small-pox, from the first appearance, the pustules are surrounded with a perfectly circular inflamed margin. In these cases the areola did not appear till the fourth, fifth, or sixth day. In the milder cases of Mr. Hennen we do not find the peculiar local swellings of small-pox. The fatal case (15), is defective in some criteria of genuine confluent or distinct small-pox. The interstitial skin was always erythematose, with raspberry-coloured bases to the pustules; "nor are they surrounded," says Wilson, speaking of the confluent small-pox, "with an inflamed margin, as in the distinct small-pox; the spaces between the pustules are pale and flaccid; and the pustules themselves, about the time of maturation, often appear like the pellicles fixed upon the skin."

V. Small-pox, Rees's Cyclop. The colour of the entire pustules in the advanced stage is consistent with the description of confluent small-pox, as also the swelling of the face, an invariable feature of the confluent. Though I suspect this case in strict resemblance to differ much, yet I by no means intend to insinuate that it was not such. The appearance of the eruption principally in the face in these cases is a distinction, according to Dr. Heberden, of the small-pox. In the Suttonian system, p. 100, his circumstantial description, in the first appearance of vesicles and of secondary pustules, agrees in many particulars with these cases. The dark spot is well known in distinct variola. The depressions in the centre have always been considered as diagnostic of small-pox. See the cases. I do not trace the verbal analogy between the epidemic described by Dr. Rogers, of Cork, under the designation of chrystilline, and any of these cases. Dr. Thomson mentions it, but I apprehend as it appeared in those yet undescribed. The cases of Sir George Dallas's children, (vide London Med. Review, 1807,) related by Mr. Goss, have marks of being the same kind of eruptive disease as the Edinburgh cases. Dr. Borland and Mr. Ferguson were of opinion that they were not small-pock. An epidemic is mentioned by Mr. Quin, in Vol. II. Med. Transact. p. 370, "as the summer advanced the pox were generally *small* and *warty*, suppurating very imperfectly, and the depressed apex of each had commonly a *black spot* in it."

In the article of small-pox, Rees's Cyclopædia, I believe professedly written by Dr. Bateman, he speaks of the "distinction between chicken-pock and modifications of small-pox being fully established," and I can merely refer to what has been previously said, to diminish the perplexity of decision, when speaking of varicella.

With respect to secondary small-pox having ensued much oftener than has been recorded, Baron Dimsdale, as well as many other most experienced and popular inoculators, would not credit it: he thinks, to use his own words, "that it was more than probable, that those who have been entrusted with the care of persons under eruptive disorders, have been themselves deceived, as to the nature and quality of such eruptions." By his account of varicella which I have given, he was well acquainted with it as distinct from small-pox. I do not think that because Dr. Heberden and Dr. Monro *primus* have partially denied secondary small-pox to have taken place, that every contagious disorder described by them consequently as varicella was modified variola; for the fact is, that the aggregate of cases of secondary small-pox, amounting, as

I am instructed from good authority, to 3000, were casual, and happening at remote distances of time and place. Seventy cases have also been collected by Mr. Ring*.

As to the corresponding power of variola, in modifying secondary variola, as is the case with vaccinia, I should be theoretically predisposed, from the constituted resemblance between these two diseases, to admit it. Mr. Hennen says, that "there is something in their mutual relation which has not yet been satisfactorily elucidated;" it is an intention which I shall not procrastinate long to illustrate the close approximation of these two diseases to each other, in similitude and identity of action. That very law of nature to preserve the race of man, by which it almost unexceptionably happens that "the same" pure contagious disease shall affect the same person only once through life, is the very basis of the principle of these two varieties repelling each other. They may be figuratively said to bear the same relation to each other as the profile to the general face, in different points of view, the same though unlike. But to return to the postulate of modified variola and the chicken-pock described by authors being the same; this appears to be the most feeble link in the concatenation, and if it breaks, the whole is destroyed; for if the chicken-pock was the variola

* This contagion is of that insinuating nature, that it pervades even the constitution in an insidious manner in a state of rude health, and is so tenacious of every thing to which it is attached, that I very much question its possible extinction. Besides the very singular instances of the certainty with which this contagion penetrates the system, as given by Dr. Jenner, &c., cases have been previously related by Vogel and Burserius. The skin always retains its susceptibility, not so the constitution. "Nurses are liable," says Dr. Harrison, (Vol. V. Bradley's Journal,) "to variolous eruptions from attending upon children in that complaint: with them they are purely local." It has been commonly the case when children have been exposed to variolous contagion, that they have small-pox pustules, few in number, and discrete, and drying away on the third day. There is a case on record of a woman who had small-pox eight times, and died the last. Dr. Adams (New Edit. of Morbid Poisons,) quotes a writer who says, that it has been ascertained that the small-pox has been imported more than a hundred times in seven years, into the channel, and thirty times in about six months, in the year 1800, by the channel fleet alone. I am not inclined, says the Dr., to doubt the veracity of this presumption, since there are so many ways, of a latent kind, in which the disease may be imported by human agency, and totally unconsciously. This appears more infrequent since the universality of vaccination.

modified by the variola, the secondary disease must be expected to assume a given form, and some consistent regularity; but it seems that there is nothing more decidedly contrary, if all the cases of varicella or secondary small-pox, either after variola or vaccination, were consonant to Mr. Hennen's, and resembled each other, little difficulty would arise in thus compromising the matter: but how often have practitioners witnessed its anteriority to variola, and who does not recognise it every day in some of its forms; and if it was modified small-pox, why does it not afford security against the vaccine disease, for the mildest small-pox is known to have that effect? May we not reason with equal plausibility, that chicken-pock is the most ancient in this country, and had existed before small-pox, as that secondary small-pox had existed without notice, and that it was at last regarded, because it might bring small-pox inoculation into disrepute by being mistaken for it, and erroneously used. The knowledge of cutaneous diseases has not been much cultivated till of late years; and it is very possible that this petty eruptive disease, with slight indisposition, frequently counterfeited by others, might have been impassively attended to. Perhaps in some instances, its contagion concurring promiscuously with variolous contagion, it may, since that period, have become indefinitely aggravated.

(To be Concluded in our next Number.)

II.

Remarkable Case of Pneumonia. By MR. WANSBOROUGH, Surgeon, Fulham.

ON the morning of the 10th ult. ten o'clock, I was called to visit a young man, twenty-five years of age: I found him labouring under a violent attack of pneumonia, symptoms extremely urgent, with short and quick respiration, interrupted by severe lancinating pains in the hypochondria, pulse 120, tongue dry and furred, considerable fever, and by consequence heat of surface much increased.

Twelve ounces of blood from a large orifice.

R Magnes. Sulph. ʒiss. in

Infus. Rosarum, f. ʒiss. Ft. Haustūs.

Secunda quæque hora sumendus, donec alvus respondeat,

Emplastrum Lyttæ Magnum Sterno.

At four P.M. the draught had not operated; the pulse had undergone a trifling abatement from the bleeding, but

still retained its inflammatory character; symptoms much the same as in the morning.

R Pulveris Antimonialis, grs. xiiij.
Hydr. Submur. gr. x.

Ft. massa in pilulas quatuor dividenda, quarum sumat unam secundâ quâque horâ.

R Liquoris Ammon. Acetatis, ℥iv.
Aquæ Distillatæ, ℥vj.
Syr. Aurant. ℥ss.
Liq. Antim. Tart. ℥xv.

Ft. haustus, alternis horis cum pilulis adhibendus.

11th. Has passed a very restless night; the medicines produced four copious foetid evacuations; this morning the skin is moist, yet the tongue is much furred, and the pain in the hypochondria increased, extending backwards between the shoulders. The blood drawn yesterday exhibits a thick buffy coat: I repeated the bleeding from the *same* orifice to the extent of twelve ounces more; the pulse became less frequent and fuller, and perspiration appearing over the surface of the body. My patient experienced a slight mitigation of symptoms.

Continue the saline draughts every six hours during the night, to each of which add potassæ tart. et mannæ, āā ℥i.

12th. Symptoms nearly the same this morning as last evening; a determination to the surface has been kept up during the night; the blister has risen well; he has had a better night and is more composed, but has not had much sleep; pain abated; pulse 100; free evacuations.

Continue the draughts without the aperients.

13th. This morning an accession of all the febrile symptoms has taken place; the pain is more severely felt than yesterday; tongue dry; pulse again increased to 120; no evacuation of the bowels during the night.

R Potassæ Tart. ℥i.
Infus. Sennæ, ℥i. — M.
Ft. haustus, statim sumendus.

Four o'clock, P.M. The draught has operated twice, but without diminishing any of the symptoms, either febrile or inflammatory; his breathing is more frequent than in the morning, and his distress is great from dyspnœa, which he complains of much.

Eight o'clock. Difficulty of breathing increased; no motion since the morning; skin excessively hot and dry: the blood drawn yesterday exhibits exactly the same state as that of the day preceding.

Twelve ounces of blood were again taken from a vein in the arm.

Deliquum supervened this depletion for the first time.

Emplastrum lyttæ sterno repetatur.

Ten o'clock. Much the same, except a slight alleviation of pain in the hypochondria.

Continue the saline draughts, with the addition of vini antimonii, $\mathfrak{m}\text{xv}$.

Twelve o'clock. Fever and pain in the chest increased. As the case appeared desperate, from the determined progress of the inflammation, I felt justified in adhering to the determination with which I had set out, viz. to reduce the inflammatory diathesis by resolution.

No cough having hitherto appeared, I was emboldened to pursue this principle, and, accordingly, twelve ounces more of blood were taken, and, removing the blister that had been applied at eight o'clock, I covered the surface of it with pulvis cantharidis, and again applied it to the sternum.

Medicines the same.

This evening, before I left him, I flattered myself I perceived an abatement of symptoms.

14th, eight o'clock, A. M. An accession of all the previous symptoms. At four this morning the pain returned with increased violence; his skin is hot and dry; tongue parched and considerably furred; respiration more oppressed than I had seen it before; his eyes assumed a peculiar expression, evidently indicative of the extreme anguish he laboured under by the distressing urgency of symptoms.

The same motive that actuated me to bleed largely in the first instance, seemed equally, if not more pressing now; a constant and copious action was kept up on the bowels, and every effort was excited by antimonials and saline medicines to produce a determination to the skin, which was accomplished.

The situation of my patient urged the necessity of promptitude in the application of my remedy. I now, therefore, again took twelve ounces of blood.

Deliquum followed, and half an hour elapsed ere my patient recognised his attendants.

On recovering, he expressed himself much relieved, yet exceedingly debilitated: conceiving it impossible to survive, he wished to die.

Half an hour after the operation I administered the following:—

R Haustûs Salini, \mathfrak{f} . \mathfrak{z} iss.

Extracti Hyoscyami, \mathfrak{z} ss.—M.

Statim sumendus, et 6tis horis repetendus.

During the whole of this day he appeared better; his pulse was now 90 and 92; he took, occasionally, tea and barley water; the blister discharged copiously.

Four o'clock. Slight evacuations; his debility was now so great that it was necessary to relieve him by the slightest movement: towards evening his pulse increased; his countenance became flushed; and the febrile symptoms resumed their sway after having remitted during the day.

Twelve o'clock. Worse; the pulse increased to 110, and my poor patient appeared to be rapidly dying. I left him in the full conviction of his speedy dissolution: however, in the morning, at six o'clock, I was called to him at his request: on my arrival I found him in a deplorable state indeed; his voice only extended to a whisper, and that was rendered almost unintelligible by the hurried respiration: I could with difficulty distinguish that he wished to be bled: at his request, therefore, I again bled him to the amount of twelve ounces; this last evacuation reduced the pulse to 50; deliquium did not supervene; his countenance recovered after the operation, and he felt himself considerably relieved; shortly after a copious loose dejection followed, highly impregnated with the hyosciamus.

Sudden exhaustion succeeded, and he sunk into complete insensibility, which terminated in profound sleep. I remained with him, closely watching the progress of these highly interesting moments, nearly two hours, and experienced the pleasure of perceiving a sensible alteration for the better; his pulse assumed a fuller and softer character, and remained steady during the day; towards evening it increased to 75.

The hyosciamus was exhibited every six hours in doses of a scruple each: he took barley water and tea, as before: this was on the 15th.

Twelve o'clock, P. M. He had remained six hours asleep, and awaked quite refreshed, and (to use his own expression) quite a new man, with a moist skin, having perspired profusely during his sleep, with a full, regular pulse, at 75. The blister has continued to discharge freely, and I desired it might be kept open, which was done for a week, and then, as it became no longer necessary, it was healed,

The hyosciamus was continued in one scruple doses until the 19th, when, having advanced into convalescence, I afforded him light nutritious diet, obviating costiveness, with occasionally small doses of mag. sulph. He continued to advance in his recovery, gaining strength rapidly; the pain of the hypochondria gradually left him, and, with an increasing appetite, he continued to amend until he left the place perfectly restored. I have not seen or heard of him since.

III.

Two Cases of Lithotomy in Females, with Remarks. By
M. CLEMOT, Professor of Anatomy at Rochefort.

[Communicated by the Author.]

IN the month of March, 1814, a girl of twenty-four years of age was brought to me by M. Guignard, for the purpose of having a stone extracted from the bladder, symptoms of which had been felt for nearly six years. By passing the sound the existence of the stone was made sufficiently evident, and upon introducing the finger into the vagina it was felt through the vesico-vaginal division: it appeared to be about the magnitude of a duck's egg.

If Surgeons are pretty well agreed respecting the most eligible mode of performing lithotomy in the male, there is still some room for variety of opinion on this head as it respects the female: the comparative shortness of the urethral canal, and the very narrow space which surrounds it at the upper part of the vagina, leave one in doubt whether to attempt the dilatation of the urethra, or to divide the canal on the superior part on both sides, or on the left side only.

If we operate laterally, the vagina brings us too near the ramus of the ischium, and to the pudic artery, and is itself liable to be wounded in different places, as, indeed, has often happened. By the upper division sufficient space is not allowed, and depression is occasioned should the calculus turn out to be large. This serious inconvenience, to which sufficient attention has not perhaps been paid, is common to instruments which divide on both sides. The urethra being placed at the upper part of a triangle, the section which the instrument makes being transverse, the sudden retraction of the parts tends to draw them to the centre of the triangle, the sides of which are fixed and bony, and, consequently, to remove them from those which they ought to approach, in order to leave the organs in a state to perform their functions.

Thus the frequent incontinences of urine which follow all those methods in which the division of the urethra is adopted for the passage of the stone have induced many Surgeons to prefer and adopt the high operation, which is always attended with difficulty and danger, and is, indeed, sometimes impracticable.

Applying these considerations to the case immediately before me, my first determination was in favour of the operation of Celsus, which is more generally applicable to the female than to the male, in consequence of the less thickness of the

parts to be divided, and the greater facility of introducing the fingers in parts, the extension of which is always less than that of which they will admit, and which are not affected in their ulterior functions by any degree of temporary distension; circumstances which do not apply to the male. If we are allowed to examine by the rectum and by the urethra, no valid reason can be given against examining by the vagina also in a disease of so much importance as stone in the bladder.

The only ground upon which I hesitated was the fear raised by some Practitioners respecting the occurrence of urinary fistulæ into the vagina; but these disorders having their origin in the urethra, one should expect women to be less obnoxious to them than men, which, indeed, is verified by observation. The difficulty which is found to attend the management of intestinal fistulæ in men occurring after the operation of fistula, arises from the continued passage of excrement, and the case is therefore very different from that of urinary fistulæ communicating with the vagina. The thick parietes of this passage, as well as of the bladder, and the quantity of intermediate cellular tissue, appear to furnish sufficient freedom for the inflammatory and cicatrizing processes necessary for the reunion of parts. Indeed, an example was before me of the correctness of this reasoning in a female, from whose bladder had been spontaneously expelled two calculi by an erosion of the parts in question. These considerations, then, I repeat, induced me to operate upon the vagina.

Determined as to this point, it only remained to fix upon the plan. I have already said that I had thought of that of Celsus, according to which my intention was to carry the two first fingers of the left hand into the vagina, at the upper part of the stone, to make it prominent without. I should, with the back of the same hand, have strongly depressed the fork so as to admit the light into the vagina, and to allow me to cut between my fingers upon the stones, which I should have extracted by continuing to push it, or by using the forceps or the lever.

But being well aware that reasoning which appears very applicable and conclusive prior to the commencement of an operation, is often found to fail in its course; and knowing that the merit of a Surgeon consists mainly in varying his views and practices according to circumstances, I took care to be provided with instruments necessary for another method, which I employed before Mr. J. L. Allame Repey, and many other naval Surgeons.

The subject of the operation being placed in the common

position, I found it not practicable to reach the upper part of the stone, and change its position by drawing it forward: I therefore introduced through the urethra into the bladder, a grooved catheter with which I had provided myself. Then I introduced into the vagina a wooden gorget employed in the operation for fistula in ano. I rested these instruments one upon the other, through the parietes of the bladder and of the vagina, making them form an angle at the point at which I intended to finish my incision in the vagina. Trusting the catheter to an assistant, I laid hold of the handle of the gorget with the left hand, with which, at the same time, I depressed the fork, and threw the light into the vagina so as to expose the anterior upper part, confined and fixed by the catheter; then taking a straight bistory in the right hand, I carried it like a pen into the groove of the catheter, through the parietes of the vagina and bladder, the neck of which I laid open behind the canal of the urethra, which I left untouched. I withdrew the gorget, and introduced a finger into the wound, in order to ascertain the size of the wound and of the stone. I withdrew the catheter and replaced my finger by the forceps, with which I conducted the stone into the vagina, when, finding some difficulty, I finished the extraction by a scoop in the shape of a lever.

The operation was not followed by any untoward symptoms, with the exception of a colicky pain, with which the subject of it was attacked on the eighth day, and which I attributed to the discharge of a small quantity of blood that I conceived to be menstrual; she had no fever at any period: on the fifteenth day she began to perceive her urine pass by the urethra; at the end of the month she was capable of retaining it for some time, and fifteen days after she was discharged, and returned to her home quite recovered; where, notwithstanding that she has been occupied in hard labour, she has acquired her wonted strength and complexion, and the ability to retain her urine for a great length of time.

The adult age of this girl, the great size of the stone, which, as before remarked, was as large as the egg of a duck, the pain and the straining of the perineum which it had produced, had disposed the parts favourably for the operation; so that I left to experience to determine the propriety of its application to less favourable cases; one of which occurred to me in November last, 1815.

A landowner of St. Jean d'Angely brought to me, at Saints, where I then was attending the assizes, his daughter, twelve years of age, afflicted with stone in the bladder. I soon detected its presence with the sound. In attempting to examine per vaginam, I found an opening which would only admit the

end of the little finger: on introducing this with care, and without giving much pain, I found the hymen yielded without rupturing. Reflecting on my method of operating, I substituted the fore finger, and introduced that also without rupturing the hymen. I ascertained the capacity of the vagina, which is known to bear no proportion to the narrowness of the entrance. The os tinæ was felt by the extremity of the finger: I perceived, therefore, that it was possible to operate in the same way that had been so successful before.

I performed this operation in the presence of some brother Practitioners, Messrs. Chaslom, naval Physician, Viand, and Trosoan, Physicians at Saints. The open catheter was introduced into the bladder; the gorget of wood, well lubricated, was introduced into the vagina. Though the interior fold of the fossa navicularis presented so as almost to block up the vagina; the gorget easily stretched this without wounding it, and exposed the interior surface of the vagina, which I divided as I have described in the case of the girl de Vendré. Having introduced my finger into the bladder, and withdrawn the catheter, I easily found a rough stone, of the size of a walnut, which I extracted without difficulty or much pain. Having substituted a pair of straight forceps for the crooked ones, my success was greater this time than on the former occasion. It was with some difficulty that the child was kept on low diet for two days. On the fifth day the urine began to pass by the urethra; the sixth and seventh day she was able to retain it for a short time; the eighth she left the house to go to the court of law for two hours, during which time she found no inconvenience from the urine: she continued to go abroad till the twelfth day, when she went home in spite of my efforts, where her recovery was soon complete.

M. Dupuytren, a fellow student of mine at l'Ecole de la Santé, who honours me with his friendship, and to whom I communicated the success of my first operation, on the occasion of a journey to Paris which I made in August, 1814, pointed out to me a similar case, communicated by M. Flobert, of Rouen; which, being joined to those I have just mentioned, will, I hope, be sufficient to do away the fear of cutting into the bladder from the vagina: I trust that they confirm also the reasoning which I have thought sufficiently clear to warrant the employment of this method of operating, at once more easy of execution, and less dangerous in its consequences.

REFLECTIONS.

Sabatier mentions, in his work on Surgery, that Tallet extracted many stones from a bladder, dragged down by a

prolapsed uterus, the subject of which perfectly recovered: he adds that, if in this operation we had only to fear a urinary fistula, such an accident would be easily guarded against.

If these fears arise from the danger of wounding the uterus, or of getting into the cavity of the abdomen, we know that the facility with which the tissue of the bladder yields, renders it unnecessary to carry the incision to the top; and that it is to stop at the junction of the two instruments. In the method which I have employed, the posterior part of the vagina and the rectum are always defended by the gorget. There is no danger of wounding the ureters, or the larger vessels, as the incision keeps the mid-way. Can Sabatier be kept back by the scruple of introducing the finger into the vagina? He has said above, in speaking of the method of Louis and of Fleurent, that it is necessary to introduce two fingers into that canal, in order to keep off the anterior parietes, by acting upon the two sides. If he pleads for modesty and virginity, these find their best defence in the necessity of the case, whilst both reason and religion lead us to seek for relief to our sufferings. If any other objections should arise, they could only have place in cases occurring in young subjects, in which the high operation might be employed with less difficulty, in consequence of the bladder rising much higher out of the pelvis.

AUTHENTICATED CASES, OBSERVATIONS AND DISSECTIONS.

LXIX.

MISS VINCENT died on Sunday, February 14th, aged twenty-four; about three years and a half since she was first affected with a pulmonary disorder, brought on by a severe cold. She took medicine consisting principally of digitalis, under the use of which she appeared to lose strength. The menses became obstructed. She continued in this state for about five months, after which she gradually got better. In the course of about twelve months from the first attack she was again exposed to cold, and the pulmonary disturbance recurred. Her expectoration at this time did not appear purulent, but was of a tough, gluey consistence. The attendant fever did not assume a hectic character: she again gradually recovered, and went into the country; but still there were appearances of something constitutionally wrong in the frame; a difficulty of breathing was easily induced by slight irregularities or exposures to cold, and, indeed,

respiration never, at the best, appeared free and uninterrupted.

About twelve months prior to death, menstruation returned, after having been for a considerable time suspended. There now appeared indications of hepatic disease; a little hardness was discovered in the region of the liver; and the alvine discharges became somewhat irregular. Under the occasional, and, indeed, pretty frequent exhibition of two grains of calomel, together with saline medicines, the patient appeared for some time to be in an improving state; and the expectoration did not become decidedly purulent until about a fortnight previous to her death. On the day of her decease she was suddenly seized with a very urgent difficulty of breathing, and died in about three hours, apparently suffocated by a copious pulmonary excretion.

At different times she was in the practice of inhaling hydrogen, by holding her mouth over a basin in which zinc and sulphuric acid were mixed so as to produce the hydrogenous fumes. This practice almost invariably gave her temporary relief.

Dissection by Mr. Taunton, in the presence of Dr. Uwins, Mr. Varley, and Mr. Whitmore.—In the abdomen was found about a gallon of fluid; but there were no marks of inflammation or increased vascularity in the peritonæum. The stomach, spleen, pancreas, and kidneys, were natural in their structure, but remarkably pale, and the three last organs rather anasarcous in their investing membranes. The liver was somewhat enlarged, and of a harder consistence than usual; it was granulated through the whole of its parenchyma, and there was a considerable adhesion between its surface and the diaphragm. Neither the uterus nor ovaria exhibited the slightest marks of disease. There was no evidence of increased vascularity in any portion of the intestinal canal.

Upon laying open the thoracic cavity, the pleura was found every where adhering to the surface of the lungs, and the lungs themselves were, throughout, studded with tubercles; in some places considerable abscesses had formed from the suppuration of these tubercles. The whole of the upper and anterior portion of each lung was, indeed, destroyed, leaving but a small portion by which respiration could be carried on. The heart was in a natural state, but the pericardium contained more than its ordinary quantity of fluid.

Remarks.—The absence of hectic symptoms would appear in this case worthy of notice. Was not a sort of phthisical asthma, if we may so express it, in the first instance formed, by mechanical obstruction, to the air cells of the lungs,

caused by the great number of tubercular bodies? And is not the non-appearance of hectic, till towards the last stages of the disease, to be attributed to the circumstance of these tubercles not having run into a state of suppuration? The expectoration, it will be recollected, was not purulent till about a fortnight before death.

It is thought and stated by many, especially at the present time, that effusion into cavities never occurs, but in consequence of membranous inflammation. But what was the vascular irritation in the present instance which produced the ascitic deposit? The whole contents of the abdomen, the liver excepted, were remarkably pallid. Did then the effusion arise from impeded circulation through the vena-portæ, or might it not more properly be attributed to a torpor of the abdominal lymphatics?

The healthy appearance of the uterine system would serve to show that a disease of *action* may consist for a long period with unchanged structure.

DEPARTMENT OF NATURAL HISTORY, &c.

On the Mode of continuing the Species in the Imperfect Plants; and first of the Algæ. By Mr. GRAY.

ALTHOUGH it had been known by cultivators from the earliest times, that certain plants, as the date tree, were furnished with flowers of different sexes, and that the presence of the male flowers was necessary to the fertility of the female ones; yet it was not until the time of Camerarius that this idea of the existence of sexes in plants was extended to all vegetables. From his time to within a few years the doctrine has met with little opposition, and numerous facts show that in a large number of species it may be considered as true.

As animals which have a near affinity to one another will breed together; such as the horse and the ass; the dog and the wolf; the linnet and canary bird: so will also plants in which a similar affinity exists, as the red and common poppy. Some of these mixt breeds are continuable, others not; the female individuals, or organs, being only imperfectly formed; at least in cold climates, for many mules will breed in warm countries, which are barren in cold ones.

It is this mixture of different original species that appears to be the cause of the vast number of species in some families of plants, as brassica, saxifraga, hieracium, geranium, ixia, erica, mesembryanthemum, and protea: as also the numerous varieties of fruits and flowers in our gardens; the multiplicity

of species in some families of insects, as the lady-birds, is ascribed to the same cause.

Adanson was so struck with this idea of the formation of new species by mixture of different pre-existent species, that he was led to affirm the whole vegetable kingdom was in a state of perpetual change; that new species were continually formed, and some of the old ones were constantly disappearing; that the whole number of species went on increasing as the world increased in age; and that the old botanists mentioning only a small number of plants was occasioned by their being really fewer in number in ancient times.

Linnæus took, nominally, the other side of the question; he affirmed that the species now existing are the same in number as they were on the day of the creation of plants; but afterwards he retracted this opinion, and said he did not dare to affirm positively that there were not now in Europe new species produced within the last 150 years, *i. e.* since the *Pinax* of C. Bauhin was published. Indeed he went farther than Adanson, and imagined that plants of very different natural families might mix and produce fertile races: thus he conceived the *saponaria hybrida* to be a mule between the common *saponaria* and some species of gentian; the white *actæa spicata* to arise from the black *actæa spicata* and the *rhus toxicodendron*. This contrariety of opinions is expressed in different parts of the very same work, so that his partizans may produce his dictum, let whatever opinion become prevalent.

In those plants where the distinction of sex is most evident, it is not yet demonstrated that fecundation is absolutely necessary for producing perfect seeds. Spallanzani has made experiments on spinage and gourds, which seem to show that these plants will produce fertile seeds when the male flowers have been carefully taken away: doubts, however, still remain, because the pollen is carried to considerable distance by the air, and male flowers are sometimes to be found on female plants. Fresh experiments are therefore wanted before this anomaly can be allowed; and it must also be recollected that in the aphides, or plant lice, the impregnation of the great great grand-dam is sufficient to render all her female descendants fruitful to the fifth generation, although kept from communication with any males.

But there exists also a great number of plants in which the common organs of sex, as seen in the perfect plants, are not discernible, and the continuation of the species in these has become disputable. Linnæus and his followers maintain that all organized beings are necessarily produced from eggs, or, as they are called in plants, from seeds; that eggs require fecun-

dation, and that of course all organized beings possess sexual organs, although their small size may prevent us from perceiving them: but at present a number of botanists are of opinion that instead of dividing plants into two grand classes only, the phenogamous and cryptogamous, they ought to be divided into three: 1. Phenogamous plants, in which the sexual organs are very distinct. 2. Cryptogamous, in which their existence is enveloped in some obscurity. 3. Agamous, in which even the existence of the sexual organs is denied: the species is continued in these two last classes by turiones, bulbilles, seminules, and propagules: the two former of these modes are also known in phenogamous plants.

Of the nature of turiones, we have a familiar example in the common propagation of the potatoe, by pieces of the root to which a turion, or eye, is attached.

Bulbilles differ only from turiones by their place of growth not being on the roots, but in the axilla of the leaves, as in the bulb-bearing lily or the ovaries, in which last case the plant is perfectly analogous to a viviparous animal; thus garlic bears heads of bulbilles, known by the name of *rocámbole*: but the most striking example is the *agave fætida*, where the beautiful head of flowers is succeeded by one or young green plants.

Seminules appear to differ only from seeds by their minuteness. The above modes of continuing the species is common to the cryptogamous and agamous plants. The seminules of cryptogamous plants are produced in ovaries to which stigmas are attached; but those of agamous plants are contained in a sort of ovary, to which no stigma being attached, they are distinguished by the peculiar name of conceptacles, either loose, or, as in some plants, in small cases called *elytræ*, the conceptacle itself then performing the office of an involucre. The ferns are familiar examples of this mode of continuing the species.

Propagules are peculiar to agamous plants; they appear like a powder upon the surface of the plant, and are never confined in true or false ovaries. It has been supposed, and it is probably the case, that they are only fragments of the external surface of the plant. The lichens are the most familiar example that can be adduced of the propagule.

After this general review of the modes of continuing the species in plants, it must be observed that so great are the difficulties in respect to the determination of the division to which a number of these imperfect plants belong, that it may be truly said, that the arrangement of the whole is involved in doubts. Of the nine orders which were included by Linnæus in his class of cryptogamia, four are supposed to be more

properly agamous, namely, the algæ, fungi, hypoxyli, and lichenes. The external appearance of these is very different from that of perfect plants; they are composed of a cellular tissue only, and none, except the algæ, have any appearance of leaves or green herb. The other five orders, namely, the hepaticæ, musci (mosses), filices (ferns), lycopodaceæ, salvinia (rhizospermæ of Decandolle), and the equisetaceæ (horsetails), throw out leaves or herbaceous expansions of a similar nature, and have a vascular structure analogous to that of phenogamous plants.

In respect to the first order, or algæ, a difficulty presents itself, which is, to determine the exact limits between the plants of this order, and the animals belonging to the order of polypi vaginati, a difficulty perhaps the greatest in the whole circuit of natural history. The corals, corallines, and sponges, formerly ranked as vegetables, are now considered as compound animals; but it is probable the two latter will soon re-enter the vegetable kingdom.

Two tribes of plants are united by modern botanists under the general name of algæ. The first are those commonly called sea weeds, but which are called, by scientific botanists, thalassiophytes, which is only the substitution of a name of Greek derivation for one of Saxon origin. These generally grow in the sea or salt water creeks; although a few plants, whose structure is perfectly analogous, grow in fresh water like those of the second division, which are called confervæ, or in vulgar language, without any distinction, the green matter of stagnant water. Some, however, are found in running water; and it is even doubted by Mirbel whether others of this second division may not be found in the sea. The structure of the whole tribe is such that they do not grow unless they are in water, from which if they are withdrawn, they dry up; but many of them will revive upon being plunged again into water, unless they have been kept so long in a dry state, as to have undergone some other alteration besides mere exsiccation.

The thalassiophytes are propagated by seminules, which are usually contained in elytræ. The elytræ are either lodged in the cells of the cellular tissue, or in conceptacles which are in some species closed originally, and split open in due time; or they have at their top a small channel, through which the elytræ pass, and which opens on the surface of the frond, thus bearing a strong analogy to the uterus and vagina of viviparous animals: in some algæ, as the claudea, both sorts of conceptacles are found. The seminules are surrounded with a mucilage which favours their development: although not acted upon by salt water, this mucilage is dissolved by fresh,

and when the seminules are deprived of it they are no longer fertile. Mr. Lamouroux observes that they do not germinate on every sort of substance; some grow only when they fall on sand, others only on limestone rocks, &c.: hence he concludes that the seeming root of thalassiophytes is a real one, and extracts the juices necessary for the increase of the plant from the substance on which it grows, and is not, as is generally thought, a kind of sucker merely serving to moor the plant that it may not be carried off by the waves: but the above circumstance does not necessarily require that this consequence should be drawn from it.

Reaumur called the hairs which sometimes cover the surface of the plant, stamens; whence some, forgetting that he denied the existence of the sexes in plants, have supposed that he considered them as the male organs. Others, as Linnæus, have placed these organs on the threads found in the bladders, which serve more probably to float the plant than to contain the sexual organs; and which to other eyes appear only to be the fragments of the internal cellular tissue of those bladders. Later authors, driven from this opinion, and yet unwilling to believe in agamous propagation, consider the mucilaginous substance in which the seminules are immersed as the real seminal liquor, and that the seminules are impregnated without any intermedium, in the same manner as some zoologists suppose to be the case with oysters and muscles.

As to the *confervæ*, or fresh water algæ, many preserve the species in the same manner as the thalassiophytes. Other split either longitudinally or across, and each part becomes a new plant. But the most curious phenomenon in vegetation is afforded by the conjugate *confervæ*. These plants are composed of tubes quite simple, without any branches, and contain small grains spirally arranged in cells. As long as they continue at a distance from one another, they grow, but do not multiply. When two or more come close together an excrescence grows out of each approximated cell, which unite into a tube of communication, by means of which the grains of one cell in one of the plants passes into the cell of the other plant, with which a communication has been formed, and mixing with them form a roundish mass; the cell then bursts, the roundish mass set free opens into two lobes, and emits a slender filament which soon assumes the characters of the parent plants. There seems to be no certainty in regard to which of the plants will emit the grains into the other, as it often happens that one cell is emptied, while the next to it on the same plant is filled. The structure of these *confervæ* is so perfectly similar to the other, that they seem to belong undoubtedly to the same order; and yet this mode of conti-

ning the species is nearly allied to that of animals, and so remote from that of other plants, that we can scarcely consider them as vegetables. The whole must be left to the sagacity of future observers, and to them a rich harvest of discoveries is promised.

Monthly Calendar of Natural History for the Neighbourhood of London. 1819.

Jan. 26th.—The cuckoo (*cuculus canorus*) was this morning distinctly heard at Bushy Heath, in Middlesex. A circumstance very unusual at this time of the year. No less uncommon was the premature developement of the spring foliage on the lime trees in Wanstead Forest, Essex. A Swallow was likewise observed the last week in January. All these circumstances mark a very unusually early season.

Feb. 4th.—The Snowdrop (*galanthus nivalis*) in bloom. The Thrush (*turdus musicus*) and the Blackbird (*merula nigra*) singing.

20th.—The *draba verna* in flower.

March 1st.—The Crocus (*crocus vernus*) in flower.

6th.—The Wagtail (*motacilla alba*) first seen near Denham.

9th.—Asparagus first cut; and the polyanthus in flower. The maximum of the thermometer at mid-day was 47°. The *Cirrus* or *Curlcloud* was prevalent all day. The *pulmonaria* already in bloom; also *tussilago farfara*.

10th.—The *veronica agrestis* came into flower this morning. The common garden Daffodil (*narcissus pseudonarcissus*) in full bloom.

○ 11th.—This was a fine warm day for March, and the vegetation advanced. The wind NW.

12th.—Fair day; and while riding in the lanes near Leyton, in Essex, I observed a vast quantity of small flies, the first I have observed this spring. Narcissi blow in the open ground.

13th.—*Sitta Europea* seen in the garden. The *copulatio ranarum* first observed.

15th.—Fair spring day: vegetation advances but slowly.

This spring has been erroneously considered by some persons to be a very early one. Having by me journals of the weather, and of natural history, as far back as the year 1780, I am enabled to compare the phenomena of a succession of seasons; and though there have certainly been, in the early part of this year, some very unusual anticipations of verdure, yet on the whole, at present, the season is far from being forward. The flower of the elm, for instance, is rather late than otherwise, and many of the early spring flowers are not yet in

bloom. In short, it is an error, though a very common one, to expect a forward spring after a mild winter, as a reference to former journals enables me to say decidedly. It seems that the excitability of vegetables, like that of animals, varies inversely as the application of the stimulus; and that the suspension of all vegetable functions during frost and cold, so enables the susceptibility to increase, that on a sudden remission of the cold in spring, the march of vegetation is proportionally rapid.

On a similar principle I can account for the luxuriant appearance of fungi after dry summers: the first autumnal rains operate with more effect on them, in consequence of the accumulation of susceptibility during the preceding drought. I shall endeavour to illustrate further this principle in a separate paper.

T. FORSTER.

March 16th, 1819.

[To be continued to the 15th of every month, in the neighbourhood of Tunbridge Wells, the Author's residence.]

PART II.

ANALYTICAL REVIEW.

I.

An Appendix to the Pamphlet on the early Symptoms of Water in the Brain, containing Cases successfully treated, with Practical Illustrations of the Doctrines therein inculcated, and some Observations on the Functions of the Intestines as connected with a Morbid Action of the Digestive Organs. By G. D. YEATS, M.D., Fellow of the Royal College of Physicians, London; of the Royal Medical Society, Edinburgh; Honorary Member of the Dublin Society, and of the Historical Society of New York; late Physician to the Lunatic Asylum and Infirmary of the County, and Physician to his Grace the Duke of Bedford.

It will have been perceived that from the commencement of our labours as critical reviewers, we have ever been careful to oppose ourselves to extravagant notions and exclusive views, whether of a chylopoietic, cephalic, or hepatic nature; and we are not sure whether the respectable author now before our bar of judgment will see with much pleasure the announcement on the cover of the REPOSITORY, that his tract

is among the number of noticed books. Supposing us not so *fundamentally* orthodox as he could desire, he may anticipate in the present instance censure in place of praise, and imagine that we take up his pamphlet merely for the opportunity it may afford us of further criticising the intestinal mania of modern medicine.

Such, however, we can assure Dr. Yeats, is not the motive by which we are actuated in reviewing this Appendix to his former Tract on Hydrocephalus. We may, indeed, be disposed to consider that our author is rather too deeply imbued with digestive notions in his pathology of hydrocephalic production; and somewhat too little disposed to admit that hydrencephalic derangement, whether more decided, or more obscure, more acute or more chronic, may and does often originate in and about the head itself, the disturbance in the alimentary canal being rather consecutive and consequent, than primary and producing; yet we conceive at the same time that a considerable degree of credit is due to him for having opposed himself to the vague assumptions of some hepatic theorists, and stamped a character of more decision and definitiveness upon an enunciation which is too often used with such a laxity of signification as almost to amount to "plain no meaning," viz. "a disorder of the digestive organs."

It was our good fortune to be present during the very interesting and instructive lectures which Dr. Yeats delivered before the College of Physicians (or rather in their rooms), on the topic of duodænal affections; and we were particularly gratified by the pathological views which the Lecturer took of derangements connected especially with the locality and functions of this and other important portions of the intestinal tube, more particularly with the distinctions which he was careful to point out, as necessary to recognise not only in theory but in practice between actual and mere apparent and secondary disorders of the liver and stomach. We shall hope to see these discourses, or the substance of them, made more public at some future time, when an opportunity will be afforded us of calling our readers' attention more closely to these subjects: for the present we shall be excused for just hinting, backed as we are by the respectable authority of our author himself, that calomel and hepatic excitants are often administered under an empirical and superficial notion of liver derangement, when the actual disease is both in its seat and nature different from the suspected one; and when purgatives, if they are useful, prove so, upon principles that are not exactly the same as is often conceived by their exhibitors.

Calomel, we verily believe to be, when judiciously administered, the most beneficial medicine that pharmacy has supplied to the Physician; but that it is many times administered in too indiscriminate and empirical a manner is likewise in our judgment an unequivocal truth: and to such Practitioners as consider it endowed with catholicon virtues, as well as on all occasions freely admissible both in chronic and acute malady, we recommend a due consideration of the following very sensible remarks and strictures of Dr. Yeats:—

“ When the digestive organs are oppressed by an accumulated load of fæces, and a consequent inactive state of the colon, purgatives are usually administered, and occasionally repeated when this oppressed state, arising from the same cause, occurs; and from the immediate and sensible relief obtained by unloading the lower intestines, no object is looked for, other than this effect. This is a delusive security, and it is the error to which I wish much to awaken attention: for it is not enough to have relieved the intestines of an unusual load; diseased *secretions*, to which constipation and irregular intestinal actions have given rise, must be altered; the intestines must be gradually and healthily *excited*, otherwise the morbid condition, relieved by the operation of the purgative, particularly under improper diet, soon recurs, and that dangerous irritation of the digestive organs, so much to be deprecated, supervenes.

“ The very operation of the purgative too, particularly when active, is calculated to produce this quiescent condition of the intestines, as every one knows who has ever taken a purgative, from the costive state which most commonly ensues. *An active dose of calomel, the medicine usually had recourse to, produces this consequence more than any other medicine, as far as my experience goes.* The immediate effects are, undoubtedly, more lively spirits, with salutary sensations; but these continue only for a day or two, while the moving impression remains upon the intestines, and while the secretions temporarily excited are poured into them; the torpid state soon recurs with the glandular quiescence resulting from the previous preternaturally excited state, and languor and lassitude prevail.

“ A purgative dose of calomel has appeared to me, very frequently, to produce this semi-paralytic state of the abdominal viscera; it is then repeated at intervals to remove this uneasy languor, till their tone is materially affected. I am satisfied from facts which have occurred to me in practice, that in certain irritated states of the digestive organs, calomel has caused a very unfriendly impression on the nerves of the intestines, so as morbidly to affect, and prove painfully injurious to the brain. The kind of purgative becomes therefore a matter of importance in many morbid conditions of the digestive organs.”

We cannot find room for any of Dr. Yeats's cases, or we should gladly transcribe one or more of them: they all go to the establishment of his favourite principle, that a torpid state and irregular action of the first passages, if suffered to exist

for a long time without interruption, will be likely to lay the foundation for that kind of sympathetic irritation in the membranes and substance of the brain which eventually, and often without prior suspicion, breaks out into that formidable and frightful condition of this organ or its meninges, which authors have agreed to call hydro or hydrencephalus : a position and principle which, if not carried too far, we are equally ready with our author to subscribe to, heart and hand. But we must be permitted to repeat our convictions, that the encephalic affection is often the primary link in the chain of perturbed functions, and that constipation and its consequences are in very many instances the first to be noticed, while they are the second to exist.

Dr. Yeats will not be displeased to see his name coupled with a Physician who has recently acquired much celebrity : we shall not, therefore, apologize for closing the present article with an extract from Dr. Armstrong on puerperal fever, that contains some matter bearing upon the present subject, which, however obvious, is sometimes overlooked, when the optics and understanding are dazzled and warped by favourite principles and particular practices.

“ Erasistratus confidently maintained, that most purgatives altered the nature and colour of the alvine evacuations ; and though this remarkable fact has been disregarded in modern publications, where purgatives are constantly recommended, yet it is familiar even to nurses. Calomel often changes the stools to a greenish or dark brown colour, and in fever not unfrequently produces those glary, oily dijections, which some have erroneously supposed to be pathognomonic of hydrocephalus when they occur in children : indeed the nature and colour of the feces are so varied by calomel, as to render it highly probable that some portion of it is decomposed in the bowels, either by the bile, or by other secreted fluids. The sulphate of magnesia tends to darken the stools, as likewise all prescriptions which contain sulphur : the infusion of senna, too, has a similar effect, and even aloes when given in solution ; but rhubarb renders the stools of a deeper red than natural, and castor oil generally shows them as they really are, while magnesia makes them lighter. These few hints are only given in illustration of the doctrine which might be supported by many others ; and if it were necessary, it also might be easily proved, that drinks and diets contribute in like manner to give peculiar tinges to the stools, which, even when passed in a natural state, are darkened by exposure to the air. Now that purgative medicines are so much resorted to in almost all diseases, whether acute or chronical, these suggestions are only thrown out to caution the inexperienced against their indiscriminate continuance : for it has almost become an admitted principle in therapeutics, that we should continue to purge less or more while the stools remain unnatural ; and yet it will be readily understood how erroneous that principle may be, since the very medicines exhibited may be the cause of the morbid evacuations.”

We shall only add, that the cases contained in Dr. Yeats's tract are recited with much clearness and candour, and prove their reporter to possess much of both pathological discernment and therapeutical tact.

II.

The London Dispensatory. By ANTHONY TODD THOMSON, F.L.S., Member of the Royal College of Surgeons, &c. &c. Second Edition, London, 1818. 8vo. pp. 820.

THE original compilers of pharmacopœias and dispensaries have been actuated by two very different motives. One being the mutual convenience of the retailers of medicine and of the Physicians, or to speak more correctly, the prescribing Practitioners, so that the former may always have ready in his apotheca or shop, the drugs and those compound medicines that require time for their preparation, which the latter may be likely to order. The other motive which has led to the publication of pharmacopœias has been that fondness for municipal regulations, and minute rather than general legislation that is so prevalent in Germany, and from thence derived to other nations descended from the German stock. In pursuance of this spirit of legal interference in every action, the colleges or archiaters who have published those pharmacopœias have considered themselves invested with a legislative character, and have in consequence thereof admitted articles into them, rejected others, and ordered certain methods to be followed in the preparations and compositions, as to their judgment has appeared proper; and willed that the other Practitioners should abide by their judgment, and use only the articles they prescribe, or take the consequences of their disobedience, by being prohibited future practice within the bounds of their jurisdiction.

The Pharmacopœias published by the College of Physicians of London, at least until the year 1745, were certainly written upon the first idea, that of convenience. In 1745, that College imitated their brethren at Edinburgh in greatly curtailing the number of the drugs and compounds, and in altering the preparation of the latter. It does not, however, appear by any documents or traditions that have reached us, that the London College itself meant to hinder the free exercise of the Practitioner's skill and judgment in using other medicines for the cure of the diseases that fell under their care. The translators of the subsequent Pharmacopœias, and the commentators on them, have indeed endeavoured to inculcate this opinion by oblique insinuations, and the denial of any virtues to those substances which have been omitted

in the successive revisions and alterations which the Pharmacopœia has since undergone.

These translators and commentators who have thus endeavoured to inculcate that idea which the liberality of the London College itself would probably reject as dishonourable to themselves and to their Fellow-practitioners, have not adverted to the difference between practising in commercial cities and in rural villages. Merchants import foreign drugs into the former, and use all the arts of trade to promote their sale, to the prejudice of the native productions. The prescribing Physicians are led to order them because they are more certain of their being found in the compounders' shops than the others; and this preference, in like manner, leads the dispensing Practitioner to employ them as having them at hand for use in their quality of compounders: until in commercial cities, the indigenous productions are left entirely to the use of the amateur or self-practitioners, who are unbiassed in their judgment by any consideration of convenience; or a few professional Practitioners who have studied the old authors, and acquired a fondness for their modes of practice.

This preference for foreign drugs naturally passes into the Pharmacopœias published in the commercial cities; and although they serve as inventories of the resources of the medical art which are most usually to be found in the cities where the Pharmacopœia is published, yet the country Practitioner who should neglect the medical productions of his neighbourhood which obtrude themselves upon his view, nay, perhaps, even give him trouble to eradicate from his grounds, would be justly accused of ill husbandry, and a lamentable want of economy. It is to be feared, however, from the neglect of medical botany among those students who frequent the medical schools established in cities, that this is too often the case, and that the country Practitioner frequently purchases at a dear rate a foreign drug, adulterated perhaps to half its weight of some inert article, the operation of which may be produced by some rampant weed which overruns his garden.

This work, then, of Mr. A. T. Thomson, as it contains only the articles mentioned by the London, Dublin, and Edinburgh Colleges, is, of course, adapted only for dispensing Practitioners in those cities, (who are not at the same time engaged in the retail sale of medicines, which would oblige them to keep many articles not mentioned by him): for these it seems a complete work. Being intended as a book of reference, it can scarcely be expected that a reviewer should read it completely over; but from a perusal of such articles as appeared likely to yield a fair specimen of the whole, it

seems to be executed with sufficient care. If we except the general idea that the College lists contain the whole resources of the medical art, and the admixture of the compositions of the three Colleges, which is the fertile source of confusion, the only other fault that might be found with the work, taken in general, is that of redundancy; under which head may be ranked the botanical description of the plants which yield many of the foreign roots, barks, &c., but which are not, nor never can be naturalized in these islands, especially as the drugs as sold to the apothecaries are frequently a mixture of the produce of several different plants; the detail of the minerals from whence the metallic substances whose compounds are used in pharmacy are extracted; and the substitution of descriptions for characters in respect to the few indigenous plants that are noticed. When we consider how frequently a work of this kind forms the entire medical library of a dispensing Practitioner, we are not disposed to criticise a fault of this kind too severely; although this very redundancy, by increasing the price of these works, may be one cause that these Practitioners, contenting themselves with their own experience and a dispensatory, neglect the acquisition of pathological and therapeutic works; the want of which, however, can never be properly supplied by any others.

III.

An Essay on the Diseases of the Excreting Parts of the Lachrymal Organs. By WILLIAM MAC KENZIE, Member of the Royal College of Surgeons, of the Medical and Chirurgical Society, and Lecturer on the Anatomy and Diseases of the Eye.

FISTULA lachrymalis, like white swelling of the knee-joint, is often made use of as an empirical watch-word to conceal ignorance or save the trouble of further inquiry; and we verily believe that much mischief has often been occasioned, especially in country districts and situations remote from professed oculists, by students from our hospitals and medical schools thinking it only necessary to take with them into service and practice some very general and outline notions on the subject of lachrymal diseases. We are pleased to see a change in the tenor and complexion of modern teaching in reference to these particulars, part of which may be attributed to foreign influence; for by the greater facility with which continental communication is now effected, the double advantage is afforded us at once of witnessing what our neighbours are doing in the way of minute anatomy and surgery,

and of being stimulated by their example and success into the same or greater exertions.

The writer of the tract, the title-page of which we have just transcribed, has, as before noticed, remarked, that "as far as England is above France in a knowledge of this department of surgery (the diseases of the eye), so far at the present is Germany above England*." Whether Mr. Mac Kenzie shall make good this assumption remains to be shown; but at any rate the position itself is a sufficient proof that our German brethren have not been idle.

The present small volume is avowedly "the first of a series of Essays upon the principal diseases of the eye, in which the author proposes to present to the reader an abstract of the most valuable works which have lately appeared abroad, and especially in Germany, upon that subject, together (he adds) with such observations as reflection upon what he has seen in practice may suggest."

We must confess, that as far as the present specimen goes, we do not discover a great deal more than what Pott and Ware, and others of our own countrymen had already taught us: as, however, the distinctions pointed out between "diseases of the excreting parts of the lachrymal organs" are confessedly important; and, as but just now hinted, too little attended to in practice, we shall aim at abridging the abridgment before us; pledging ourselves to a continuation of the same proceeding in reference to the future volumes which our editorial and annotating author may, from time to time, send forth into the world.

Mr. M. treats of lachrymal diseases in the following order:—1st, Of wounds of the lachrymal canals. 2d, Erysipelatous inflammation of parts covering the lachrymal sac. 3d, Acute inflammation of the excreting parts of the lachrymal organs. 4th, Blenorrhœa of these parts. 5th, Stillicidium urinæ. 6th, Fistula of the sac. 7th, Caries of the os unguis. 8th, Relaxation of the sac. 9th, Mucocèle of this part. 10th, Obstruction of the canals. 11th, Obstruction of the nasal duct.

We shall just remark previous to giving a slender analysis of the several chapters under the above arrangement, that we think Mr. Mac Kenzie and his German prototypes are, like other systematics, a little too much disposed to abstract divisions. We do not question that each and every one of the above affections may exist exclusively of any other; but that one or more of the states may be combined, is a fact that

* See our General Review, Vol. X. page 505.

ought to be especially recognised by those who take upon themselves the task of delineating occurrences as nature presents them.

Under the first head, viz. "wounds of the lachrymal canals," our author, after alluding to the dubious prognosis which must be given in lacerated wounds of these parts, states, that Professor Schmidt had the good fortune to cure in eight days, "without the slightest stillicidium or ectropium;" a wound in the nasal angle of the eye, in which the patient "had the under eyelid torn away to the length of half an inch from the upper." The indications of treatment in these cases are obviously to "bring the separated parts into opposition, and then to keep them so." The latter is somewhat difficult. The patient is to be directed to shut his eyelid as seldom as possible during the first four-and-twenty hours, and the slip of adhesive plaster employed to keep the parts in contact, must be applied by one end to the cheek or temple, and by the other to the forehead or nose: this length being requisite in order to insure against its displacement.

An inflammation of the cellular membrane covering the sac, is too apt, by superficial observers, to be mistaken for a complaint originating and existing in the sac itself. In the first stage this must be distinguished from other disorders by the erysipelatous and diffusive character of the disorder. Erysipelatous inflammation is especially apt to extend itself to the upper eyelid, and sometimes over the whole of the face.

In the second stage, this inflammation seldom comes to a distinct suppuration. The redness of the part increases, but the heat and pain diminish, and an oozing fluid renders the skin moist and slippery. When the inflammation has been more than commonly severe, the lachrymal sac at the commencement of the second stage, becomes completely filled with mucus, which can always be discharged by pressure; a real suppuration takes place, and the matter collecting between the integuments, at length makes its way outwardly. Now it is that the appearance of the parts is apt to impose upon a superficial observer; and the sac has been sometimes opened under the notion of a real fistula lachrymalis. Occasionally, indeed, this exit of matter is by the way of the sac itself; but it is still of much importance to distinguish the case from one in which the purulent matter that fills the sac is the result of inflammation, or the lining membrane of the sac itself.

The mode of ascertaining in the case before us whether the purulent matter has actually penetrated the sac, is to press very slightly with the finger upon the upper part of the sac,

which will produce a discharge from the external opening, not of pure pus, but of pus mixed with mucus, and also with tears, if the lachrymal canals have recommenced their functions. When an abscess has thus formed after erysipelas, there is always more or less danger of the case terminating unpleasantly. "The suppuration may include the canals, and either entirely destroy them, or render them unfit for performing their function. The consequence will be an incurable stillicidium. The suppuration may destroy the ligamentous layer of the lower eyelid, penetrate into the sac, and even disorganize it to such a degree, that after the parts have healed, its cavity shall have entirely disappeared. Even when the sac is left entire, its sides, if the canals have been destroyed, must be made to adhere by artificial means, in order to prevent the formation of a mucocele."

Cold applications, purgatives, and if the inflammation be very severe, blood-letting from the arm, constitute the treatment of the first stage. Our author also recommends an emetic of the tartrate of antimony in some cases of severity. Warmth, gentle diaphoretics, and a dry linen compress, are to be had recourse to at the commencement of the suppurative stage. A warm poultice of bread and milk ought to be applied if there are symptoms of a subcutaneous abscess; and when that becomes decided and pointing no time must be lost in opening it, lest the matter make its way into the sac. When this last has happened, tepid water, mixed with a little vinous tincture of opium, is to be gently injected through the fistula once a day, and "a small quantity of lint, dipped in this tincture, to be introduced into the abscess, but not pushed so far as to enter the sac."

The third affection, or acute inflammation of the excreting parts, is marked by a swelling having the shape of a bean in the situation of the lachrymal sac: it is, instead of being as in the former case undefined and diffused, distinct, hard, and circumscribed: a stillicidium is occasioned from the stoppage of the natural passage of the tears. The nostril soon becomes dry from the inflammation extending through the duct to the mucous membrane of the nose; and this extending likewise in the other direction, the whole eye and its appendages become affected; but still the circumscribed swelling of the sac is to be recognised as the primary and principal feature of this disease, which is constituted by an inflammation of the mucous membrane lining the sac and the whole excreting organs. This tumor, if the inflammation be not made to subside, increases; and at length a fluctuation becomes distinct, and the swelling pointing in the middle, the matter works its way through the orbicularis palpebrarum, and forms

a true fistula lachrymalis. The stillicidium will now often cease, as the inflammation has left the lachrymal canals, the functions of which become restored, and the tears then make their way through the external opening with the pus. In treating this affection during the first stage, we are to be guided by the general principles of subduing inflammation. Cold and saturnine applications are to be used; and in this instance, rather than in the erysipelatous external inflammation, leeches may be applied. When suppuration becomes evident, the cold lotions should give way to warm poultices; and if still the disorder grows upon us, the tumor becoming discoloured and pointing, we must open the sac in the direction of the long diameter of the tumor. In the course of a few days, when the matter has been evacuated, and the sac continues hard, a poultice of hemlock and camphor must be applied, or, what Mr. Mac Kenzie says is preferable, a roasted onion. The hardness thus being made to disappear, "the wound is to be filled with a small quantity of soft lint, dipped in the vinous tincture of opium, and the whole covered with a piece of adhesive plaster." If the secretion still continues in an indolent habitual kind of manner, the lint is at length to be covered with an ointment composed of red precipitate and tutty (1), which should be inserted daily; and into the nasal angle of the eye may now be dropped a little stimulant solution (2), some of which is also to be injected through the wound into the sac. When the secretion shall have subsided, and the canals and nasal duct of themselves become permeable, the external wound is to be closed, and the cure will be effected.

The next affection of which our author treats is of a chronic, indolent, and most commonly strumous character. The inflammation is seldom marked or considerable in the first stages; but the bean-shaped tumor is here observed, which being pressed upon, forces a muco-purulent matter into the eye through the puncta, which are not, as in the last case, obstructed. By giving our pressure a downward direction, however, we shall not so frequently succeed in forcing this matter through the nasal duct, as the permeability of this last is more commonly suspended by the tumefaction of its mucous membrane. This affection is one often of very long standing; it will sometimes almost disappear during warm and dry weather, but returns when the atmosphere becomes cold and wet. Our prognosis in chronic blennorrhœa must be formed partly from the nature and degree of constitutional affection which accompanies it. When it occasions repeated attacks of inflammation, and a fistula of the sac is formed, very little hopes are to be entertained of a cure. Local treat-

ment must, in this case especially, be accompanied by constitutional; the digestive organs are to be assiduously attended to; and in some cases of much scrofulous weakness small quantities of steel will prove highly beneficial.

In respect to the local treatment it will be recollected, in the first place, that the integrity of the puncta lachrymalia generally remains, so that dropping fluid into the lacus lachrymarum will answer all the purposes without the inconvenience and probable mischief of injection. After the sac has been emptied as much as it can be by pressure (and if this can be effected in a downward direction so much the better), a small quantity of a very weak solution of corrosive sublimate (3) is to be dropped into the lacus, the patient lying upon his back horizontally: he is to remain in this position for a quarter of an hour, and then rise. After another quarter of an hour the eyelids are to be carefully dried, and a little of Janin's ointment (4) applied, with a camel-hair pencil, to the caruncula lachrymalis and the edges of the eyelids. These operations are to be repeated twice a day. Professor Schmidt recommends as a collyrium the undermentioned (5); and when there is a chronic inflammation of the Meibomium glands, the surface of the eyelids must be penciled with the diluted citrin ointment (6).

Stillicidium (the subject of the Fifth Chapter) is necessarily the result of disease in other parts, and is therefore a mere symptom of either increased secretion from the lachrymal gland, or of obstructed passage through the lachrymal conduits; "but the stillicidium now to be considered is most frequently a sequela of inflammation, continuing after all the other symptoms have disappeared, and is to be regarded as a curable disease." One cause of this is the extreme tumefaction and relaxation of the semilunar membrane, by which the tears are prevented from reaching the puncta; but the most usual source of it is a sort of exhausted and paralyzed state of the canals themselves. It will sometimes spontaneously cease upon the setting in of warm and dry weather, or it may be removed by the careful employment of astringents; solutions of one or another of which are to be dropped into the nasal angle of the eye several times a day; the patient lying on his back for some minutes after the application.

"Of Fistula of the Sac." This also is most usually (as may be gathered from what has been said) a consequence of neglect or mismanagement of inflammation. "While employing the term fistula, let us not forget any part of its import: let us recollect that it implies a narrow canal with a small opening, the circumference of which is hard and callous."

The opening in the integuments does not very often correspond exactly with the opening from the sac, but what is termed a complicated fistula most usually occurs. "If fistula be allowed to continue for a great length of time unremedied, contraction or even obliteration of the nasal duct from disuse is an unavoidable consequence." When the fistula is complicated, the direction of the sinuses is to be ascertained by a careful examination with a whalebone probe; if they are superficial, they are to be laid open with a small bistoury quite up to the sac; if deep seated, we must content ourselves with enlarging the fistulous opening; "after which we pass a common silver probe along the sinus to its commencement in the sac, and then divide the integuments immediately over the end of the probe, so as to form a counter opening to the sinus," through which diluted vinous tincture of opium is daily to be injected. The sac itself is to be treated in the manner formerly described.

Caries of the os unguis is much less frequent than was once imagined, and it very seldom indeed takes place unless when the constitution is embued with syphilis or scrofula; it can only be radically combated by constitutional remedies.

The disorder occasioned by mere relaxation of the lachrymal sac, presents the bean-shaped tumor formerly mentioned in inflammation; but it is small and not painful, and yields easily to pressure. The cure of this disease consists in the combination of pressure, with the application, externally and internally, of an astringent fluid. "The compression must be carefully applied, constantly continued, and gradually increased." Machines invented for this purpose will not apply with effect. "Graduated compresses are then to be preferred; over these a firm leather pad, of a proper form, is to be placed, and the whole is to be supported by a narrow roller passing round the head." These compresses are to be constantly kept moist by an astringent solution; a small quantity of the same fluid is likewise to be dropped into the corner of the eye, so as to be absorbed by the puncta. All injecting and probing is to be carefully avoided.

By the term "mucocoele" Mr. Mackenzie means to designate that state of the sac which is sometimes occasioned by a Surgeon precipitately healing an abscess, without ascertaining whether the canals and nasal duct are properly pervious. Should an obstruction remain in these, what will be the consequence? "The natural secretion of the mucus from the internal surface of the sac will go on; but as it can neither be diluted by the tears discharged into the nose, nor completely reabsorbed by the mucons membrane which secretes it, it will accumulate, and the anterior part of the sac will be again

gradually distended into a tumor." In this case the tumor after a time becomes exceedingly large, and of a bluish colour, and it has been considered, by ignorant Practitioners, to be of a cancerous nature. Its cure is to be accomplished by opening the sac, and clearing out the accumulated mucus by injections, by the introduction of a small pair of forceps and a whalebone probe moved about in the sac, should the mucus be so inspissated as to require these forcible methods of dislodgement. Having emptied the sac, a small quantity of soft lint is now to be placed within the lips of the wound, and covered with a piece of court plaster. On the next day an examination must take place as to the degree and kind of obstruction in the canals or duct.

The lachrymal canals "may be obstructed from the presence of inspissated mucus, from tumefaction of their lining membrane, or from absolute obliteration in a part, or throughout the whole of their extent. Anel's probe is to be used in the examination, and if we can pass it freely into the sac, through the canals, there is sufficient evidence that they are not obliterated. If there be mucus in the canals, the probe will dislodge it, and restore the passage into the sac; but when the obstruction arises from tumefaction of the mucous membrane, the temporary dilatation immediately ceases upon withdrawing the probe. Here we must be very wary of using the probe, lest we increase the evil it is our aim to remove. Sometimes doubt as to the real state of the canals still exists, in which case it will be expedient to drop a coloured fluid into the corner of the eye, and this, if the passage is free, will not fall down the cheek, but will immediately be seen at the opening of the sac. Some authors talk of making new puncta and canals in case of complete obliteration of the natural passage, and consequent incurable stillicidium: these, however, are mere pen and ink operations, and are safer upon paper than upon the patient. In these cases mucocoele of the sac is to be obviated by applying lunar caustic to the lining membrane of the sac, so as to excite a degree of inflammation, and then, by moderate compression, endeavour to secure the obliteration of its cavity.

"Of Obstruction of the Nasal Duct." "The examination of the nasal duct, equally with that of the lachrymal canals, is to be instituted before healing up any artificial opening or fistula of the sac; it is also to be instituted on the day after a mucocoele has been laid open." A whalebone probe is the best instrument for this purpose; and it must not be concluded that there is complete obliteration of the duct merely because this meets with resistance: a diseased state of the mucous membrane may prevent the passage of the whalebone,

and then a small silver probe may be attempted to be passed. The duct may be obstructed at three points; first, at its very commencement from the sac; secondly, in the middle; and, thirdly, at the termination of the conduit into the nostril. When we have succeeded in passing the whalebone or silver probe, the next object is to restore the duct gradually and progressively to its natural caliber. Our author supposes three states of an obstructed duct, after attempts at passing the silver or whalebone probe; first, that in which the object has been easily affected; secondly, that in which it is still possible by perseverance to effect it; and, thirdly, that in which it is impossible to pass the probe through the natural caliber of the duct. In the first case, a nail-headed silver style, of about an inch and a half long, is to be introduced, which is to be followed by others progressively increased in thickness, or by catgut: when the latter is used, five or six inches are to be introduced, so as it may be drawn forward through the nose by the patient himself; the superior part being coiled up, enclosed in a piece of linen, and fastened under the hair of the forehead. Into the opening of the sac a little lint is laid, and over that a piece of court plaster applied. After two hours the patient is to try to bring the inferior end out of the nose, with the blunt end of a knitting needle; he is to shut his mouth and the opposite nostril, and cause the air to descend through the affected part. Having succeeded in obtaining the end of the catgut, he is to draw it out of the nostril, and turning up its extremity by the side of the nose, then fix it by a slip of court plaster. On the following day the lint is to be removed from the sac, and a solution injected by the side of the catgut. The coil is now to be loosened from the forehead, a fresh portion undone, and being besmeared with an ointment, it is to be drawn into the duct. The inferior portion answering it to be cut away, and this process repeated daily until the catgut is consumed. Another piece of catgut is now to be introduced, but before that is done, the permeability of the duct must be ascertained by the injection of a coloured fluid, and the processes must be continued until the passing of the injection in a full stream. The besmearing ointments and injections are to be more or less stimulating, according to the nature and degree of obstruction. If styles are preferred for restoring the nasal duct, the process is to be conducted very gradually, and the instrument continued for several months. Our author does not consider the patient quite safe till a coloured injection flows in a full stream through the duct for fourteen days successively. Then, and not till then, the external wound is to be closed.

In the second case, that of not being able to pass the probe, it is to be left sticking in the passage till the next day, fastening it to the forehead by a proper bandage, and closing the opening with lint and court plaster. Gentle pressure is then to be used daily for a week, turning the instrument on its axis at every trial.

Should the case after all turn out to be of the last order; namely, that of total and invincible obstruction, perforation is to be had recourse to, and on this head we shall conclude our analysis, by presenting our author's directions in his own words:—

“ If in our examination of the nasal duct we have discovered that part of its extent is obliterated, recourse is to be had to perforation by means of a small triangular or trocar-shaped probe. If the extent of the obliteration be inconsiderable, and consequently be placed near the opening of the duct into the nose, this perforation may be performed with confident hope of success. The sharp point of the probe is to be covered with a little bit of bees' wax, that it may not injure the duct before it reaches the obliteration. A few drops of blood flow from the nose as soon as the perforation is completed. We immediately withdraw the probe, and introduce a small silver style. This remains for a day or two, and then we commence the very gradual dilatation of the duct which has already been described.

“ If a considerable portion of the duct, or even its whole extent be obliterated, we ought to perform the same operation; and we do this with at least equal hopes of success as if we perforated the os unguis. It is true, that Nature, constantly tending to destroy every thing contrary to the organic system which she has adopted, would probably close the new passage, after our dilating instruments were laid aside. This is the only case, then, in which the introduction of a metallic tube into the duct, to be left for life, is at all defensible. A gold or silver tube, not more than an inch in length, and presenting an elevated ring surrounding the middle of its external surface, is to be pushed down into the dilated passage which we have formed. The surrounding substance will contract upon this tube, so that it will be much less liable to be displaced than when a similar instrument is passed into the natural caliber of the duct.”

The following are the formulæ used and referred to by Mr. Mac Kenzie. He suggests that the common citrin ointment is improperly prepared, and he proposes a subnitrate of mercury in powder mixed with common white ointment in lieu of it.

FORMULÆ.

No. 1. — *Unguentum e Mercurio Præcipitato Rubro et Tutia.*

R Butyri recentis insulsi, ʒiſs.

Mercurii præcipitati rubri, gr. x.

Tutiæ preparatæ, gr. vi.—M.

No. 2. — *Solutio Lapidis Divini*.

R Aeruginis,
 Nitri puri,
 Aluminis, utriusque, ℥iij.

Pulverisata liquefiant in vase vitreo in balneo arenæ. Liquefactis adde
 Camphoræ tritæ, ʒiſs.—M.

Refrigerata massa servetur sub nomine Lapidis Divini.

R Lapidis Divini, gr. x—xx.
 Aquæ Distillatæ, ℥iſs.
 Solve, et colo. Colato adde
 Vini Opii, ʒi—ʒii.
 Aquæ Rosarum, ℥iv.—M.

No. 3. — *Solutio Mercurii Sublimati Corrosivi*.

R Aquæ Rosarum, ℥iv.
 Mercurii sublimati corrosivi, gr. ſs.—gr. i.
 Mucilaginis purissimæ, ʒi.
 Vini Opii, ʒi.—M.

No. 4. — *Unguentum Janini*.

R Butyri recentis insulsi, ℥iſs.
 Mercurii precipitati albi, gr. xv.
 Boli albi, ʒi.—M.

This ointment may be increased in activity by the red bole, or by the Armenian.

No. 5. — *Collyrium Acidi Nitrici*.

R Aquæ Rosarum, ʒvi.
 Acidi Nitrici, ʒi.
 Alcoholis, ʒi.—M.

IV.

Practical Observations on the Causes and Cure of Insanity.

By WILLIAM SAUNDERS HALLARAN, M.D., Physician to the Lunatic Asylum of Cork, &c. Second Edition, materially enlarged and amended. 1818.

WE take up this book rather with a view to recommend its perusal than to analyze its contents. In every page are found indications of much good sense, discriminating judgment, and candid feeling. Whether the former edition of this volume may have come under the critical cognizance of our predecessors in the editorial management of the *REPOSITORY*, we have not just now the means of ascertaining, nor do we know any thing with respect to the *quantum* and kind of additional matter which the present edition possesses: it is for us, then, to speak of the book merely as we find it, and it would be gratifying to our best feelings for us often to meet in medical works with so little to censure, and so much to praise.

With respect to Dr. Hallaran's distinction of insanity into mental and bodily, we do indeed feel a little hesitation in allowing the correctness of his inferences. Far be it ever

from us to allow the legitimacy of those assumptions which "resolve every thing into matter and consequent necessity; which tend to the destruction altogether of moral responsibility; which make virtue to consist of an harmonious correspondence between nerve and blood vessel, and crime to be constituted of a hurried circulation*." But still we think it may be made out almost with the force of absolute demonstration, that in every state of mental hallucination there must be some bodily change either original or induced: indeed when the aberration of mental feeling more obviously proceeds from what Dr. H. would deem mental causes, such causes could not *per se* possess the power of thus deranging the understanding, were they not met as it were, and assisted by the prior condition of the bodily organization. But we must not give reins to our disposition to pursue this theme, more especially as we have just declared off from a regular critique of the volume now under review. We shall merely, therefore, point out briefly one or two of its prominent features, and refer to the book itself for more ample particulars.

Dr. Hallaran very justly animadvertes on the inconsistency of allowing a hereditary predisposition to insanity, and at the same time denying that it is absolutely an hereditary disorder. Disposition to disease is, in fact, disease; since the latter can in no case be absolutely induced without exciting sources. When treating of the prognosis, our author evinces much acumen and observation. We shall extract one or two remarks on this head. "In all cases of insanity," says Dr. H., "strictly so called, where the first accession had been abrupt, and equally so in its departure, a renewal within three or four weeks at the furthest may be confidently expected. A perfect recovery from insanity is never to be expected when the symptoms have suddenly given way. Should catalepsy follow upon insane paroxysms, the complaint is most commonly fixed for life. Females (Dr. H. says) appear to be exclusively liable to catalepsy." In this particular our observation does not entirely coincide with that of Dr. H.: a melancholy case of a male subject is now fresh in our recollection, in which catalepsy, or at least a state very nearly allied to it, was one of the most conspicuous characteristics of the malady. Epilepsy and paralysis ushering in the disorder, or alternating with it, invariably mark an extreme malignity. "Where this connexion is established, the Practitioner will effect but little to his purpose."

"There is no general proof more indicative of stability in a person recently recovered from a paroxysm of insanity than his running

* Quarterly Review, article Insanity and Madhouses.

rapidly into a state of corpulency; nor is there any appearance less encouraging than great emaciation in the paroxysm, and the continuance of it during the interval. A voracious appetite usually accompanies this state of emaciation, and for the most part attends those patients who degenerate into dementia or idiotism."

When treating on the pathology of insanity, our author very properly objects to those principles which assume that increased circulation of blood through the vessels of the head is invariably present, or that when existent such inordinate impetus explains the whole of the phenomena connected with mental aberration. "Many opportunities (says Dr. H.) we have of observing the existence of mania entirely independent of increased action of the heart and arteries in *any direction*, and occasions of unusual impetus in the circulation do frequently occur, even towards the head, without producing any of the calamities here referred to." Let the vascular Pathologist look well to these remarks. Our author, however, is not, we think, quite so happy in his own assumptions as he is in objecting to those of others. "I have long (he says) entertained the opinion that in whatever degree the arterial action is exerted, there follows, at the same time, a torpor of the venous system, effecting a diminution of the equilibrium of the circulation so essential to the preservation of health." Dr. H. ought to have recollected that this want of balance between the arterial and venous system of vessels, as well as increased activity of the former, often occurs without bringing with it any marks of deranged intellect; and that therefore such state cannot with propriety be predicated as pathognomic of the insane state.

Venesection, as a general remedy in maniacal affections, our author objects to; "it is (he says) not often called for, and, unless under the most urgent circumstances, is not even admissible." While perusing this part of the volume we had marked down an omission in the author in not noticing, as one of the arguments against copious and indiscriminate blood-letting in these cases, that the blood when drawn does not display the inflammatory crust. This particular, however, we find pointed out in a subsequent page, where Dr. H. again insists upon the importance of recollected both in pathology and practice, that "insanity is not phrenitis." Emetics Dr. H. highly approves of, but cautions against expecting too much from them. He prefers the tartarized antimony to all others, "as being tasteless, more soluble in water, and most certain in its effects." Purgatives are recommended; either in conjunction with emetics, or alone; and very often, he tells us, "the propriety of a smart

purge fully indicates itself, previously to any attempt to affect the stomach by emetics. The circulating swing, we are told in the practice of Dr. H., has occasionally produced very essential benefits, and the foxglove is lauded as possessed of very high powers in some cases of insanity; the utility of which, in our author's opinion, is referrible not to its sedative, but to its stimulant operation. "The singular benefit to be obtained from a judicious use of digitalis, in real maniacal cases, has become so fully established in my mind (says Dr. H.), that where they do occur, properly adapted to its application, I am encouraged to proceed with as much confidence in the hope of recovery, as I would in cases of lues from the mercurial influence. In the latter, however, we are occasionally baffled, as well as frequently in the former, in which no human power could supply a remedy." We are disposed to suspect, in reference to this medicine, a little favouritism on the part of its encomiast. If foxglove were as antimaniacal as mercury is antivenereal, it would surely by this time have come into more general use, both in public and private practice. Opium is spoken of with commendation: "in the perfectly quiescent state of insanity, where all febrile heat and turgescency of countenance have been subdued, opium will be found, separately or combined, of infinite utility, particularly where the mind remains defective through debility, and is prone to dwell on real or imaginary misfortunes." Camphor, Dr. H. has not much confidence in: "as a palliative, however, (he says) it may be entitled to some credit." When blisters are applied, it ought to be after the febrile excitement is subdued, and they are better, in our author's judgment, placed at some distance from the head, than upon the scalp. Of mercury Dr. H. speaks in the following terms:—"Although I cannot decide favourably on the specific properties of mercury in this disease, I am far from limiting them to its purgative quality: the equable and general stimulus which it affords to the system at large, by an evident action on the absorbents, has taught me to entertain a high opinion of its utility as a preparative for digitalis." The warm-bath is spoken of as, in the general way, more applicable to the state of convalescence than during the actual presence of the disorder; on the contrary, cold affusion and the shower-bath are more appropriate in the first stage of mania.

Here, however, we must stop; insensibly have we been led beyond the intentions with which we commenced the present article. The subject of insanity we may probably find occasion at a future time to take up, in a more general and enlarged manner, and we may then have to refer to Dr. Hal-

laran's, in conjunction with some other treatises on the very interesting topic of mental hallucination. We now, therefore, bid farewell to the present intelligent and candid writer, with every feeling of respect and admiration.

PART III.

SELECTIONS.

Observations on the Medico-Chemical Treatment of Calculous Disorders. By W. T. BRANDE, Sec. R.S., &c.

(From the *Quarterly Journal of Science and Arts*.)

[Continued from page 233.]

HAVING now considered the nature of the white sand, and the mode of treatment to be adopted in regard to it, we may advert to the composition of the red sand or gravel, and to the means which are most effectual for its prevention and cure. Here, as in the former case, distinction must be made between those cases in which the sand is actually *voided*, and in which it is deposited, after some hours, by the urine, which at first was clear. The appearance of the red sand, in the former case, is an alarming indication of a tendency to form calculi; in the latter, it is often a temporary symptom of indigestion; but yet, if it frequently occurs, means should be strenuously adopted for its prevention.

Since the discovery that the red sand consists of uric acid, more or less pure, and of the solubility of that acid in the caustic fixed alkalis, these substances have been in vogue as solvents. The important fact, however, was soon made out, that the alkaline subcarbonates and carbonates, were equally effectual, and less apt to disagree with the stomach than the pure alkalis; and as in them the uric acid is not soluble, it became pretty evident that the benefit of alkaline medicines was not rationally referrible to their solvent powers. Indeed, where the caustic alkalis are taken, they could never reach the urine in a caustic state, but would naturally combine with the carbonic or other acids of that secretion.

Experience having sufficiently shown the efficacy of the alkalis and alkaline carbonates in preventing an increased secretion of uric acid, the first question that arises is, as to the *kind* of alkali to be preferred, and the *state* in which it should be exhibited.

Soda seems by common consent to be preferred to potash; and there can be little doubt that, although it will be most

effectual in a pure form, it is most prudent to use it in its highly carbonated state, as it is sold under the name of soda water; for it may be longer persevered in, and is less apt to injure the digestive organs in that state than in any other. It deserves remark, however, that much of what is sold under the name of *soda water*, contains scarcely any soda, but is merely water impregnated with fixed air; and further, that it is very apt to be contaminated by copper, zinc, or lead, arising from the vessels in which the condensation is carried on. These contaminations, which are very easily discovered by proper tests, have been adverted to by Mr. Pepys, in his "Description of an improved Apparatus for the Manufacture of Soda Water," published in the Fourth Volume of this Journal.

But, though soda water is in most cases very effectual, in others it is certainly less so than a similar solution of *potash*; and I have seen cases in which the latter alkali has dispelled symptoms that withstood the operation of the former. This fact has been adverted to by Sir Gilbert Blane, in his paper on the Effects of large doses of the Vegetable Alkali in Gravel. (*Transactions of a Society for Improving Medical and Chirurgical Knowledge.*) He has there also proposed the convenient method of partly saturating the alkali with lemon-juice or citric acid, and has dwelt upon the advantages of combining opium with it, which are certainly great, in cases attended by irritation, or other symptoms calling for the use of sedatives.

Ammonia, and *sub-carbonate of ammonia*, are alkaline remedies of considerable use in many cases of red gravel: they may be resorted to with advantage where symptoms of indigestion are brought on by the other alkalis; and appear to be of great use in that form of red gravel which is connected with gout, and which, in gouty patients, often alternates with fits of the disease; the joints and the kidneys appearing to be affected by turns.

In a paper which I communicated to the Society for the Improvement of Animal Chemistry, in the year 1809, and which has a place in the Philosophical Transactions for 1810, I have detailed the advantages of *magnesia* as a preventive of uric gravel; and subsequent experience, which has been pretty ample, completely justifies the character I have there given it. I do not mean to propose it as excluding the alkalis; it is, indeed, improper in many cases where they may be properly employed; but where potash and soda have been so long employed as to disagree with the stomach, to create nausea, flatulency, a sense of weight, pain, and other symptoms of indigestion, *magnesia* may be adopted with the greatest chance of success.

The doses of the different alkaline remedies that have been enumerated, and the modes of exhibiting them, may next be briefly noticed.

The caustic alkalis are best taken in any mucilaginous vegetable infusion, barley water, or water gruel, for instance; and their nauseous flavour is much covered by liquorice. From five to sixty drops of the *liquor potassæ* of the London Pharmacopœia has been called a dose. From ten to twenty drops may be considered an average dose, taken night and morning, or thrice a day in a glass of barley water. A drachm of the carbonate of potash, as advised by Sir Gilbert Blane, or of the carbonate of soda, may be dissolved in two ounces of water, sweetened with honey, and taken, during the effervescence occasioned by the addition of half an ounce of lemon-juice, twice or three times daily.

Soda water should be kept in the shops, single, double, and treble; the first should contain one, the second two, and the third, three drachms of the crystallized subcarbonate in the pint; and from one to three half pints of either may be taken daily, as it proves agreeable or efficacious. A portion of the alkali in the strongest may be conveniently neutralized by adding a table-spoonful of lemon-juice to each half pint tumbler, which renders it more palatable.

From half a drachm to two drachms of the solution of ammonia of the pharmacopœia may be taken in a sufficient quantity of water, but the sub-carbonate is as effectual, and has the advantage of being administrable in the form of pills, in which it may be united with some bitter extract; none better than that of camomile. Twenty grains of the alkaline sub-carbonate, and a drachm of the extract, may be made into twenty-four pills, two or three for a dose, twice or thrice a day.

Magnesia may either be calcined, or the sub-carbonate; the latter is generally preferable, except where the stomach is distended by wind, and in that case calcined magnesia should be used. The dose is from ten to thirty grains of the calcined, and from twenty to forty or fifty of the sub-carbonate, or, as it is often called, common magnesia. This remedy is particularly commendable, where the alkalis have been employed for a long time, where they excite flatulency and indigestion, or disagree with the bowels, or where the red sand continues to be formed even during their copious use. As magnesia sometimes collects in and clogs the bowels, their state should be attended to during its use, and any accumulation which may have occurred, occasionally moved off by a mild aperient, or by the occasional use of acids, where they are admissible. The case described by my brother, in the First Volume of this

Journal, will give an idea of this effect, and point out the requisite caution in the use of magnesia*.

The next subject of inquiry is the mode in which the alkalis operate.

That it is not by any solvent power upon the gravel after it is formed, is evinced by the action of the carbonates, and by that of magnesia, which, though incapable of dissolving uric acid, are as effectual in checking its formation as the caustic alkalis. It would appear, then, that the benefit derived from these medicines must be principally ascribed to their action upon the digestive organs, where, by preventing the formation of, or neutralizing and combining with, acid matter, it is probable that they prevent its secretion in the kidneys. Nevertheless, the alkalis undoubtedly do pass off by urine; and in a paper already quoted (*Philosophical Transactions*, 1810), I have detailed some experiments illustrative of this subject, the results of which are extremely important, as connected with the treatment of calculous disorders, for they show the danger of administering alkaline remedies where there is a tendency to the production of the phosphates, and the likelihood of producing the deposition of white sand, by improperly persevering in their use after the formation of the red sand has been checked.

The above are the principal observations which have occurred to me, connected with the symptoms and treatment of the white and red sand: the first object should be to ascertain the nature of the matter voided; the next, to select the most appropriate acid or alkali, and in either case to watch carefully over their effects, since the acids, after having removed the superabundance of the phosphates, will sometimes induce the excess of uric acid; and nothing is more common than the appearance of white sand during the use of alkaline medicines.

Cases are by no means unfrequent, in which the sabulus deposit of the urine consists of a mixture of uric acid with the phosphates: as far as my analysis has gone, the sediment of inflammatory disorders is usually of this kind; it is very frequent in the urine of those persons who habitually indulge in excess of wine; and not uncommon in jaundice and other affections of the liver, where a large quantity of albuminous mucus often accompanies it. This form of the disorder is generally alleviated by general, rather than particular treat-

* Magnesia may be dissolved in excess of carbonic acid, and administered in the form of magnesia water, which is an excellent substitute for soda water. Some years ago, Mr. Schweppe, at my request, prepared it in this form.

ment; I mean by particular attention to the state of the stomach and bowels, by purges and by tonics. I have heard nitric acid recommended, upon the principle of its dissolving both uric acid and the phosphates; and in some cases which were under Dr. Pemberton's care in St. George's Hospital, and of which I have preserved notes, it appeared particularly efficacious. I am, however, induced to refer its efficacy rather to its tonic, than its solvent powers. Indeed, it cannot be too often repeated, that in all cases of urinary sand and gravel it is necessary to pay particular attention to the general state of the patient's health, and along with the medicines usually called solvents, to pursue a tonic and invigorating plan in respect to the stomach.

The best diet for those who suffer from excess of uric acid, and who form red gravel, has been a subject of discussion with most writers upon this disorder, and animal and vegetable food has been alternately extolled and recommended. I should not hesitate in these cases to recommend the adoption of a vegetable diet, for, independently of the valuable observations of Dr. Wollaston, connected with the subject, (Philos. Trans. 1810)* I have known a week's abstinence only from animal food relieve a fit of uric gravel, where the alkalis were of little avail; and in other cases the same plan has been most successfully adopted: at the same time it must be remembered, that if flatulency and other stomach symptoms arise from the want of usual animal diet, mischief will in most instances result.

The observations which I have now made are intended to refer to those cases of sand and gravel which are independent of the formation of calculi, and unconnected with any sabulous accumulation in the kidneys or bladder. In these cases new questions and difficulties arise, to which it will next be proper to advert.

(To be Continued.)

* In this paper, Dr. Wollaston has alluded to the quantity of uric acid contained in the excrement of birds feeding solely upon animal matter. The following is a curious analogous fact. Mr. Barrow lately put into my hands for examination, a red matter, which tinges the snow in high latitudes, collected by Capt. Franklin, in the late Polar expedition. It was supposed to be the seeds of a lichen, but I found it to contain uric acid, separable by potash, and precipitable from its alkaline solution by muriatic acid, in the form of a yellow powder. The uric acid is mixed with what appears a modification of the same substance, having many of the properties of what Dr. Marcet has called *xanthic oxide*.

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

PATHOLOGY (INCLUDING MORBID ANATOMY) AND PRACTICE OF MEDICINE.

I. *Apoplexy*.—In our February Number we transcribed an interesting paper by Dr. Serres*, elucidating the process whereby cysts, formed by extravasation of blood in the substance of the brain, are sometimes obliterated, and the paralysis, dependent upon it, consequently removed. In two cases just published by Dr. Patissier†, are exhibited very striking examples of the apoplectic cyst in its more recent state.

First Case.—A woman, aged twenty-five, of robust constitution, short neck, extremely irascible, and who had long suffered from domestic troubles, fell down senseless in a fit of passion on the 6th of January, 1816. An emetic was administered without relief; and on the 8th she was conveyed to l'Hotel Dieu with the following appearances: coma; closure of the left eye, caused by paralysis of the levator palpebræ superioris; loss of movement and sensation in the left arm; incapability of replying to questions; deviation of the point of the tongue to the right; pulse slow and small; respiration free. A blister to the nucha, sinapisms to the legs, a simple injection, antispasmodics, and a solution of tartrite of antimony in veal broth, were prescribed. About the tenth day the patient began to make signs for food, and expressed great satisfaction at friction of the left arm, which still continued paralytic. An infusion of arnica (leopard's bane) was given as a ptisan. On the sixteenth day articulation commenced; but the woman could only express her wishes by the monosyllable *tu*, and this language was continued to the close of life. In the fourth month, with a view of restoring the power of speech, mastication of the leaves of the *cochlearia* and *pyrethrum* was uselessly directed. The employment of the *nuxvomica* was equally unavailing, although administered in doses of sixty grains. The menses were irregular; and the application of leeches every month to the vulva, while subduing some ephemeral symptoms, effected no considerable change.

* See REPOSITORY, page 154 of the present volume.

† Bulletin de l'Athénée de Médecine de Paris. Bibliothèque Médicale.

Under the influence of her misfortunes, the young woman at length became gloomy, headstrong, and capricious; and extremely sensible to ridicule or reproach. On the 12th of October great depression of strength, with œdema of the extremities, took place, and was followed by death on the 16th.

Dissection.—1st; The vessels of the brain were somewhat gorged. 2dly; On cutting into its right middle lobe, in which there was a slight softening, a cavity was discovered, wholly distinct from the lateral ventricle, containing a little coagulated and yellowish blood, and lined by a perfectly distinct and smoothish membrane; which was the more readily detached, from being in several points united to the cerebral substance by filaments of a cellular appearance. 3dly; The thoracic organs were sound; as, 4thly, those of the abdomen, with the exception of the stomach, which exhibited some red patches*.

Second Case.—A labourer, aged sixty-two, of small stature, short neck and face habitually red, was stricken with apoplexy in April, 1816. The consequent paralysis and embarrassment of the tongue not yielding to venesection and an emetic, the man was conveyed to l'Hotel Dieu on the 15th of June. He had then hemiplegia of the right side, and such an embarrassment of the tongue as allowed only of the articulation of the monosyllable *tu*. A blister was applied to the nucha, and leeches repeatedly to the neck. The use of the right superior and inferior limb was gradually recovered; but without any amendment of speech. The patient was extremely irascible, and evinced violent anger on being interrogated respecting his health, or denied the ordinary allowance of food. Repeated attacks of indigestion were succeeded by asthenic symptoms; and he died on the 2d of May, 1817.

Dissection.—The middle and left lobes of the brain were in a state of very decided softening; and on being cut into exhibited, at the depth of an inch from the surface, a cavity comprehending nearly the whole extent of the middle lobe, perfectly isolated from the lateral ventricle, and lined by a very distinct membrane, which was in some points continuous with the pia mater, dipping down between the cerebral convolutions. The substance of the brain, in the vicinity of the cyst, displayed a yellowish colour. The other portions of the

* We cannot agree with Dr. Patissier in regarding as “remarkable” the occurrence of apoplexy at the age of twenty-four; because, although more especially affecting, it is not peculiar to advanced life; nor the failure of *nux vomica* in paralysis while the cerebral cyst upon which it depended remained wholly or in great measure unobliterated.—EDIT.

encephalon were sound; the thorax and abdomen not examined.

Dr. Patissier concludes by stating a pathological fact, which he has repeatedly noticed, and of which the cause yet remains to be discovered: in hemiplegia, the inferior limbs almost invariably recover their mobility and feeling sooner than the superior.

II. *Œdematous Angina of the Larynx*.—We hasten to present to our readers a most important Memoir on “*Œdema of the Glottis; or, Œdematous Angina of the Larynx*,” which has just made its appearance in France*. The author of it is M. Bayle, a writer of well-known talent and celebrity; and none of whose productions we have ever yet perused without great interest and advantage.

The sudden and unexpected death of different individuals, who had previously exhibited no alarming symptoms, first excited the attention of M. Bayle to this subject: and in the prosecution of his researches on the dead body, he found obstruction of the larynx from various diseases to be a more frequent source of such fatalities than has commonly been suspected. By pathological writers, are recorded numerous instances of sudden death, consequent on diverse lesions of the larynx. Among these, that which appears to be most frequent, most invariably fatal, and least perfectly described, is an œdematous swelling of the borders of the glottis. And this, as leading, when unopposed, to certain destruction, yet frequently yielding to early and decisive treatment, possesses a powerful claim upon our attention.

Although no where clearly defined, the disease in question admits of easy description; and the characteristic symptoms are so strongly marked, that error in its diagnosis is almost impossible. During the last six years it has many times fallen under the observation of M. Bayle; and the long promised notice of it has only been delayed in the hope of rendering more perfect the history, particularly as regards the diagnosis and prognosis of the affection. The term *œdematous laryngeal angina* may with propriety be applied to it, inasmuch as it consists merely in a serous infiltration of the membrane lining the larynx; and all the symptoms which it exhibits are the effects of this state.

The affection is characterized by a constant tightness of respiration arising from the œdematous swelling of the borders of the glottis. This œdema is not usually complicated with fever. *It renders inspiration difficult and wheezing, while expiration continues unaffected; and induces, from time to time,*

* Nouveau Journal de Médecine, Janvier, 1819.

paroxysms of suffocation, during which inspiration becomes very sonorous and almost obstructed, although expiration is invariably free.

This brief exposition of the seat, nature, and pathognomic symptoms of *œdematous laryngeal angina* will suffice to distinguish it from all those affections possessing any features of resemblance; and contains the signs which all the subjects affected with the disease have constantly presented. It differs, for instance, completely in its seat, symptoms, and termination, from the *aqueous angina* of Boerhaave, which is an affection occupying especially the *velum palati*, *amygdalæ*, and *pharynx*; while the *œdema* of the *glottis* is essentially seated in the *larynx*. The latter, moreover, is almost invariably fatal; the former usually much less formidable; and consequently often terminates in recovery.

There are some other diseases which resemble in their characters *œdema* of the *glottis*. These are, 1st, convulsive asthma; 2dly, the acute asthma of Millar; 3dly, *angina pectoris*; 4thly, laryngeal inflammation; and, 5thly, sometimes *aortic aneurism*: but with these, the assemblage of symptoms characterizing *œdema* of the *glottis*, prevents us from confounding it. In *convulsive asthma* the suffocation commences suddenly, and is not preceded by a sensation of uneasiness in the *larynx*; after the paroxysm there is no constriction in the summit of the *trachea*, and even when the *dyspnœa* has not wholly subsided, it consists in stricture of the *thorax*, and is not referred by the patient to the region of the *larynx*. The suffocation in the *acute asthma of Millar* depends also on spasm of the *thorax*; and the convulsive stricture of the *larynx*, when occurring, is not preceded by any painful sensations in this part. In *angina pectoris* the suffocation, which takes place suddenly, arises from constriction not of the *glottis*, but of the *thorax*: and in both the latter affections, on the cessation of the paroxysm, respiration becomes perfectly free, and neither stricture nor pain of the *larynx* is experienced. Again, in *aneurism of the aorta*, compressing the *trachea*, respiration is performed with a hissing sound, and there are occasional attacks of suffocation; but the pain of the *larynx* is inconstant; and error will be commonly avoided by minute observation of the progress of the disease. And, lastly, the *œdematous laryngeal angina* cannot be confounded with *acute inflammation of the larynx*. The violent fever attendant on the latter disease, and its absence in the former, suffice to distinguish these affections, which, moreover, materially differ in their progress.

The affection, termed *angina sicca* by Boerhaave and pre-

ceding writers, which supervenes on other diseases, and proves almost invariably fatal, does not appear, from the imperfect description given of it, at all to resemble œdema of the glottis. In the former, according to Boerhaave, there exists no trace of tumor external or internal : and as no vestige of it remains after death, it would seem to be merely a nervous affection.

After having pointed out the pathognomic signs of the œdematous laryngeal angina, and the characters which distinguish it from other analogous affections, M. Bayle proposes to trace, in detail, its varieties, causes, progress, effects, and the treatment which it requires ; and, lastly, to record some cases illustrative of the disease in its simple state, and different complications.

Varieties. — The disease is either primitive and essential, as when resulting from no other local malady ; or consecutive and symptomatic, when consequent on some affection of the larynx or adjacent parts. In either case, however, it pursues the same course ; and when symptomatic, produces death in persons whose primitive disease might otherwise have terminated favourably. In its complication with other diseases, the angina ought probably to be regarded as the principal affection, since against it the curative plan should mainly be directed. When primitive, it appears to depend on a catarrhal or inflammatory affection of the larynx ; but when consecutive, it may be the consequence either of an abscess formed in the larynx or its vicinity ; of ulceration of the organ, with or without caries ; of laryngeal phthisis, simple or complicated ; or of other acute or chronic disease, which has produced, by irritation, œdema of the borders of the glottis.

The *causes* of the symptomatic varieties of this angina are as various as the diseases of which it is the symptom. When it results from abscess of the larynx consequent on pyrexia, the deposit may be considered as the crisis of the disease. As to the primitive form of the angina, it most commonly arises during convalescence from severe fevers of the asthenic or putrid type. But both in these cases, and in those wherein it attacks a previously healthy subject, its occasional causes appear to be little understood. They are in general those of inflammatory and catarrhal diseases, operating upon individuals predisposed to laryngeal irritation. But the nature of this predisposition, and the means whereby it may be distinguished before the invasion of the disease, and obviated, are utterly unknown. In almost all the cases observed by M. Bayle, nothing occurred to announce the impending attack till the moment of its developement.

Progress of the Disease.—It may commence by suffocation with pain in the region of the larynx ; but usually its invasion is less formidable. There is at first merely a sense of uneasiness in the larynx. The patient endeavours for relief to expel the obstructing mucus by a deep and sonorous expiration. The hand is frequently directed to the part with a complaint rather of constriction and uneasiness than of pain. The voice is somewhat hoarse ; but there is neither fever nor general derangement. At the end of from one to four days the disease, however, is aggravated. The efforts to clear the larynx are more frequent ; and a glairy fluid is at times expectorated. The voice grows hoarser, sometimes extinct. Respiration is at intervals for a short while embarrassed. Insensibly it becomes sonorous, and as it were rattling. Yet the voluntary shocks impressed on the larynx by the efforts at expiration, produce the discharge of glairy mucus ; and then a dry and peculiar sound accompanies inspiration. The pulse and appetite yet continue unchanged ; and the patient feels no alarm at his situation. Speedily, in some cases, there supervenes a slight and infrequent cough ; and the dyspnœa, although slight for whole hours together, is habitual. But, after the lapse of days, or even weeks, the patient is suddenly seized with suffocation, of from five to fifteen minutes' or sometimes longer continuance. During this paroxysm inspiration is difficult and loud ; expiration unembarrassed. At the close respiration is sometimes fully, sometimes imperfectly, restored to its pristine freedom. The patient regains his ordinary state, and passes some hours, occasionally even a week or more, without experiencing a fresh attack. After a while they return, gradually increasing in violence and frequency. In the interval respiration grows progressively more tight and sonorous, particularly during sleep. Sometimes it is again relieved for a few hours ; and the voice is imperfectly recovered. Fresh paroxysms, commonly occurring in sleep, induce a return of suffering. The appetite is impaired ; but seldom wholly fails. The pulse becomes irregular. Yet, unless to an experienced observer, no pressing danger is apparent.

During the more violent paroxysms of suffocation, the patient experiences excessive tightness of respiration. The shoulders are elevated, and the whole thorax in motion. Inspiration is difficult and noisy ; expiration invariably free. Suffocation seems impending. The face is sometimes pale, shrunk, and expressive of alarm ; sometimes red, turgid, and wild. The suffering is extreme. Some patients entreat earnestly to be relieved by incision of the larynx ; others with frantic expressions of terror and despair, attempt suicide.

Even in the more moderate attacks, the pulse becomes unequal, irregular, and sometimes intermittent.

On the decline of the paroxysm, respiration becomes tolerably free; but slight inequality and even intermission of the pulse sometimes remain. Frequently, after a short time, the patient is destroyed by a fresh attack. Most commonly, however, death takes place in the interval, at the moment when relief might be expected from the free admission of air into the thorax.

The disease is almost invariably fatal. Of seventeen cases observed by M. Bayle, during the last six years, one only has terminated in recovery. In general, its duration is very indeterminate. Some of its victims are carried off from the third to the fifth day; others, after struggling against it for a month, have eventually sunk, although the early paroxysms were slight, and of rare occurrence. Individuals have occasionally died in the first paroxysm of the disease.

Results of dissection.—Having examined the bodies of all those whom he had seen die of it, M. Bayle has found that, in the victims of this disease, the vital warmth has been almost invariably long preserved, and the limbs have retained their flexibility. The blood contained in the heart has, in most instances, scarcely coagulated after twenty-four hours; and polypiform concretions, when existing, have in general possessed but little tenacity.—The muscular parts are brown or red, but never resemble those of subjects destroyed by chronic disease. No remarkable serous or sanguineous congestion has been discovered in the brain. The borders of the glottis are constantly swollen, thickened, white, and, as it were, tremulous. They form a ridge more or less prominent, and injected by serum which escapes with difficulty, even on compression between the fingers, after repeated incisions of the membrane. A loose but extremely dense cellular structure retains the liquid in a compact net-work, the cells of which do not communicate with each other. The swollen borders of the glottis are so disposed, that every impulse communicated from the pharynx inverts them into the rima glottidis, which they more or less completely close; and every impulse arising from the trachea, repels them upon the sides of the glottis, the orifice of which then becomes unimpeded. In the larynx there is sometimes only a slight and uniform œdematous swelling; at other times, red spots and injected blood-vessels are perceptible. A morbid alteration, varying in extent, may also exist on the chordæ vocales, in the ventricles, or at the base of the cricoid cartilage. In other cases, there is an abscess in or near the larynx, and sometimes caries of its cartilages. The epiglottis is seldom sound; its

borders are frequently much swollen. The lungs are commonly somewhat gorged with blood posteriorly, although crepitous and flaccid in their anterior portion*.

Although the symptoms of œdema of the glottis have been nowhere described by authors, still its effects, and the consequent state of the larynx, have been correctly detailed, particularly in the writings of Morgagni and Bichat†.

The fatal event appears in this disease to have been frequently determined by the cessation of the functions of the lungs, the exercise of which, the repeated spasmodic state has so much impaired, that, even when the air is admitted

* When in the aqueous angina of Boerhaave, and even in some violent erysipelatous affections of the face and neck, the patient dies suffocated, no symptoms of the œdematous laryngeal angina are observed. The infiltration of the epiglottis and glottis, when taking place, occupies rather the surface than the margin of this latter part. And the serum, which forms the infiltration, flows out much more readily than in cases of the œdema of the glottis, expressly constituting the subject of this memoir.

† Bichat (*Anat. Descript.* tome ii. p. 399,) describes the serous congestion of the membrane of the larynx; and adds, that patients, suffering from this affection, frequently die suffocated in a short time. He speaks of a dog destroyed by angina, of a precisely analogous character, which had been produced by making an incision between the os hyoides and thyroid cartilages, and tying the epiglottis with pack-thread. By Morgagni, also, the serous congestion of the membrane investing the laryngeal cartilages has been correctly described. He well knew the severity of the lesions of this organ, and regarded apoplexy as a frequent consequence of them, from the circumstance of several persons affected with œdema of the glottis having died suddenly in the first paroxysms of suffocation; and considered the apoplectic seizure to have resulted from the convulsive affection, of which the tumefaction of the glottis was the cause. In his fourth Epistle, Art. 24 and 26, he speaks of two persons who had died suddenly, and in whom the membrane of the larynx was much swollen. In one of them the borders of the glottis, white and thickened, were much more closed than usual. He moreover states (*Epist. XXII.*, Art. 24 and 25,) that a Physician, after becoming hoarse, and having sustained occasional attacks of suffocation, died suddenly. The state of the larynx was not examined; but Valsalva ascribed the fatal event to a lesion of this organ, from having witnessed the sudden and unexpected death of two persons; in one of whom there was an ulcer, and in the other carcimona of the larynx. In *Epist. XLIV.*, Art. 13, is mentioned the case of a man who died suddenly on the third day of acute laryngeal angina, and in whom the membrane of the cartilages of the larynx was swollen and thickened, and exhibited two excrescences attached to the base of the cricoid cartilage.

with facility, it can no longer undergo the changes which the pulmonary organs are destined to operate upon it in respiration. This assertion may, indeed, be received with doubt, when it is recollected, that in most of the persons who die from this disease, the glottis is not so much contracted as to prevent the admission of air, and that they principally sink in the interval of the paroxysm, when respiration, although disordered, is not wholly intercepted. Relatively to the employment of curative means, this remark is very important. The privation of oxygen and superabundance of carbonic acid in the blood, seem, in this affection, to be very strongly marked; for after death it is of a deep colour, difficult of coagulation, and commonly presents no polypiform concretions; or, if existing, they have little tenacity. Moreover, the state of the lungs resembles that which these organs exhibit in persons who have died from defect of respiration.

Treatment.—Previously to entering on this part of the subject, M. Bayle thinks it right to remark, that while the dangerous nature of the disease is announced by the almost invariably fatal termination of every well characterized case of œdematous angina of the larynx which he has yet seen, alarming symptoms of a similar character have occasionally been dissipated in others by active treatment: but, as in these instances the disease was not decidedly marked, it might not have eventually proved to be œdema of the glottis. This observation, however, is important, inasmuch as if after the employment of revulsives in the laryngeal angina, the favourable termination of the disease be not clearly indicated, laryngotomy should immediately be had recourse to. If there be delay, the lungs, enfeebled by the paroxysms of suffocation, become affected by dangerous spasm, and hence incapable of resuming their healthy functions; and the operation will then be unavailing.

The treatment presents probabilities which differ according to the species or variety of the angina. If the disease depend on laryngeal, complicated with pulmonary phthisis, slight palliatives are only indicated, because the patient will be destroyed by the principal malady, even if the infiltration of the borders of the glottis were removed; but in other cases nothing must be neglected; since, if the disease be primitive, a cure, spontaneous or artificial, may be looked for, provided the life of the patient can be sufficiently prolonged by obviating suffocation.

If the congestion of the glottis have been determined by an abscess, the disease will be somewhat more severe than if it were primitive; but it may terminate favourably, particularly

if there be no caries of the cartilages. Such caries existing, the disease will be attended with greater severity and danger ; yet even then is, perhaps, not invariably fatal.

The following are the general means to be adopted in the treatment of the *œdematous laryngeal angina* :—1. Venesection in plethoric subjects, and even in others when not decidedly contra-indicated ; leeches in the vicinity of the larynx and around the anus. 2. Vomits, when there is strength to support their operation. 3. Large sinapisms or blisters to the throat, arms, or nucha. 4. Antispasmodics, and sometimes diuretics : but as these means alone have never sufficed to complete the recovery when the disease has been well characterized, and the paroxysms frequent and severe, no decided advantage will result from them, unless they are promptly followed up by the operation of laryngotomy.

At what period, it may be asked, should this operation be had recourse to ? Probably as long as suffocation is not menaced, and the paroxysms continue slight and distant, and particularly if respiration be free in the interval, the means already indicated may be pursued : but it may be established as a general rule, that laryngotomy must be immediately performed whenever one or more violent paroxysms of orthopnœa have occurred in a subject whose voice is hoarse, with difficult inspiration, and constant tightness of breathing even during sleep. The urgency of the case will be proportionally greater as the returns of orthopnœa are more frequent, and respiration is more disordered after them. No one, affected to this degree, has yet been observed to escape ; and laryngotomy affords a prospect of cure the less encouraging as it is longer delayed. The apparent mildness of the disease in a person who can rise and take his food, might be productive, to an unexperienced Practitioner, of a fatal illusion.

When the recurrence of the paroxysms has been prevented by laryngotomy, remedies calculated to remove the infiltration of the glottis, or its causes, must be sedulously employed. They must be adapted to the nature of the primitive malady, but are too well known to require specification.

The HISTORIES about to be detailed have been selected for the purpose of exposing the condition of the larynx in different varieties of the disease, and the identity of the characteristic symptoms which it invariably displays. Several of them have been observed and recorded by other Physicians ; and, for obvious reasons, their statements have generally been preferred by our author to his own. The history of aortic aneurism, simulating *œdema* of the glottis, with which the memoir closes, is well calculated to show the obscurity in which the diagnosis of the disease may occasionally be involved, and to inculcate

the necessity of great vigilance and circumspection in deciding upon it.

First Case.—*Œdema of the Glottis, supervening, without apparent cause, during convalescence, from Putrid Bilious Fever.*

—A tailor, aged twenty-five, of bilio-sanguineous temperament, was seized on the 17th of November, 1803, when recently but perfectly convalescent from putrid fever, with dry infrequent cough, hoarseness, and sense of constriction in the larynx.

18th.—Left his bed; hands constantly directed to the region of the larynx; voice hoarse and low.

19th.—At times extreme dyspnœa; inspiration then sonorous and almost intercepted; expiration free; eyes prominent; and the patient expressed dread of suffocation. The voice, for about twenty minutes, was extinct. Two hours afterwards the dyspnœa recurred. The night was restless; the patient starting up, from suffocation, and being obliged to pass whole hours in the erect posture.

20th.—Appeared, at intervals, nearly well; appetite unimpaired; no fever; but progressive aggravation of the dyspnœa. Pulse soft and regular during the remission; concentrated, frequent, and at times intermitting in the paroxysm. Night again restless; and the patient occasionally much distressed by the sense of impending suffocation.

21st.—He got up and had yet some appetite, but no fever. Respiration extremely tight and sonorous; glaring expectoration from the pharynx; little cough; inspiration constantly difficult, and performed with a loud hoarse noise; expiration unaffected; paroxysms more infrequent, but severe. Night more calm.

22d.—Appetite unchanged; no fever; thorax every where sonorous. The patient obliged to sit up all day, during which two fits of suffocation were experienced, and one very violent at night; yet expiration continued easy. The patient, in despair, exclaimed, at times, that he was suffocated, and called for a knife. He then became more calm, and died at ten o'clock. The body long preserved its warmth.

Dissection.—Encephalon sound. About two drams of serum in each lateral ventricle. The orifice of the larynx, examined from the pharynx, presented the following lesions: epiglottis thickened, white, œdematous at its borders; orifice of the glottis contracted, but not sufficiently to obstruct the admission of air; its borders thickened, œdematous, and whitish; the right forming a loose ridge three lines, and the left one line higher than the cartilaginous rim of the glottis; and both, and particularly the right, completely closing, when bent inward, the rima glottidis. The tumefaction of these borders arose from serum contained in their cellular structure,

and which escaped with difficulty on incision of them. The interior of the larynx, smeared with glairy mucus, was here and there reddened, while the borders of the glottis were quite pale; the chordæ vocales œdematous; and the sinuses of the larynx almost obliterated; but no other vestige of disease in the organ. The membrane of the trachea was sound; the lungs somewhat gorged, yet soft, crepitous, and unadherent. The heart contained black blood without coagula or polypus concretion. The abdominal organs were natural; and the descending colon enclosed some formed fœces. The muscles exhibited a rather deep colour.

Second Case.—*Œdema of the Glottis, spontaneously arising in a subject previously healthy.* By Dr. Merat.—A groom, aged fifty-five, healthy, and of florid countenance, was suddenly seized, on the morning of the 12th of July, 1808, with pain in the throat, and a sense of suffocation. Breathing became hurried and sonorous. Otherwise, there was no complaint. The pain of the throat was relieved by a pectoral infusion; but after a week the habitual dyspnœa was aggravated, and there were occasional paroxysms of suffocation, particularly in the night. During these he was obliged to rise and walk about. After a few minutes they subsided; and he could again sleep.

Upon admission into *la Charité* on the 20th, all the functions, respiration excepted, were natural. Pressure on the larynx produced pain; and a tremor was communicated to the hand. Inspiration was difficult and sonorous, particularly during sleep: expiration natural. The patient frequently expelled the air abruptly from his lungs, as though with a view of clearing the larynx from some foreign body; and a sound ensued like that which is heard when the passages are obstructed by mucus. Pulse regular but strong; appetite impaired. The voice was hoarse and weak, as it had frequently been in health after inordinate drinking, or exposure to wet.

Up to the 31st no change. Respiration commonly very sonorous during night. Leeches were twice applied to the anus, and anodynes administered. Paroxysms came on at evening or night. On the morning after, the pulse was frequent, uneven, sometimes intermittent; inspiration more difficult and sonorous.

From August 1st to 24th, four sinapisms were successively applied to the middle, sides, and base of the larynx. The two first excited tumefaction, and redness of the cellular membrane and skin; and, although no œdema existed in the extremities, the inflamed parts became so decidedly loaded with serum as to pit on pressure. The third and fourth sinapisms produced much less œdematous swelling. The appli-

cation of each continued for five hours, was followed by a diminution of all the symptoms. On the 24th the voice remained hoarse; but there had been no paroxysm of suffocation for several days. An astringent gargle and purgatives were prescribed: and on September 12th the patient was dismissed, completely free from pain of the larynx and dyspnoea. Yet the hoarseness continued; and the inspiration was wheezing, though not unduly accelerated.

THIRD CASE.—*Œdema of the Glottis, determined by an Abscess in the Posterior Part of the Larynx, consequent on Malignant Putrid Fever.*—A young man, aged eighteen, of bilio-sanguineous temperament, and who had recently recovered from malignant fever, was seized, on the 22d of July, with an uneasy and prickling sensation in the larynx, hoarseness, and difficult inspiration, and infrequent cough. Expiration continued free. A papular eruption, which had previously existed on the back and breast, nearly disappeared. When admitted, on the 28th, into la Charité, the man was much enfeebled, and his voice hoarse and weak. Pain in the larynx severe; inspiration difficult and sonorous; cough strong and frequent, with soreness in the chest, which, however, sounded well on percussion. Frequent efforts were made to expel, by deep expiration, some obstructing substance from the larynx; and by these a quantity of mucus, tenacious, glairy, transparent, and sometimes yellowish or whitish, was expectorated. There was, moreover, a copious discharge of very fluid and transparent saliva. The appetite was keen; deglutition difficult and painful; but without any morbid appearance of the velum palati or pharynx. 29th, Laryngeal and other symptoms unchanged. Marked emaciation. Tongue, appetite, excretions, and all the various functions, natural. Pulse weak, small, not accelerated, but at times intermittent. Patient not confined to bed. 30th, Had slept a little; pain of the larynx, cough, and dyspnoea diminished. Appetite continues. 31st, Sleep less tranquil; expectoration more copious; one stool; pulse more slow and developed. August 1st, Extreme agitation during the night; sleeplessness; suffocation urgent; inspiration more sonorous; cough and pain in the chest and larynx aggravated. Progression difficult from loss of strength; pulse small and more frequent, but excretions good. In the afternoon, in consequence of an immoderate meal, the bowels became painful, and the pain of the larynx worse. Many efforts were made to expectorate by cough a puriform fluid. There was less copious discharge of saliva, and more sleep during the night; but inspiration continued to be performed as heretofore with a hoarse sound audible to a considerable distance. 2d, The dyspnoea worse,

and inspiration more sonorous than ever, notwithstanding the decrease of the laryngeal pain. Emaciation sensibly greater; skin warm; pulse frequent. The patient was up the whole day; spoke with facility though faintly; enjoyed his food; and notwithstanding the dysphagia, could swallow a whole cherry without mastication. The eye and countenance were clear; and the eruption of the skin completely dried. At night the patient went to bed uneasy; and was obliged from increased dyspnœa to sit up. The sound of his inspiration was heard through the whole ward. About ten o'clock he was seized with suffocation, and at times suffered so much as to subdue his reason, and impel him to acts of extravagance and despair. He could yet articulate. After a while he grew more calm; and died without a struggle about eleven o'clock, during a moment of apparent relief.

Dissection.—Encephalon sound. A little serum in the lateral ventricles, and at the base of the brain. The pharynx and œsophagus were healthy. On examining the larynx from behind anteriorly, the right border of the glottis was found thickened, elongated, distended with serum, and capable of almost closing the rima when pressed inward. The lateral ligaments were very soft and lax; the right one slightly œdematous, as was also the left border of the glottis. The membrane of the larynx displayed neither ulceration, redness, nor any orifice communicating with the substance of its parietes. Its sinuses were strongly marked, although the chordæ vocales were slightly thickened and œdematous. The passage of air was yet quite unobstructed, and could only be excluded by inversion of the border of the glottis over the rima. In the substance of the posterior paries of the larynx, between its membrane and that of the pharynx, was an abscess extending longitudinally from the superior extremity of the arytenoid cartilages below the middle of the posterior part of the cricoid, and transversely from one posterior border of the thyroid to the other. The arytenoid cartilages and superior border of the cricoid were immersed in pus. The base of the former and left superior portion of the latter were partly destroyed. The remnant of these cartilages was white, and nearly natural. The pus of the abscess was white and thick. The interior of the trachea and lungs sound. The heart contained fluid blood. The liver, spleen, pancreas, and other organs, were healthy. The intestinal canal contained much gas. The small intestine exhibited in numerous places portions, about the size of a nail; somewhat thicker than the surrounding gut. These portions were produced by an unnatural firmness and thickening of the mucous membrane, which, in some of them, was slightly excoriated, granular, and of a red violet colour;

but, in others, covered by its mucous epidermis. Below this transparent epidermis the membrane appeared, covered by numerous fleshy bodies, equalling in size the fourth part of a millet-seed, very close, and more minute in proportion to their distance from the centre of the thickened patch. The membrane of the cœcal extremity of the ileum presented this state in a very remarkable manner, and, in some places, small excavations, resembling cicatrices of small-pox, but not so large.* In the cœcum were found some healthy feces, and a whole cherry. The membrane of the large intestine was completely natural.

FOURTH CASE.—*Œdema of the Glottis, from an Abscess in the Parietes of the Larynx*; by DR. LAENNEC.—A student in medicine, of strong constitution, bilio-sanguineous temperament; tall, with black hair, and powerful voice, had, with the exception of occasional pains in the bladder, constantly enjoyed good health till his eighteenth year. In January 1805, he was attacked, after excessive fatigue, with violent hæmoptysis, succeeded by malignant putrid fever, of twenty-five days' continuance; during which he coughed frequently, and complained, at times, of pain in the throat. Of the latter he had sustained some attacks previously to the invasion of the fever. Convalescence advanced rapidly; and, in a few days, the patient was again abroad with pristine strength and spirits. After exposure, however, to damp and cold, his voice grew unusually hoarse and feeble. Respiration became, at times, embarrassed and even sonorous, with slight pain in the region of the larynx. Three days afterwards, a paroxysm of suffocation occurred; during which, inspiration alone was very difficult. It re-appeared, at intervals, the following days. On its decline the patient felt much relieved; but his voice was nearly extinct. He exerted himself greatly in speaking; and was in vain recommended to observe silence. A blister, applied to the throat, was productive of much relief. It was replaced by another on the following day. Yet the symptoms continued. The patient ate well; but experienced, at the moment of the passage of the food by the top of the larynx, an urgent sense of suffocation. About the sixth day from the invasion of the first paroxysm, all the symptoms were aggravated. Inspiration became habitually difficult and sonorous; the voice more hoarse and low. During the next night he sustained two dreadful attacks of

* These excavations and cicatrices exhibit a return to the healthy condition of the intestinal mucous membrane; which is almost invariably ulcerated in malignant putrid fevers, especially when considerable diarrhœa exists; or abdominal tension, with or without delirium.

suffocation. M. Laennec and Beelard found him, at one o'clock, in the condition just described; and witnessed two attacks of suffocation, which were less sensibly felt than the preceding, on account of the great oppression experienced in the interval. Antispasmodics procured a transient respite. But about six o'clock the pulse sank and intermitted, and suffocation seemed impending. Hence trachæotomy was proposed, and immediately determined on.

The incision having been made in the ordinary situation, the patient exclaimed with a suffocative voice that the orifice was not sufficiently large. Hence the Surgeon decided on practising laryngotomy. With this view, he introduced a grooved director through the opening made in the trachea, beneath the thyroid cartilage, and cut upon it. But, even after this the suffocation continued unabated. The instrument was now introduced into the larynx, and made to traverse its cavity. Blood, mixed with frothy mucus, escaped. The patient yet spoke distinctly with a very low voice. The rapid progress of the symptoms allowed no time for reflection on the source of this strange phenomenon. The patient died in a paroxysm of suffocation about eight minutes after the operation.

Dissection twenty-four hours after death.—The body considerably emaciated; lower extremities livid; face and superior extremities pale. Cranium not examined. On removing the larynx and trachea, it was discovered that the incision of the latter had actually penetrated into its cavity, and was about two lines in breadth; but that the division of the larynx had merely interested the thyroid cartilage; and the subjacent mucous membrane had been incised only at the base of the epiglottis, and consequently above the seat of the obstruction. The borders of the glottis were œdematous; and nearly closed, when depressed, the orifice. Each of them presented several irregular elevations more considerable anteriorly and posteriorly. All the cellular structure, exterior to the membrane of the larynx, was also filled with serum; and the membrane itself, unusually soft and thickened, had evidently shared the same affection. The infiltration was particularly remarkable in the sinuses of the larynx, and on the chordæ vocales. In the centre of each of the last there arose a reddish body, of the volume of a small pea, adherent to the mucous membrane, of which they were evidently an excrescence. In their structure they exhibited a marked degree of serous congestion. Their position was such, that, in inspiration, they obstructed, in a great degree, the cavity of the larynx: while, in expiration, they allowed, by becoming

elevated, a free passage to the air. The inferior part of the larynx was free, although somewhat contracted by the tumefaction of its mucous membrane. The posterior paries also displayed towards its centre considerable tumefaction. On incision of this tumor, there escaped about four drachms of a yellow viscid pus. The cyst containing it was situated between the mucous membrane of the larynx, the ascending portion of the cricoid cartilage, and the internal surface of the posterior borders of the thyroid. None of these cartilages, although in contact with the pus, exhibited any morbid change. A small purulent cyst appeared also to have existed posteriorly between the cricoid cartilage and membrane of the pharynx. The membrane of the trachea and bronchiæ was sound; as were the lungs, with the exception of congestion of blood in their posterior portion. The heart was healthy. The small intestines displayed, in some parts, an uniform red tinge equally perceptible on the internal and external surfaces. The capillary vessels beneath their peritoneal covering were, moreover, somewhat gorged. Neither ulceration nor cicatrix was discoverable on the mucous membrane. The small intestine contained in the reddened portions a mucous blood-red fluid. The remainder of the intestinal canal and abdominal organs were natural. The bladder, empty and contracted, exhibited here and there on the mucous membrane some blackish red spots, in which were distinguished capillary vessels gorged with blood. Neither ulcer nor cicatrix was visible. The prostate gland was natural, both in structure and volume*.

* In this case is exposed an obstacle to the operation of laryngotomy, till now unknown; and which was obviously insurmountable the first time of its occurrence; since, in operating according to the usual mode, its existence could not have even been suspected. The canula, instead of passing into the cavity of the larynx, as it would have done if the parts had been in their natural state, was introduced between the thyroid cartilage and mucous membrane: the adhesion of which to the cartilage had been rendered lax by the œdema. From the same cause, the membrane, yielding with great facility before the instrument, became applied to the posterior part of the larynx, and thus induced the operator to believe that the cavity had been opened. It may be doubted whether, in a case like this, laryngotomy, even if well performed, would have been productive of benefit. The opening made in the trachea might have sufficed to prevent strangulation, had not the powers of life been already exhausted.

The unfortunate issue of this case ought not, in M. Bayle's opinion, to discourage the trial of laryngotomy again under similar circumstances. When the disease is idiopathic, it may probably be dissipated as any other œdema, if, from its position, it produce not death

FIFTH CASE. — *Œdema of the Glottis, arising from Ulceration of the Larynx in a phthisical subject, and consequent on quotidian intermittent Fever*; by M. CAYOL. — A man, aged forty-five, of middle stature, possessing all the exterior characters of the bilious temperament, and who, without ever having suffered from glandular enlargement or hæmoptysis, and otherwise healthy, had for the last five years been subject to cough, was seized, in September 1806, with quotidian fever; and on the fifth day was received into *la Charité*. Till the middle of November the fever preserved the same type. The fit came on at five o'clock every morning. From the period of its invasion the cough became more frequent, and was accompanied by expectoration of limpid mucus, mixed with striæ and minute white and opaque points. The voice grew gradually more hoarse; and, in a few days after the patient's admission into the hospital, was quite lost. About the same time a pain was first felt about the sides of the thyroid cartilage, principally during deglutition or the act of coughing, which was, moreover, attended by uneasiness in the epigastrium. Respiration became tight, and at times, during the day, even difficult.

November 8th. The patient first experienced a paroxysm of dyspnœa, with sense of suffocation. After a few days it recurred. — 17th. No rigor. From this day the fever no longer preserved its type or regularity of accession: — 18th. Third attack of dyspnœa. On attempting to rise the patient experienced stupor and excessive difficulty of respiration. Insensibility ensued, and the muscles of the face and eyes were convulsed. — 20th. Face yellow, dull, and swelled in the lower part. Skin universally dry, without being unduly warm. Pulse frequent, small, but regular. No trace of œdema in trunk or extremities. Abdomen slightly tense,

before the absorption of the fluid constituting it can be accomplished; or if, by obstructing respiration, it do not diminish the action of the circulating system, and consequently that of the absorbent vessels. Laryngotomy might evidently remove this obstacle to recovery, even in a case where, as in this, the œdema of the glottis was but the effect of an abscess situated in the parietes of the larynx, the disease may not be beyond the efforts of nature and art. All the cases resulting from abscess yet recorded concur to prove that the collection invariably takes place in the posterior paries of the larynx, either between its membrane and the cricoid cartilage, or the two sides of the same cartilage. In the latter case, the disease is perhaps fatal from its nature; but in the former, opening the collection might possibly save the patient, particularly if the cartilages were sound, and no considerable exfoliation took place. It would only be necessary to keep open the larynx for a somewhat longer time.

without congestion. Inspiration was long, difficult, and accompanied by a hissing sound, and horrible grimace, resulting principally from depression of the angle of the lips, and excessive dilatation of the alæ nasi; but expiration continued natural. The breath exhaled a sickly and offensive odour. The voice was lost irrevocably. A sense rather of constriction than of pain was felt in the larynx. But, during the act of coughing, pain was experienced both in this organ and in the epigastrium; yet the thorax was free, and sounded well on percussion. The appetite was good, although the tongue yellowish: the feces natural; and urine frequent and copious. To the 12th of December the symptoms continued, with the addition, soon afterwards, of diarrhœa. Thenceforth emaciation and debility rapidly advanced. During sleep, respiration was particularly disordered. In each inspiration a hoarse guttural noise was heard, and the thorax much elevated; and several times the dread of suffocation was expressed. The cough invariably frequent. About the close of November, some yellow opaque points, of the size of a lentil, had first been seen in the expectoration. Many white striæ, in a transparent, colourless, and ropy fluid, were also perceptible.

About nine o'clock in the morning of the 12th of December, the patient lay in a supine posture; the head bent backward, and eyes fixed, but objectless; the teeth grinding at intervals; and pulse very small. Yet the pupils were but little dilated; and the patient apparently retained his intellectual faculties. He died in one hour after.

Dissection twenty hours after death. — The body was extremely emaciated, without the slightest œdema. The orifice of the glottis was not much contracted; but its borders were filled with a limpid serum, which increased their thickness at least fourfold. On bringing them together by slight pressure between the fingers, the rima glottidis was completely obstructed. The serum oozed from them with difficulty, on incision, and was apparently contained in a close cellular structure. The epiglottis was remarkable only from its extraordinary volume. In the interior of the larynx, at the posterior part of each sinus, was observed a deep ulceration, with a bottom of a blackish colour, somewhat resembling that of dead bone. That of the left side might contain a small pea; and had destroyed a portion of the superior chorda vocalis, nearly the whole base of the arytenoid cartilage, and part of the articular surface of the cricoid. The ulcer of the right side took the same direction; but was not larger than a lentil. It had only just corroded the superior chorda vocalis, and the crico-arytenoid articulation. On neither of the ulcers was there any appearance of pus. The lungs adhered

strongly to the ribs, and yet more so to the mediastinum; and were blackish, dense, and heavy. On incision in different directions, their whole substance was found filled with lenticular tubercles, most of which had suppurated, and formed small cysts; the least, capable of containing a lentil; and the largest, one or two peas. These tubercles, in different states, were very closely set, and only separated by points, some of which of a bluish black colour appeared to be formed by the compressed pulmonary substance; and the others of a deeper black, probably by a structure described under the name of melanosis, by Dr. Laennec. These points were larger as they approached the inferior part of the lungs, where consequently the tubercles were less numerous. No sound portion was visible in either lung. The liver was of a blackish colour; but its structure appeared to be healthy, as was that of the gall-bladder, stomach, spleen, and pancreas. The mucous membrane of the large intestine exhibited two large ulcerations. The one about the size of a crown-piece, with elevated and uneven borders, and its bottom smeared with a blackish pus, occupied the lower part of the cæcum: the other, much more deep and extensive than the preceding, the transverse colon. It had completely destroyed the mucous membrane; but its margin was not elevated. The small intestine was much contracted, and somewhat reddened externally. The brain and cerebellum presented nothing remarkable. There were about five drachms of serum in each lateral ventricle.

SIXTH CASE. — *Aneurism of the Aorta simulating Œdema of the Glottis*; by M. CAYOL. — A cart-wright, aged forty-eight, of tall stature and healthy complexion, with strongly-marked muscles, pale face, and dark-brown beard and hair, was received into *la Charité*, November 29, 1808. He had then, according to his own report, been ill six months, from suppressed perspiration. He coughed and expectorated much ropy and glairy fluid. His voice was hoarse; respiration tight and sonorous. On each inspiration was heard a sort of hissing, or rather peculiar sound, which, if somewhat more acute, might have been compared to that produced by inflating strongly the reed of a hautboy. Expiration was not affected. There was frequently slight pain in the larynx. The slightest exercise aggravated the dyspnœa, without, however, inducing palpitation of the heart. The pulse was regular in the left arm, but imperceptible in the right. This was considered as a natural peculiarity by the patient. The digestive functions were undisturbed; the bulk little diminished; the flesh firm, and free from œdematous swelling. Six weeks previously to the man's admission a seton had been inserted in the nucha, and seemed to have somewhat relieved the

dyspnœa and hoarseness. In December it was withdrawn. Aperients and anodynes only were prescribed.

About the middle of January the cough and expectoration were evidently relieved, as well as the respiration. The patient walked in the hospital court during the day, without greatly aggravating his dyspnœa, and ate voraciously; yet emaciation slowly advanced. There was no increased heat; but constriction, and sometimes slight pain in the larynx, was constantly felt. — Jan. 20th. Slight pain in the throat, with redness about the velum palati and larynx. On being questioned, the patient confessed that he had heretofore repeatedly contracted syphilis. Hence a mercurial gargle was prescribed, but without effect. — 26th. Shortly after dining as usual, the patient was seized with a violent fit of orthopnœa; and could only respire while sitting, bent forward, with his arms extended to the side of the bed. In this state the sound produced by each inspiration was much louder than common; the countenance of a red colour, bordering on violet; pulse hard, slow, and unequal. At nine in the evening a large blister was laid upon the throat. About midnight the respiration was relieved; and, on the morning visit, the man was found in his ordinary state, reclining upon his right side, and respiring without much difficulty, but constantly with the same hissing sound on every inspiration. Towards night another and much more violent attack of orthopnœa, which had not subsided on the morning of the 28th. The violet hue of the countenance and extreme smallness of the pulse, announced impending death. Three grains of tartrate of antimony were administered, and a fresh blister was applied on the throat, the part having been previously irritated by ammonia. No vomiting ensued; but there were several scanty discharges from the bowels. The patient died in an hour after the ingestion of the emetic.

Dissection twenty hours after death. — The larynx, to the astonishment of all present, was found in the natural state; as were also the pharynx and fauces. The inferior part of the trachea was compressed and flattened from before posteriorly, by an aneurismal tumor, larger than the adult fist, and of a rounded figure. This tumor was formed by a considerable dilatation of the aorta, from about an inch above its origin, to the point of its entrance between the pleuræ. The development of the artery had principally taken place in its posterior paries, so that the tumor, although voluminous, came in contact neither with the ribs nor sternum, but bore upon the vertebral column, and compressed the trachea, to which it adhered intimately in a portion of its surface, about the size of a penny-piece. The cavity of the sac contained much

blood, partly coagulated. Its parietes were strengthened by a layer of fibrine, in some places more than an inch thick; but very thin and almost worn away about the centre of the posterior paries, at the point of adhesion of the sac to the trachea. In this part all the coats of the artery were destroyed; even the surface of the trachea corroded; and several of its cartilaginous rings denuded, and, as it were, dissected, were seen projecting into the interior of the aneurismal sac. Thus the mucous membrane was the only barrier which prevented the irruption of the blood into the trachea; and this accident, had not death intervened, must have speedily occurred; for the membrane already presented a dark red circumscribed spot, which appeared to be the commencement of an eschar. The rest of the internal surface of the sac, after separation of the fibrine, exhibited the same aspect as the interior of a sound aorta. The internal membrane was every where natural: yet a small and thin ossification, about the size of the little finger-nail, was observed at the point where the sac suddenly contracted to form the continuation of the aorta. Five or six nearly similar patches of ossification were dispersed here and there on the internal surface of the thoracic and abdominal aorta. The vessel had throughout a caliber larger than natural. The arteria inominata, left carotid, and subclavian, arose from the very centre of the aneurismal sac. The *trunk* of the inominata had nearly disappeared; so that, on a first view, the right carotid and subclavian seemed to arise separately, at the distance of more than an inch from each other. The right subclavian took, at its origin, an oblique direction in the substance of the parietes of the sac, nearly in the same manner as the ureter traverses the membranes of the bladder. By this peculiar disposition, the passage of the blood into the right subclavian must have been more or less completely intercepted when the sac was distended.* The artery, dissected with care, in its passage to the arm, displayed neither sensible contraction, nor any other morbid change.

The heart, and principal arteries of the trunk and extremities were natural. The lungs soft, inelastic, but otherwise healthy. The left bronchia, principally compressed by the aneurismal tumor, was gorged to its minutest ramifications, with thick, ropy, frothy mucus. The interior of the

* This disposition satisfactorily explains the absence of pulsation in the radial artery of the right arm. "But how," asks M. Bayle, "was the unimpaired nutrition of the limb in this case supported?" The answer, we think, is obvious. Does not the same phenomenon arise in several diseases of the arteries and nerves, without any sign of defective nutrition? May not pressure be applied by the tourniquet on an artery, so as to suppress its pulsation, without obstructing the current of its contained blood? — EDITOR.

right bronchia was but slightly smeared with it. All the abdominal viscera were in a sound state. The omentum and all the reflections of peritoneum contained a quantity of healthy fat. The muscles were still strongly marked and red; the flesh every where firm, and without any trace of œdematous swelling.

SURGERY.

III. — *Removal of the first Metacarpal Bone.* — The importance of using every precaution to prevent unnecessary mutilation in the various surgical operations upon the *hand*, particularly in persons dependent for their subsistence on manual labour, requires, we would hope, to be pointed out to very few Surgeons of this country; distinguished, as they in general are, for reflection and humanity. Yet it may be well occasionally to obtrude such truths on their notice and recollection; lest, in the anxiety and alarm attendant on wounds and accidents, they may be forgotten, or only remembered when the mischief which they are calculated to obviate is no longer reparable. With this view we shall transcribe a case of successful precaution of this kind, lately communicated by the French Surgeon, M. Roux, to one of the Paris Journals.*

A young tailor was admitted into *la Charité*, April 6, 1818. The first metacarpal bone of the right hand, attacked by osteo-sarcoma, formed a large tumor, covered by a reddish, thin, and ulcerated skin. The disease was of three years' standing; but, till within the last six months, had been confined to simple enlargement of the bone. Since then all mobility of the thumb was lost. Amputation was evidently the only resource; but objected to by the man, as the loss of the thumb would involve that of his trade. Hence, as the disease was confined to the first metacarpal bone, it was determined to remove that only, and to remedy, by mechanical means, the defect of the organ consequent on the inevitable division of its extensor tendons.

On the 12th of April the operation was performed. The bone, extremely fragile, broke into several pieces; but was readily extracted by the forceps; and care taken, by touching the articular surfaces of the trapezium and first phalanx of the thumb, that no portion was left behind. The wound was filled with rolls of *charpie*, supported by compress and bandage. The cicatrization, though tardy, was uninterrupted. And the success of the operation surpassed the hopes which had been formed of it; for the thumb retained a power of flexion and extension sufficient to allow the exercise of the man's calling: and it was very little shorter than that of the other hand.

* Nouveau Journal de Médecine, Octobre, 1818.

IV. *Fracture of the Femur by muscular contraction.*—Although cases of this description are by no means of unfrequent occurrence, we never recollect having met with any correct detail of the appearances presented on dissection of the fractured limb in these injuries. Hence the ensuing statement by Dr. Rostan* will, we imagine, be read with interest.

In August, 1817, a woman, aged fifty, who from infancy had been subject to epilepsy, and suffered for several years with cancer of the breast, received such injuries from repeated falls in the epileptic paroxysm, as confined her during six weeks to her room at la Salpêtrière. Her complaints increasing, she, in September, was admitted into the Infirmary of that establishment. On this occasion she *walked unsupported a distance of 3 or 400 paces*. In the night she experienced several violent fits of epilepsy, but without falling. The day after she complained generally of the cancer and fits. Palliatives were administered; and at night the epilepsy recurred with extreme violence: yet the woman was so well secured that she did not fall from the bed. On the next morning, however, she complained of severe pain in the right thigh. The limb when uncovered was found much disfigured. Curved anteriorly and externally it presented the appearance of an articulation slightly bent. Considerable tumefaction rendered the limb the more voluminous, as it was much shortened. The right knee was four inches above that of the opposite side; the point of the foot directed outward; and the heel below the inner portion of the gastrocnemius. This disposition left no doubt as to the existence of fracture, notwithstanding the absence of its ordinary causes. Professor Lallement, having informed himself of the circumstances of the case, judged that the epileptic seizures would frustrate the objects of any apparatus, and merely applied a common bandage. The convulsions, in fact, soon returned with increased violence and frequency; and all confinement of the limb became impracticable. Symptomatic fever supervened, with œdema at first restricted to the fractured limb, but shortly becoming general, severe and continual pains and marasmus. The woman died on the 22d of January, 1818.

DISSECTION.—The right thigh was shortened nearly five inches; the knee turned outward; and the heel below the calf. The fragments of the bone were still moveable. On the removal of the œdematous integuments and superficial muscles, the triceps adductor cruris exhibited a remarkable consistence. It was filled with a cartilaginous substance,

* Nouveau Journal de Médecine. Février, 1818.

which became more compact on approaching the fragments of the bone. The superior fragment was placed in front of, and externally to, the inferior. Both were enclosed in a real capsule of fibro-cartilaginous structure. On opening this the fractured extremities appeared rugose, and wholly deprived of their external table. The right mammary gland was destroyed by cancer. The bones broke with great facility. Nothing particular was observed in the other organs.

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

ON Monday, the 8th of March, was held the Anniversary of the London Medical Society, in Bolt Court, when an excellent Oration was delivered, to a numerous assembly, by Mr. Pettigrew, on the subject of Medical Jurisprudence, more particularly in reference to the effects, mode of operating, and symptoms of poisons.

In our next Number we purpose to give an abstract of this Oration ; in the mean-time we have to announce the following as the list of Officers elected for the present year :—

President.—Dr. Clutterbuck.

Vice-Presidents.—Dr. Haighton, Dr. Uwins, Mr. T. Whateley, and Mr. Norris.

Treasurer.—Mr. Andree.

Librarian.—Dr. Hancock.

Secretaries.—Dr. Uwins and Mr. H. Blegborough.

Registrar.—Mr. T. Bartlett.

Dr. Merriman to deliver the Annual Oration, 1820.

PYROLA UMBELLATA.

Our Readers will probably recollect that in the fifth volume of the Medico-Chirurgical Transactions, Dr. Somerville published an account of the diuretic effects of the American plant, *pyrola umbellata*, and of the beneficial effects that had been found from its use in dropsy, even when elaterium, digitalis, and cremor tartari had been tried without effect. This plant has an advantage over digitalis and cremor tartari, in that it has not the narcotic effects of the former, nor the griping quality of the latter : a strong infusion, or a decoction of it, ℥ij to Oij, warm water infused for some time, and then boiled to strain a pint, is an agreeable bitter, and has a remarkable effect in increasing not only the urine, but also the appetite. Unfortunately the Practitioners of this country have been prevented from using it on

account of its extreme scarcity, as Dr. Somerville was only able to find a single plant in the nurseries about London; but we are happy to inform the Profession that a large quantity of it has been just imported, and may be procured in London, so that they have now an opportunity to try its effects.

Its virtues are known to the Indians of North America: on a coloured plate of the plant being shown to an Indian, he knew it, and said, "good medicine," and sent his son into the woods, who returned immediately with a handful. It is called in the Chippawa language, *Weesuccabuck*, or *Weenesebuk-Nebesh*, meaning medicine leaves.

ROYAL SOCIETY.—The annual meeting for the election of officers for the ensuing year took place on Nov. 30, when the following noblemen and gentlemen were elected:—

President.—Right Hon. Sir Joseph Banks, Bart. G.C.B., &c.

Secretaries.—W. T. Brande, Esq. and Taylor Combe, Esq.

Treasurer.—Samuel Lysons, Esq.

There remained of the old Council, Right Hon. Sir J. Banks, Bart.; W. T. Brande, Esq.; Lord Bishop of Carlisle; Taylor Combe, Esq.; Sir H. Davy, Bart.; Sir E. Home, Bart.; S. Lysons, Esq.; George, Earl of Morton; John Pond, Esq.; W. H. Wollaston, M.D.; T. Young, M.D.

There were elected into the Council, J. P. Auriol, Esq.; R. Bingley, Esq.; Sir T. G. Cullam, Bart.; John, Earl of Darnley; S. Davis, Esq.; Sylvester, Lord Glenbervie; Major-Gen. Sir J. W. Gordon, K.C.B.; Sir A. Johnston, Knight; Rev. R. Nares; Sir G. T. Staunton, Bart.

Jan. 14.—A paper, by Sir E. Home, was read, on the Corpora Lutea. The texture of the ovarium before puberty is loose and open, and contains globular cells. After puberty, the corpora lutea are found in the substance of the ovarium. In the cow, they form a mass of convolutions, which Sir E. compared to those of the brain. The ova are formed in the corpora lutea; and, according to our author, exist previously to, and independently of, sexual intercourse; and when the ova are formed, the corpora lutea are destroyed by absorption, whether the contained ova are impregnated or not. Sir E. thinks that impregnation is necessary to the expulsion of the ova, and that the corpus luteum is burst by extravasated blood, its cavity, after the escape of the ovum, being found distended with blood in a coagulated state. When impregnation does not take place, the ovum remains in the cavity of the corpus luteum. Hence the author thinks it probable that the ovum is impregnated in the ovarium itself.

Beautiful drawings, illustrative of these points, accompanied the paper, founded chiefly on the observations of Mr. Bauer, who assisted Sir Everard in the present inquiry.

Feb. 12. A paper was read, communicated by Dr. Leach, from Mr. Thomas Say of Philadelphia, containing a scientific description of a new species of the genus *Ocythoe* discovered on the American coasts.

ACADEMY OF SCIENCES, PARIS.—At the sitting of 5th of October last, was read by M. Thenard a Series of observations on the Oxy-

genized Acids and Oxides*, which, the author observed, embrace facts so singular that they will excite some surprise. They are as follow:—

I. The oxygenized nitric and muriatic acids dissolve the hydrate of the deutoxide of mercury without effervescence; but if an excess of alkali be afterwards poured into the solution, a considerable disengagement of oxygen ensues, and the oxide of mercury, which at first re-appears of a yellow colour, is quickly reduced.

II. When this hydrate is brought in contact with the oxygenized nitrate or muriate of potash, it is reduced with equal facility. It passes from yellow to gray, giving off at the same time much oxygen.

III. Oxide of gold, obtained from the muriate by means of barytes, and containing such a small portion of the base as gave it a greenish hue, being put, while in a gelatinous state, into oxygenized muriatic acid, a strong effervescence instantly followed, occasioned by a disengagement of oxygen. The oxide assumed a purple tint, and was, soon after, completely reduced.

IV. Oxygenized sulphuric, nitric and phosphoric acids, like the oxygenized muriatic acid, cause the oxide of gold to assume at first a purple hue; but instead of assuming afterwards the appearance of gold that has been precipitated by sulphate of iron, it becomes dark brown. These experiments have a tendency to prove the existence of a purple oxide of this metal.

V. If oxygenized nitric acid be poured on oxide of silver, a strong effervescence ensues, occasioned, as in the preceding cases, by a liberation of oxygen. One portion of the oxide is dissolved. The other is first reduced, and afterwards is dissolved, if a sufficiency of acid be present. If potash be gradually added to the solution when completed, a fresh effervescence follows, and a dark violet-coloured precipitate is thrown down (such, at least, is always the colour of the first deposit), which is insoluble in ammonia, and, to all appearance, a protoxide of silver, similar to what was observed by an English chemist while examining the action of ammonia on the oxide of silver.

VI. Oxygenized sulphuric and phosphoric acids likewise reduce partially the oxide of silver, with a strong effervescence.

VII. Having already noticed that the oxide of silver and oxygenized muriatic acid, by their mutual action, produce water, disengaging oxygen gas and chloride of silver, I now remark that this chloride is of a violet colour; but violet chloride, however obtained, always leaves a metallic residue when treated with ammonia. This phænomenon was observed by M. Gay-Lussac, respecting white chloride turned to violet by the action of light. From this it follows, that when oxygenized muriatic acid is treated with oxide of silver, a small portion of the liberated oxygen is furnished by the oxide itself; therefore, to determine by the process pointed out in my last paper, by means of this oxide, the quantity of oxygen in muriatic acid, we must take into the account the oxygen furnished by the oxide; in order to which a second experiment must be made, in which the

* See M. Thenard's paper in the Philosophical Magazine for January; also his paper on the acids and oxides in the present Number, p. 109.

chloride of silver, produced and mixed with oxide of silver, must be collected. This mixture being treated with ammonia gives, as a residuum, the portion of the metal that had been reduced; the quantity of which informs us respecting the quantity of oxygen we are in quest of.—With respect to the chloride of silver, it probably corresponds with protoxide of silver.

VIII. When a tube containing oxide of silver is dipped into a solution of oxygenized nitrate of potash, a violent effervescence ensues; the oxide is reduced, the silver is precipitated, all the oxygen of the oxygenized nitrate is liberated along with that of the oxide; and the solution, containing merely common nitrate of potash, remains neutral, if it was in that state at first.

IX. Oxide of silver produces the same effects on oxygenized muriate of potash as on the oxygenized nitrate.

X. When silver in a state of minute division is put into oxygenized nitrate or muriate of potash, all the oxygen of the salt is instantly liberated. The silver is not affected, and the salt remains neutral as before. The action is much less lively when the silver is in a less divided state; and the action is always less violent with the muriate than with the nitrate.

XI. Iron, zinc, copper, bismuth, lead and platinum, possess, like silver, the property of separating the oxygen of the oxygenized nitrate and muriate of potash. Iron and zinc are oxidized, while oxygen is involved; the others are not sensibly oxidized.—They were all used in the state of filings.

The action of gold and of tin was likewise tried. They produced no sensible action on the neutral solutions; or, at most, only a few bubbles were liberated, and these at intervals.

XII. The peroxide of manganese and that of lead are also capable of decomposing the oxygenized nitrate and muriate of potash. Only a small quantity of these oxides is required to expel the whole of the oxygen from the solution. The effervescence is brisk. I believe that the peroxide of manganese undergoes no alteration. It is not impossible that the peroxide of lead may be reduced to a lower degree of oxidation.

XIII. Though nitric acid, as is known, has no action on the peroxide of manganese and of lead, the oxygenized nitric acid dissolves both of them with facility, accompanied by a great disengagement of oxygen gas. Potash produces in the manganese solution a black flocky precipitate; and in that of lead, a brick-coloured precipitate. The latter is less oxidized than peroxide of lead; for, treated with nitric acid, it yields nitrate of lead and a flea-coloured residuum. On adding the potash there is instantly a strong effervescence.

XIV. The oxygenized sulphates, phosphates, and fluates, exhibit with the oxide of silver, with silver, and probably with other bodies, the same phænomena as the oxygenized nitrate and muriate of potash; and the greater number of the oxygenized alkaline salts possesses the same properties as the oxygenized salts of potash. The cause of the phænomena we shall hereafter attempt to resolve.

With this view, let us recollect the phænomena exhibited by oxide of silver, and silver, with the neutral oxygenized nitrate of potash. Silver in fine powder rapidly liberates the oxygen of this salt. It undergoes, itself, no alteration; while the oxygenized nitrate is reduced to the state of simple nitrate.—The oxide of silver liberates the oxygen of the oxygenized nitrate still more rapidly than does the silver; is itself decomposed, reduced, and the silver entirely precipitated: and in the liquid only common neutral nitrate of potash is found. In these decompositions the chemical action is evidently null. We must therefore ascribe them to a physical cause; but they depend neither on heat nor light. It follows then, that probably they are owing to electricity. I will endeavour to ascertain this—likewise whether the cause, be it what it may, cannot be produced by bringing into contact two liquids, or even two gases; from which, perhaps, we shall derive means for explaining a great variety of phænomena.

BETHLEM HOSPITAL.

On Wednesday, the 24th, came on at Bridewell, the election of Apothecary and Superintendant to this Hospital: at three o'clock the glasses were closed, and the numbers were, for—Dr. Wright, 47; Mr. Wansbrough, 39; Mr. Bridgeman, 30; Mr. Propech, 13.

NOTICES OF LECTURES.

Mr. Gray's Lectures on Botany have just commenced; and his Excursions for Practical Botany will begin in the middle of April, and continue to the beginning of June.

Dr. Davis will commence a Course of his Lectures on the Theory and Practice of Midwifery, and on the Diseases of Women and Children, at his House, No. 29, George Street, Hanover Square, on Monday, the 12th of April, at half-past Ten o'Clock in the forenoon; and on Tuesday, the 13th of April, at Six o'Clock in the evening, at Mr. Taunton's Theatre, Hatton Garden.

Mr. Curtis, Aurist to His Royal Highness the Prince Regent, and Surgeon to the Royal Dispensary for Diseases of the Ear, will commence his Spring Course of Lectures on the Anatomy, Physiology, and Pathology of the Ear, on Thursday, April 8th, at the Royal Dispensary, Carlisle Street. For particulars, apply to Mr. C., at his House, No. 2, Soho Square.

LITERARY NOTICES.

In the press, and speedily will be published, in 8vo., illustrated with Five Plates, an Inquiry, illustrating the Nature of Tuberculated Accretions of Serous Membranes; and the Origin of Tubercles and Tumors in different Textures of the Body. By John Baron, M.D., Physician to the General Infirmary at Gloucester.

Dr. Dickson, of Clifton, is about to publish "Observations on the Prevailing Epidemic Fever, and on the Utility of Forming Separate Receptacles for Patients Labouring under the Disease."

A METEOROLOGICAL TABLE,

From the 21st of FEBRUARY to the 20th of MARCH, 1819.

KEPT AT RICHMOND, YORKSHIRE.

D.	Barometer.		Therm.		Rain Gauge.	Winds.	Weather.	
	Max.	Min.	Max	Min.				
21	29	44	29	26	45	34	21 SE.NE..	1 Rain. 2 Sun.. & Sh. 4 R..
22	29	50	29	22	41	34	03 NW..	1 Sun... 3 Cloud.. 4 Rain.
23	29	22	29	11	40	30	WNW..	1 Sun...
24	29	42	29	30	35	30	23 NW..	1 Sun... 3 Snow... 4 Starl....
25	29	42	29	37	37	29	NW..	1 Sun...
26	29	17	29	08	36	29	NW. SW. SE.	1 Sun..
27	29	07	29	03	36	32	42 SE.	1 Snow....
28	29	09	29	08	38	31	02 E.	1 Cloud...&Sh.of S.4Starl...
1	29	24	29	19	37	32	06 NE.	1 Show. of Snow. and Sun..
2	29	39	29	36	38	30	11 NE..	1 Sun..and Show. of Snow..
3	29	61	29	56	38	32	04 EbN..	1 Sun.. and Show. of Snow.
4	29	72	29	69	41	34	NE..	1 Sun..
5	29	66	29	64	43	38	NW..	1 Sun..
6	29	78	29	71	43	39	NW.NbE.	1 Cloud...
7	29	88	29	80	44	38	02 NE.	1 Cloud...2Sun.3Rain.4M.
8	29	72	29	66	45	38	WbN.	1 Sun..
9	29	71	29	67	47	39	WbS..	1 Cloud.. 2 Sun..
10	29	62	29	62	46	40	WSW..	1 Sun...
11	29	70	29	66	48	40	WNW..	1 Sun...3 Cloud.. 4 Moon...
12	29	86	29	83	48	39	WbN.	1 Sun...
13	29	90	29	87	46	40	WbN..	1 Cloud..
14	29	85	29	73	46	39	WSW.	1 Cloud..
15	29	62	29	53	47	43	SW..	14 Cloud... 23 Sun..
16	29	64	29	54	49	37	02 SW...	1 Show. and Sun..
17	29	82	29	79	42	31	WbN...	1 Cloud.. 2 Sun..
18	29	50	29	13	43	36	24 SW..	1 Sun....2Cloud..4R.. & Sn.
19	29	07	28	88	43	37	13 W...	1 Sun..&Shs. of R..& Snow.
20	29	45	29	43	43	34	03 NW...	1 Sun.. & Shows. of Rain.

The quantity of rain during the month of February was 3 inches 75-100ths.

Observations on Diseases at Richmond.

The disorders under treatment were Convulsio, Cynanche tonsillaris, Delirium tremens, Diarrhoea, Febris catarrhalis, Febris simplex, Gastrodynia, Lumbago, Obstipatio, Rheumatismus acutus, Scabies, Sphacelus. Vaccinia, and Varicella.

THE METEOROLOGICAL JOURNAL,

From the 20th of FEBRUARY to the 19th of MARCH, 1819,

By Messrs. HARRIS and Co.

Mathematical Instrument Makers, 50, High Holborn.

D.	Moon	Rain	Therm.			Barom.			De Luc's Hygrom.		Winds.		Atmo. Variation.		
									Dry.	Damp.					
20			41 45 40			29 79 29		81	10	11	W	W	Fine	—	—
21			43 47 40			29 80 29		78	12	13	WSW	Wva.	Fine	Rain	Clo.
22			42 46 35			29 86 29		97	11	13	N	SW	Fine	Rain	Clo.
23			40 44 33			29 90 30		00	12	11	N	N	Clo.	Fine	—
24	☾		37 35 28			29 56 29		63	9	10	WNW	N	Fine	Clo.	Fine
25			34 38 34			29 80 29		82	10	11	N	NW	Fine	—	—
26			34 38 35			29 60 29		45	9	11	NW	NW	Fine	Clo.	Rain
27			41 44 49			29 43 29		43	12	13	SSW	SSE	Clo.	—	Rain
28			49 51 34			29 35 29		35	13	14	SSE	E	Rain	—	—
1			34 38 38			29 28 29		34	14	13	E	NE	R&S	Rain	—
2		,28	40 39 37			29 35 29		52	14	13	NE	NE	Rain	Clo.	—
3	☽	,11	39 40 39			29 63 29		83	11	11	E	E	Clo.	—	—
4		,08	41 44 38			29 91 29		96	11	12	NE	ENE	Fine	Clo.	Rain
5		,02	40 44 40			30 01 29		96	13	12	NE	NNE	Clo.	—	Rain
6			42 45 38			29 92 30		02	13	12	ENE	ENE	Rain	Fine	—
7			40 44 39			30 09 30		13	11	12	NE	NE	Clo.	—	Rain
8			40 42 38			30 08 30		01	13	13	NE	NE	Clo.	—	—
9			40 43 39			30 07 30		13	12	10	S	SW	Clo.	—	Fine
10			43 45 40			30 11 30		05	13	12	NW	N	Clo.	—	Fine
11	●		45 50 41			30 07 30		11	13	13	NW	NW	Fine	—	—
12			47 51 42			30 17 30		24	12	13	NW	NW	Fine	—	—
13			47 50 40			30 30 30		31	13	11	NW	NE	Clo.	—	—
14			44 48 38			30 29 30		24	12	13	NW	SSE	Fine	—	—
15			43 50 43			30 16 30		10	13	13	SE	SE	Fine	—	Rain
16			48 52 44			30 07 30		03	12	11	SE	NW	Fine	—	—
17			47 53 37			30 11 30		21	9	7	NE	NNE	Fine	—	Clo.
18		,02	41 47 41			30 24 30		04	6	8	NW	Wva.	Fine	—	—
19	☽	,08	45 49 41			29 61 29		39	12	13	SW	NW	Rain	Fine	Rain

The quantity of rain fallen in the month of February is 1 inch and 52-100ths.

A REGISTER OF DISEASES

Between FEBRUARY 20th and MARCH 19th, 1819.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	6		Febris <i>Typhus mitior</i> ..	25	2
Abscessio	13		— <i>Typhus grav.</i>	4	2
Amaurosis	8		— <i>Synochus</i>	42	3
Amenorrhœa	3		— <i>Puerpera</i>	4	1
Amentia	1		— <i>Remit. Infant.</i> ..	10	
Anasarca	12	2	Fistula	5	
Aphtha <i>lactentium</i>	9		Gastritis	3	
Apoplexia	1		Gastrodynia	14	
Ascites	5	1	Gonorrhœa <i>pura</i>	6	
Asthénia	20		Hæmatemesis	4	
Asthma	59	4	Hæmoptœ	9	1
Asphyxia (from drowning)	1	1	Hæmorrhœis	13	
Atrophia	1		Hemiplegia	1	
Bronchitis <i>acuta</i>	10	1	Hepatalgia	3	
— <i>chronica</i>	6	1	Hepatitis	10	
Calculus	1		Hernia	4	
Cancer	2		Herpes <i>Zoster</i>	1	
Carbunculus	2		— <i>labialis</i>	4	
Cardialgia	12		— <i>præputialis</i>	2	
Catarrhus	52		Hydrocele	2	
Cephalalgia	22		Hydrocephalus	4	2
Cephalæa	2		Hydrothorax	1	
Chlorosis	2		Hypochondriasis	2	
Chorea	3		Hysteria	7	
Cholera	4		Icterus	4	
Colica	6		Impetigo <i>figurata</i>	3	
— <i>Pictonum</i>	2		— <i>sparsa</i>	1	
Convulsio	5		Ischias	1	
Cystitis	1		Ischuria	2	
Cynanche <i>Tonsillaris</i> ..	22		Lepra	1	
— <i>maligna</i>	1	1	Leucorrhœa	13	
— <i>Parotidea</i>	9		Lichen <i>simplex</i>	3	
Dolor lateris	1		Mania	5	1
Diarrhœa	28	1	Melancholia	1	
Dysenteria	8		Menorrhagia	20	
Dyspepsia	28	1	Morbi Infantiles*	44	2
Dyspnœa	11		— <i>Biliosi</i> *	13	
Dystocia	2		Nephralgia	1	
Dysuria	2		Nephritis	2	
Ecthyma	3		Obstipatio	6	
Eczema	2		Odontalgia	9	
Eneuris	1		Ophthalmia	17	
Enteritis	3		Otalgia	1	
Entrodynia	10		Palpitatio	1	
Epilepsia	2		Paralysis	7	1
Epistaxis	6		Paronychia	2	
Erysipelas	12		Pemphigus	1	
Erythema <i>nodosum</i>	2		Peripneumonia	13	
Febris <i>Intermittent</i>	9		Peritonitis	18	
— <i>catarrhalis</i>	38		Pertussis	18	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Phlogosis	4		Scorbutus	1	
Phrenitis	3		Scrofula	15	
Phthisis Pulmonalis	22	7	Spasmi	6	
Pleuritis	12		Strictura	2	
Pleurodyne	9		Strophulus <i>intertinctus</i> ..	3	
Pneumonia	20	4	———— <i>confertus</i>	2	
Podagra	4		Sycosis <i>menti</i>	1	
Porri ^o <i>larvalis</i>	1		Syphilis	19	
———— <i>favosa</i>	2		Tabes Mesenterica	2	1
Prolapsus	2		Tussis	2	
Psoriasis <i>guttata</i>	1		Vaccinia	17	
Purpura <i>hæmorrhagia</i> ..	2	2	Varicella	8	
Rheuma <i>acutus</i>	18		Variola	30	6
———— <i>chronicus</i>	52		Vermes	10	
Rubeola	8		Vertigo	15	
Scabies	113		Total of Cases	1315	—
Scarlatina <i>simplex</i>	8		Total of Deaths .....	....	48
———— <i>maligna</i>	1				
Scirrhus	2				

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from den-
tition or indigestion, and which may be too trivial to enter under any distinct head; *Morbi*
Biliosi, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

“Of the cases of purpura hæmorrh. it may be observed that one terminated in death, after an illness of upwards of nine months. The bleedings were chiefly from the gums, and were profuse. It was, however, believed that bleeding also took place from the internal surface of the stomach, although no blood was vomited or seen in the stools. May not blood in its passage from the stomach through the intestines, suffering all those alterations which other dead animal matter undergoes, become so changed in its fœcal form as not to evince any marks by which its original state may be manifested? The other case was a pauper found in the street in an exhausted state: he, though aided by every nourishment and comfort, died within eighteen hours. On inspection the internal surface of the stomach was found beset with several discoloured spots; and to some of these extravasated blood was still adherent.

Several cases of fever have again occurred. They cannot all be traced to infection by communication; but analogy leads to the referring of them all to such origin. For those advanced in years little hopes of recovery can be entertained: such aids being required, in the progress of the disease, as can seldom be obtained. The young and middle aged have all recovered, under every disadvantage and privation of their miserable state. The Reporter takes the liberty to remark, as, perhaps, a useful fact, that he has observed great and constant advantages by keeping such patients, after the first two or three days, as much as possible out of bed, and exposed to the fresh air: and whilst in bed, by keeping them in a sitting posture. Perhaps when the

surcharge of the vessels of the brain, &c. is considered, it will be admitted that this measure is not always sufficiently attended to. Having said thus much, he must add, that the concurrent treatment of the patient is the cleansing the bowels, preserving them in rather an open state, and perseverance in very small doses of tartarized antimony until the state of collapse occurs."

The above are remarks with which we are favoured by an intelligent Correspondent in the north-east district of London. As far as our observation goes, general fever seems to be much upon the decline: in one particular district, viz. the neighbourhood of Drury Lane, it has occurred to us to witness several cases of scarlatina, some mild and others malignant. In the house of a medical friend, two instances presented themselves of disease apparently the result of the same contagion. The one individual, the master of the family, had the disorder with so little of malignity in its character as scarcely to prevent him from partaking of a single meal. The second, an apprentice, was seized with such dreadful force that life became extinguished in not many more than fifty hours from the attack. He was playing at cards on Wednesday night, and was a corpse on Saturday morning. The fauces and pharynx seemed to be the principal points of the disorder's attack: from first to last there was not that degree of delirium which would *a priori* have been expected from such a severe affection.

We should be glad to receive cases of, and remarks upon, the treatment of scarlatina and cynanche maligna from any of our Correspondents; the most momentous point, as it appears to us, in the rationale and management of these maladies, is to determine as to the time and quantum of depletion and stimulation.

MONTHLY CATALOGUE OF BOOKS.

An Essay on the Diseases of the Excreting Parts of the Lachrymal Organs. By William Mac Kenzie, Member of the Royal College of Surgeons, of the Medical and Chirurgical Society of London, and Lecturer on the Anatomy and Surgery of the Eye. 8vo.

Aphorisms, illustrating Natural and Difficult Cases of Labour; Uterine Hemorrhage; and Puerperal Peritonitis; adapted to the use of Students. By Andrew Blake, M.D., Member of the Royal College of Surgeons, London. 8vo.

The Quarterly Journal of Foreign Medicine and Surgery, and of the Sciences connected with them. No. II., for February, 1819.

Observations on Contagion, as it relates to the Plague and other Epidemical Diseases; and refers to the Regulations of Quarantine. By a Physician. 8vo.

An Essay on the Diagnosis between Erysipelas, Phlegmon, and Erythema; with an Appendix touching the probable Nature of Puerperal Fever. By George Hume Weatherhead, M.D., Member of the Medical and Chirurgical Society of London. 8vo.

Cursory Remarks on Legislative Regulations of the Insane, and its Probable Influence on their Physical and Moral Condition; with

Observations on some Defects on the Present System. By George Man Burrows, M.D., F.L.S., &c. 8vo.

Additional Experiments on the Arteries of Warm Blood Animals: together with a Brief Examination of certain Arguments which have been advanced against the Doctrines advanced by the Author of "Experimental Inquiry, &c." By Charles Henry Parry, M.D., F.R.S., &c. 8vo.

Observations on the Internal Use of the Hydro-Cyanic (Prussic) Acid in Pulmonary Complaints, &c. &c. By A. B. Granville, M.D., F.R.S., &c. &c. 8vo.

Memoir on the Formation and Connexions of the Crural Arch, and other Parts concerned in Inguinal and Femoral Hernia. By Robert Liston, Member of the Colleges of Surgeons of London and Edinburgh. 4to.

Dickinson's Observations on the Inflammatory Endemic, commonly called the Yellow Fever. 8vo.

The Elements of Natural Philosophy; illustrated throughout by Experiments, &c. 12mo.

Lectures on Physiology, Zoology, and the Natural History of Man. By William Lawrence, F.R.S., Professor of Anatomy and Surgery to the College, Assistant-Surgeon to St. Bartholomew's Hospital, &c. &c. 8vo. Plates.

Essay on the Application of the Organology of the Brain to Education. 8vo.

Medical Botany, No. III., illustrated with Six Coloured Engravings. 8vo.

Remarks on the Treatment of some of the most Prevalent Varieties of Inflammation of the Eye; with Cases. By Thomas Whately, Member of the Royal College of Surgeons. 8vo.

NOTICES TO CORRESPONDENTS.

Communications have been received this month from Mr. Forster, Mr. Furnivall, and Mr. Wansbrough.

Several Books have been received for review, all of which shall be noticed as speedily as possible. We have come to the determination of aiming to give shorter and more concentrated Analyses than we have hitherto done, so that four or five volumes may be reviewed in each Number; otherwise we find that it will not be possible to do justice to all the Works which are issued from the Press worthy notice. We of course hold ourselves at liberty occasionally to deviate from this plan; and in the Number immediately succeeding the present, it is our intention to collect together the several works on Fever that have been forwarded to us, and give a general review of the whole.

* * * *Communications are requested to be addressed (post paid) to Messrs. T. and G. UNDERWOOD, 32, Fleet Street.*

THE
LONDON MEDICAL
REPOSITORY.

No. 65. MAY 1, 1819. VOL. XI.

PART I.
—
ORIGINAL COMMUNICATIONS.

I.

Remarks on the Opinions of MR. ABERNETHY and MR. LAWRENCE, on the Subject of Life. By JAMES WOODHAM, Medical Surgeon, London.

THE attention of the medical public has been of late much excited by the discussion which has taken place between two of the most eminent Surgeons of this metropolis. It is scarcely necessary to mention the names of Mr. Abernethy and Mr. Lawrence, both men of splendid talents, and at the head of their profession. As the subject on which they have been engaged is in itself interesting, and as erroneous views of it may lead to consequences the most important, it is my intention to submit a few remarks on their respective opinions.

Mr. Abernethy, in his two first anatomical lectures at the Royal College of Surgeons, in 1814, maintained that life (the principle of life) is something of an invisible and active nature, superadded to organization; that mind is superadded to life, as life is to structure; and that mind and matter reciprocally operate on each other by means of an intervening substance, the living principle. He moreover considered as natural to man, the belief, that, in addition to his bodily structure, he possessed a sensitive, intelligent, and independent mind.

That the opinions of Mr. Abernethy are congenial to man, there cannot, I believe, be any doubt; and their basis, I conceive, will be found to be that of reason and truth. The phenomena expressed by the term life, can only be explained

satisfactorily by admitting what is termed a living principle ; neither can our intellectual faculties, or, more correctly speaking, the operation of our intellect, except we allow that mind is something different from that substance we call brain : the *Nες*, the *Ψυχη*, and the *Σομα* of the ancients, therefore, must be recognised upon every principle of a sound and just philosophy. On the opinions of Mr. Lawrence it will be necessary to enter more at large.

Mr. Lawrence in his introductory lectures to comparative anatomy and physiology, which followed those of Mr. Abernethy, and in those on physiology, zoology, and the natural history of man, ridicules the idea of a living principle, and considers man as wholly material. “ Life,” he says, “ or the assemblage of all the functions, is immediately dependent on organization. Life — is merely the active state of the animal structure. It includes the notion of sensation, motion, and those ordinary attributes of living beings, which are obvious to common observation.” This definition of life, not to say any thing of its including the mental faculty of sensation, is evidently incorrect : for life may exist as in the seed, and in the egg, and in cases of apparent death, though not any actions are going on, or have for a time ceased. Vitality, I would define a susceptibility to the impression of stimuli, and is occasioned, I conceive, by something interwoven with the organization, and binding, if I may so speak, the whole together. When this, whatever it be, is gone, the body, as when it has been too long under water from submersion, is no longer susceptible of the impression of stimuli, its organization loses its firm and compact texture, and the action of the surrounding elements speedily produces a state of putrefaction. The same takes place with the egg, and with the seed. The former will not produce a chick, nor will the latter germinate : the one becomes what is termed addled, the other rots.

Again : “ To call life,” says Mr. Lawrence, “ a property of organization, would be unmeaning—it would be nonsense. The primary or elementary animal structures are endued with vital properties ; their combinations compose the animal organs, in which, by means of the vital properties of the component elementary structures, the animal functions are carried on.” If the whole be made up of parts, and those parts possess certain properties, then the properties of the whole must be the same as those of the parts. Therefore, if the primary or elementary animal structures are endued with vital properties, and those structures form the organization, life *must* be a property of organization. Mr. Lawrence continues : “ The same kind of facts, the same rea-

soning, the same sort of evidence altogether, which show digestion to be the function of the alimentary canal, motion of the muscles, the various secretions of their respective glands, prove that sensation, perception, memory, judgment, reasoning, thought, in a word, all the manifestations called mental or intellectual are the animal functions of their appropriate organic apparatus, the central organ of the nervous system."—

" Shall I be told that thought is inconsistent with matter; that we cannot conceive how medullary substance can perceive, remember, judge, reason? I acknowledge that we are entirely ignorant how the parts of the brain accomplish these purposes—as we are how the liver secretes bile, how the muscles contract, or how any other living purpose is effected." That sensation, perception, &c. as functions of the brain, rest upon the same sort of evidence, and the same kind of reasoning and facts, as those which show digestion to be a function of the alimentary canal, motion of the muscles, &c. few but Mr. Lawrence, and the French physiologists, will, I imagine, be disposed to allow. Between the secretion of the fluid found in the ventricles of the brain, of gastric juice by the stomach, or any other secretion, there may be some resemblance of function, however ignorant we may be of the mode by which each is performed; but not any between those and perception, memory, &c. It is as unphilosophical, therefore, to suppose that perception, memory, &c. are mere motions of the medullary matter of the brain (for the function, as it is termed, of that organ resolves itself into this), as it would be to explain chemical phenomena, by asserting that the subjects of such phenomena were endowed with thought and volition. That the brain is necessary for the faculties or operations of the mind, there cannot be a question; but it does not from thence follow that a function or motion of the brain is the mind. The mind is *one* being, which perceives, thinks, wills, and judges through the medium of its organ, the brain: but however close the connexion, " it is carefully to be remembered," as Mr. Rennell, the Christian advocate, has well observed in his " Remarks on Scepticism, that connexion is not identity." " If the intellectual phenomena of man," says Mr. Lawrence, " require an immaterial principle super-added to the brain, we must equally concede it to those more rational animals, which exhibit manifestations differing from some of the human only in degree. If we grant it to these, we cannot refuse it to the next in order, and so on in succession, &c."

With the author before mentioned I do concede it, but think with him, that though immaterial, it is not of necessity

immortal, and that those facts and reasoning, from which we infer the immortality of the human soul, fail when applied to the sentient principle of the brute creation. After the manner of the celebrated author of "the Diversions of Purley," Mr. Lawrence etymologizes the word spirit, and attributes the origin of what he terms metaphysical puzzles, to the Latin spiritus a spiro. The answer to this shall be in the words of the first intellectual philosopher of his age and country. "This figurative language," as it undoubtedly is, "with respect to mind, has been considered by some as a convincing proof that the doctrine of its materiality is agreeable to general belief, and that the opposite hypothesis has originated in the blunder of confounding what is very minute with what is immaterial. To me it appears to lead to a conclusion directly opposite. For whence this disposition to attenuate and subtilize to the very verge of existence, the atoms or elements supposed to produce the phenomena of thought and volition, but from the repugnance of materialism to our natural apprehensions?" Mr. Lawrence thinks that no anatomical or physiological research has any connexion or influence on these great truths, the immortality of the soul, and a future state of rewards and punishments. If Mr. Lawrence means such researches as that mind is a function, a motion, or action of the brain, as the secretion of bile is a function or action of the liver, I am strongly inclined to think that there is a connexion, and that they *have* and *must have* a very powerful influence. Will not that have an influence on the proof or belief of those great truths which at once annihilates them? Who that gives credence to the opinion, that the soul or mind is only a function of the brain, can at the same time believe in the immortality of the soul and its future state of reward or punishment? — If he embrace the one, he must of necessity relinquish the other; to hold the two is an impossibility. It is said that truth cannot do any injury; that if doctrines or opinions have their foundation in truth, their tendency cannot be injurious: but this furnishes a strong and additional argument against materialism; its tendency is injurious, and of consequence it has not truth for its foundation. If, says an able philosopher of the last century, in discussing with a friend the doctrine of materialism, "if that *mass of matter* which we call the *brain*, may be that sentient and intelligent being we call the *mind*, then that mass of corporeal substances which we call the *world*, may be *God*; and it must be unphilosophical to search farther than *itself* for its cause. You, I know, are far from being sensible of this; but such indeed is the tendency of your principles, and such their atheistical conclusion."

II.

Essays on Medical Improvement. By a PHYSICIAN.

No. I.

IT is a desideratum on the part of the most enlightened members of the medical profession, that it should become an object of more general attention; that men of liberal pursuits would direct their inquiries to the principles and philosophy of physical science, as connected with the well-being of the human frame. The result would be generally advantageous to society, and very particularly so to the profession. Nor can there be any reasonable ground upon which to apprehend injurious consequences to individual interest. We do not even imagine that the result of such investigations would, in any sensible degree, augment the number of medical Practitioners. The duties of one profession, if rightly attended to, are amply sufficient for one man; and perhaps, when viewed abstractly, the *practical* duties of ours are not the most seductive. It may be added, that no extent of human life is sufficiently long, or degree of talent sufficiently great, to obtain in one individual the knowledge of all the facts that are at least desirable, if not necessary, to the perfect attainment of any science; and while we stop short of perfection we ought not to sit down contented. Yet, should it be otherwise, granting that the result of general attention to medical science would be the conversion of every well educated man into a Physician or a Surgeon, and consequent diminution of income to those who consider the art as no more than a *business*, by which to obtain wealth—he must, indeed, be unworthy the name of *philosopher*, who does not consider emolument as an inferior object. If there are any who esteem it the *summum bonum medicum*, the sooner such are driven to other methods of gaining a livelihood the better.

To those who take a similar view of the subject, an attempt to point out certain obstacles to the object desired, will not be vain. Of these it may be said, and with some truth, that a few are of such a nature, that the profession can exercise no control over them. To place *them* in rather a different point of view will be part of our business in these essays. There are others which depend unquestionably upon ourselves, and the removal of which is strictly our own affair. To animadvert upon these obstacles, with a view to the general improvement of medicine, rather than the mere attainment of the object above pointed out, and to enumerate the advantages that may be expected to result from their removal, will furnish ample employment for subsequent lucubrations. On

the present occasion we shall confine ourselves to a few general remarks, which may serve as an introduction.

Notwithstanding man has in all ages, and in all countries, been the subject of disease, and the victim of death, it is but too true that medicine has never administered to his necessities, in proportion as the other arts have done in their several departments. Setting aside the plea, that the evils it is called upon to combat are invincible; that death, at least, if not disease, must inevitably and speedily overtake the healthy as well as the infirm; if we reject, as visionary, the supposition that any discoveries we might make, would banish disease from among us, much less insure any long protraction of existence; nay, if we even give up the hope of ever ascertaining the *immediate principles* of diseases, (researches after, and reasonings upon which, under the indefinable term *proximate cause*, have done such injury to medical improvement) still must we confess that, compared with other arts, medicine has even yet made but small progress towards maturity. This is neither idle declamation, nor an attempt to depreciate the divine art of alleviating human misery. It will not be by flattering ourselves that all is right, or by attempting to disprove the truth of these allegations, that any good can be done. If we shut our eyes to glaring defects, or deny their existence, when it is matter of notoriety, we prove ourselves to be, at least, very dangerous depositaries of the important charge of the lives and health of our fellow-citizens.

It is a pleasing consideration, however, that the most illustrious members, and especially the teachers of the profession in the present day, are those who, having most thoroughly reviewed the subject, are most fully aware of the disadvantages under which we labour. They candidly and unreservedly admit them, and carefully point them out. They exert themselves to the utmost in the good cause of reformation; and though their success has been, and will be distinguished, they alone cannot accomplish all that is necessary. This will never be done until the profession shall rise *en masse*, and by a reformation as general as the abuses of which we are about to complain, divest themselves of those incumbrances which must ever impede the due success of the most brilliant discoveries, and unhappily give too much cause for the obloquy cast upon a profession, that, of all others, might and ought to be least exposed to it.

To do something towards this, is the duty of every member. It is true, that on the one hand a numerous portion of the medical community* may conceive it sufficient to

* This term is here meant to include the educated, the approved, or the *regular* profession only, as well as all other terms of the same

pursue the beaten track, and to do as others do. They may be persuaded that they have neither opportunity nor ability to step aside from the great road of professional pursuit. We shall prove to these that such conduct is not required of them; and that it will be sufficient for them to pursue their former path, if it be done rightly. On the other hand, there are many who will, after all our laudable endeavours to improve our own state by improving that of the *res medica*, exert themselves to take advantage of the credulity and imperfections of mankind, and to establish their fortune and their reputation on the ruins of those of their more honourable brethren. It will be part of our business to point out, that on this score there should be no ground for apprehension; and that such men will bid fair to be exiled from among us, not merely by our own verdict, but by that of society at large.

The task to which we would urge our brethren, though difficult, is by no means desperate. There are certain aids we may ever reckon upon, provided we are inclined to call them in. The sum and substance of what we propose to contend for is, in a vulgar but appropriate phrase, to give medicine *fair play*; to divest it of incumbrances that other liberal arts and sciences do not labour under; to take especial care that we do not ourselves clog the wheels of progress, so that we may with the better grace and the greater effect attempt the removal of whatever does. This being accomplished, the career will become more encouraging and more brilliant than it has ever yet been, and the result will be advantageous to all, and particularly so to us.

It may here be proper to signify more explicitly that our intention is to lay before the professional world, from time to time, the imperfections, the errors, and disadvantages of the present state of medicine; and to submit such hints for their remedy as, we trust, will neither be considered visionary nor presumptuous. The field is wide; and for greater convenience and liberty of discussion we enter on it without any fixed plan, or rather without any arranged concatenation of topics. We apprehend that subjects will occasionally present themselves, arising out of future occurrences, that may call for prompt consideration, so as thereby to render the suspension or interruption of a projected method expedient. Our aim will be to raise the Profession to a due height *in its own estimation*, and consequently in that of the world; a level which we are too sadly persuaded it has not yet attained. For the

nature which we may occasionally make use of. We shall have to handle the subject of *quackery* among those which will call for detailed investigation.

distinction, employment, and consequent wealth of a few individuals cannot be credited to the Profession at large. We do not propose to accomplish this by entering into the minutiae of local events, or indulging in technical gossip; but by keeping the more dignified course of philosophical investigation, and applying it to practical purposes.

And now it may be asked, *cui bono*? It may be objected, that the evils it is supposed we mean to complain of, are in the nature of things; that medical Practitioners are but too sensible of the disadvantages under which they labour; and that enough has already been said, and even written upon the subject. We have admitted that there are, if not evils, at least obstacles in the nature of things; but factitious evils have crept into the Profession. We very readily allow that all Practitioners *feel* the disadvantages of their present situation, but we deny that all are *aware* of them. The last objection is more specious. Much has been written on the subjects that lie before us. Nevertheless we humbly hope to add a little to the former mass, as well as to place some things that have been already, and perhaps repeatedly treated of, in a different point of view. On many topics that may fall within our province, we have been so fully anticipated as to render it superfluous to do more than refer. The great argument, however, in answer to the objection, is, that much of what has hitherto been done has evidently been done in vain. Another trial, therefore, should be made, and we enter upon it in the hope of drawing the attention of our readers to certain matters which ought not to be considered altogether indifferent.

We have already stated that we have not projected any particular plan. But in order to enter upon details with more advantage, it is our intention in the next Essay to offer a few remarks on the obstacles that have *hitherto* stood in the way of medical improvement; after which we shall be prepared to discuss those that still exist.

III.

Case of Pneumonia. By W. FURNIVALL, Surgeon, &c.

I WAS requested some short time since to visit a person who was described to be labouring under pain in the side. On arriving at the house, I was introduced to a female, about thirty-six, who said she had been seized six days before with a pain in the region of the left hypochondria, which was attended with great sickness, and for which an emetic and saline medicines, with a blister to the part affected, were prescribed: these afforded but little relief, and upon inquiry she com-

plained of great thirst, increased pain, and every symptom of approaching active inflammation; her pulse at that time was beating about seventy-eight in a minute. Sixteen ounces of blood were directly drawn from the arm, and another blister applied to the scrobiculus cordis: two drams of the sulphate of magnesia were prescribed, to be taken every third hour. On the following day she was greatly relieved; pain not quite gone; pulse about eighty-two; blood not in the least buffed or cupped. On Saturday I was again called, in consequence of a rapid aggravation of the symptoms; the pain was so violent as to cause her to cry out every four or five minutes, especially on the attack of a slight cough, which occasionally disturbed her; pulse very full, and not more than eighty; thirst very great; skin dry and hot; bowels very open: sixteen ounces of blood were again abstracted; purgatives as before. Sunday morning, ten A.M., no better; pain equally great; blood not cupped or buffed: the lancet was again used, and the blood allowed to flow till nearly thirty ounces were evacuated, when she complained of giddiness in the head, and great disposition to faint. Five P.M., rather better; the pain quite gone for about two hours, but now felt again slightly in the region of the epigastrium and right hypochondria; pulse ninety-six, and full. Twelve P.M., the symptoms much increased; the blood drawn in the morning *very much* cupped and buffed: sixteen ounces of blood again taken, the purgatives continued. Monday, ten A.M., had two hours sleep, and free from pain immediately after the bleeding; but pain now rapidly returning, thirst very great, furred tongue, with a burning heat through the whole region of the stomach, great sickness and inclination to vomit; pulse upwards of 100, and still full: twelve ounces of blood immediately taken, which caused her to faint. Five A.M., rather better, but the pain not yet gone, and pulse full, still above 100; the purgative acting *very freely* on the bowels; cold water the only drink desired. Eleven P.M., symptoms again so much increased as to require further abstraction of blood, which was done to about ten ounces, when she again fainted. Tuesday very much relieved, passed the night without pain, but complained of slight headach: the aperient continued, and saline draughts, with $\text{xij } \text{m}$ of tinct. digitalis every four hours. Wednesday the pulse again became full, and the general febrile symptoms much increased; ten ounces of blood were again taken in three cups; after which, the pain complained of ceased; the blood at this time was not buffed in the first cup filled, rather so in the second, and not at all in the third. Thursday very much better, the tongue moist and clearer, with gentle per-

spiration over the whole surface of the body; bowels very lax; the medicines as usual. Friday, complains of very dreadful pain in the head, sickness; pulse ninety-eight, rather full; and great aversion to light; pupil of the eye a little contracted; the head shaved, and the cold evaporating lotion constantly applied: the medicines continued. Saturday (this day), much relieved; lotion, &c. continued, and a blister to the nape of the neck. Nine P.M., much better, and every appearance of doing well; the menses having appeared, and caused great reduction in the pulse, as well as an alleviation of every dangerous symptom. The peculiarities in this case of the pulse not being quick, and the non-appearance of the usual characteristics of inflammation (the blood being neither cupped nor buffed) in the earlier stages, with the great evacuations of blood every morning and evening, procuring but momentary relief, may be worthy of remark; and it might be right to suppose, that had a copious venesection, on the following morning after Wednesday, the first time of bleeding, when the symptoms were relieved, been employed, according to the practice of that skilful Physician, Dr. Clutterbuck, who observes, that he always repeats bleeding for the very reason that others often do not (the patient being better); this continued evacuation of blood would have been saved, and the cure much expedited.

IV.

Case of Scarlatina. By T. W. WANSBOROUGH, of Fulham.

ELIZA CORNISH, aged 15, was in perfect health on the evening of the 3d of December, and at three o'clock on the morning of the 4th was attacked with rigor, vertigo, and nausea, attended with vomiting: she threw up some bile. At one o'clock I saw her; pulse 166; vertigo still continues; considerable pain in the head, principally over the eyes; vessels of the conjunctiva tinged; great prostration of strength; soreness of the throat, attended with difficult deglutition; tonsils swollen; mouth parched and clammy; teeth feel furred; tongue covered with thick brown crust; excessive thirst; bowels relaxed; temperature much increased, with dyspnœa.

R Pulv. Jalapæ, ʒss.

Hydr. Sub. gr. vj.—Ft. pulv.

Statim, ex quovis vehiculo crasso, sumend.

Six o'clock.—The powder was retained on the stomach ten minutes, when it was returned with violent retching: symp-

toms described in the morning still existing. Since my visit slight wanderings have supervened, not amounting to delirium; coma; pulse 150, hard and full.

E sectione venæ basilicæ sanguinis uncias sedecim mitte.

The pain in the head and vertigo were somewhat relieved by the bleeding for about half an hour, when my patient sank on her pillow apparently exhausted; pulse 100, FULL and HARD.

Emplastrum Lyttæ Nuchæ admoveatur.

℞ Mist. Camphoræ, ℥iij.

Tinct. Valerianæ, ℥iss.—Ft. Mistura.

℞ Hydr. Subm. gr. x.

Opii in Pulvere, gr. iss. Conserv. Rosar.

Q. S. Ft. massa, in pilulas octo dividenda, quarum sumat unam quâque horâ, atque misturæ sumat cyath. 2d. qq. hor.

I directed the patient to be sponged all over the body with tepid decoction of garlic in vinegar, and ordered barley water as drink, with occasionally the juice of oranges, to allay thirst. I directed a domestic gargle to be used frequently, composed of equal parts, (half a pound) decoction of sage in vinegar, and Port wine, with one ounce of Cinchona bark.

5th.—Eight o'clock, A.M.—Has had a tolerable night, with some sleep; blood drawn exhibits sizzly serum, but not buffy; pulse 120, full and soft. The pills have procured three copious alvine evacuations; the first of a healthy appearance, the second and third black, slimy, and exceedingly offensive: the pain in the head is considerably relieved; the gargle has thrown off a great deal of thick phlegm from the throat during the night. This morning the tonsils and uvula exhibit a dark brown colour, extending nearly to the apex of the tongue in a brown crust; the whole surface of the body has assumed a deep scarlet hue; the heat of surface is not so great as last night.

Medicamenta 4tis horis continuentur.

I applied a small blister on each side of the throat, immediately upon the seat of the submaxillary glands, and directed the gargle to be repeatedly used, with half a capsicum bruised and infused therein.

Vespere.—Three more foetid evacuations, with considerable abatement of symptoms. I had forgotten to mention that the swollen state of the tonsils threatened suffocation to my patient in the morning; but now, since the use of the gargle, she has thrown off several small sloughs, and is thereby relieved. The ablution of tepid vinegar only with a sponge, (no garlick being attainable) affords sensible refreshment, and she voluntarily bathes her hands.

6th.—Has had a good night, five or six hours' sound sleep ; pulse 100, full and soft ; eyes clear ; pain of the head quite removed ; has had two evacuations, far less offensive than the former, containing much recent bile since last night, and this morning several large sloughs have been thrown off from the tonsils ; these parts appear now of a florid colour ; tongue clean and red ; the blisters to the throat have risen well ; slight ptyalism : in short, I now pronounce my patient convalescent ; and as her pulse indicates debility, I have directed light nourishing food and porter, with a glass or two of Port wine to be taken during the day : deglutition easily performed.

Pilulæ ut ante continentur 6tis q. horis.

R Mist. Camph. ℥vj.

Pulv. Cinch. ℥ss.

R. Valerianæ, ℥ss.—M.

Cujus cyath. hora tertia post pilulam sumend.

Vespere. — The scarlet hue upon the surface of the body has disappeared this evening.

7th.—My patient continues to improve ; she is able to sit up ; pulse 80, full and soft. I have put her on a moderate diet, and directed the medicines to be continued, a pill and a glass full of the mixture twice a-day.

The following is the formula used for the mist. camph. which, as it differs from the Pharmacopœia, I transmit.

R Camphoræ, ℥ss.

Sacch. ℥ij. tere benè in mortario, et adde

Pulv. Tragac. ʒi.

Aq. bullientis, ℥vj.—M.

The water to be added in small quantities until the mixture becomes smooth ; then add the remainder.

V.

Animadversions on Medical Nomenclature, and a new one proposed: By T. PARKINSON, M.D., Author of Synopsis Zoo-Nosologiæ, and Teacher of Medical Science in London.

1. Anatomical Nomenclature.

1. The abstract solids, or those which compose the exterior of the body.

1. Artery, Ἀρτηρία, to keep air.

It is unworthy of the highly improved state of the science of Anatomy to suffer the denominating terms of which its language chiefly consists, to remain unaltered to the present day ; many of which are not anatomical but physiological ; others are false ; and they are altogether ridiculous.

Suppose it were the truth that arteries carry air only, which was the opinion of the inventors of the term; yet then it would not stand as an anatomical denominator; because it does not represent the construction and composition of that solid, but its function only, or what it does; and in rendering the term, a false induction is unavoidable. Keeper of air.

The anatomical denominator should be such as will express those peculiarities of construction and composition which distinguish it from all other animal substances. The necessary inquiry, then, is, What are those peculiarities?

On examination, what is called an artery is found to be composed of what is known by elastic ligament, or the laminated fibre, and it is so constructed as to be thrown into a tubular form: its composition is the same as the common elastic fibre; but the peculiar form imposed upon it, makes it worthy of a distinct generic appellation. *Helasmata siphonodes*, from *Ελασμα*, laminated fibre, and *Σιφων*, a tube. The term I have proposed expresses the whole of those characteristics by which the solid is distinguished; and therefore it raises the same image in the mind of one man as it does in that of another, the very essence of nomenclature.

Contrast.

Artery, *Αηρ τηρεω*, to keep air.

Helasmata siphonodes, *Ελασμα σιφων*, tubulated laminated fibre.

Question.

Which is the most appropriate, the most determinate, and the most worthy to be taught and used in anatomical nomenclature?

2. Bone, ban, a solid substance.

The term is indeterminate, notwithstanding it will serve to distinguish this peculiar animal solid from all others, by emphatically expressing its solidity; yet there are many comparatively solid substances in the animal frame; and as I stated respecting a proper denominating term for artery, it must be such an one as will declare its peculiarities, or those characteristics by which bone is distinguished from all other solids, and that by a clear representation of its peculiar construction and composition. The question, then, is, What are its peculiarities?

The basis of what is called bone is membrane, improperly so called: this membrane secretes its own associate, the phosphate of lime; and this association constitutes an inflexible substance, commonly called bone. Membrane is intertexted fibres, which intertexture renders it nearly inelastic. Bone then may be happily represented, both as to its distinguishing

characteristics, and as to its composition and construction by Enyphanta coniodes, from *Ενυφαινω* to intertex, and *κονια* lime, signifying membrane associated with lime.

Please to make the contrast, and ask the question.

3. Cartilage, caro, flesh, from a supposed resemblance of cartilage to flesh. Is not such resemblance too remote to govern the appellation of cartilage? Is it not ridiculous? The basis of cartilage is enyphanta, called membrane. This membrane secretes its own associate *κολλη*, albumen; and this association constitutes that peculiar solid denominated cartilage.

Enyphanta collodes, *ενυφαινω*, and *κολλη*, albumen, represents the construction and composition peculiar to this solid; and, therefore, becomes the proper technical term by which it should be denoted.

Contrast and Question.

4. Cellular membrane, cellula a little cell, and *μερος* a member, or a limb. The basis of this solid is enyphanta, and it secretes its own associate *Στεαρ*, fat. But it is not very clear that the cells in which the fat is deposited are smaller than those in which are deposited albumen and phosphate of lime; therefore, the term cellular membrane is indeterminate in its import. The exact image of this solid, both as relates to its construction and composition, is raised by the denominating term enyphanta steatodes, signifying the distinguishing characteristic, an association of membrane with fat.

Contrast and Question.

5. Gland, glans, a nut, a resemblance too remote to govern a denominating term. What is generally understood by gland is a peculiar modification or construction of *Ἐλασμαλα* or elastic fibre. It differs from Helasmata siphonodes in shape; the former, that is, gland, is denominated Helasmata siphogyrodes *Ἐλασμα*, laminated fibre; *σιφον*, a tube; and *γυρος*, convoluted, such being the anatomical characteristic of a gland; whilst the latter, an artery, is simply tubulated elastic fibre, and is sufficiently represented by the technical term I have imposed upon it.

But the gland, in addition to a tubular shape given to elastic fibre, has ramifications, and especially convolutions. It, therefore, becomes necessary to distinguish it from an artery by an appropriate appellation. This is happily accomplished in the term helasmata siphogyrodes, giving an exact representation of the peculiarities of that solid, namely, tubulated and convoluted elastic fibre.

6. Lateal, lac, milk. However readily the resemblance of the chyle to milk may be admitted, the term lacteal to repre-

sent a vessel carrying chyle is not strictly anatomical. It does not express its peculiarities of construction and composition, but its function only; and, therefore, it is a physiological term.

The anatomical peculiarities of this solid are tubulated membrane, happily and exactly represented by enyphanta siphonodes.

Contrast and Question.

7. Ligament, ligo to bind. This term is at once seen to be physiological only, and that it is not eligible to a place in the anatomical nomenclature.

The substance meant to be understood by the term ligament is merely a modification of Enyphanta or membrane, and needs no distinct appellation, except that of platynodes broad, Enyphanta platynodes, *Ενυφαντα* intertexted fibre, and *πλαλυσ* broad, signifying simple or broad membrane, or not tubulated.

Contrast and Question.

8. Lymphatic, *λυμφη*, a pellucid fluid, intended to denote a vessel carrying a pellucid fluid. But pellucidity is not peculiar to the lymph; therefore the term, as applicable to it, is indeterminate; and when extended to represent the vessel which carries lymph, it is not strictly anatomical, but physiological; therefore it cannot be retained in the anatomical nomenclature.

The anatomical characteristic of this solid is enyphanta siphonodes, or tubulated membrane; and it is properly and explicitly designated by the term enyphanta siphonodes.

Contrast and Question.

9. Membrane, *μερος*, a member or a limb. It is indeterminate in its import, and leads to false deductions.

The term membrane is designed to denote simple unassociated enyphanta platynodes, or the broad or extended intertexted fibre; and such being the characteristic by which it is distinguished from all other solids, its denominator should be expressive of such characteristic; and is fully comprehended in the term enyphanta platynodes, *ενυφαντα* intertexted fibre, and *πλαλυσ* broad.

Contrast and Question.

10. Muscle, *μυς*, a mouse. A resemblance too remote to govern its denominator; and so ridiculous as to demand exclusion altogether.

It is intended to represent the moving solid, the characteristic of which is hæmeuthytona, *αιμα*, blood; *ευθυς*, straight fibres. Straight fibres with blood.

Contrast and Question.

11. Nerve, *νευω*, to extend. This term is at variance altogether with the solid; it is employed to represent, both as regards the anatomical characteristics and the physiological capabilities of that solid; extension, or even extensibility of what is called a nerve is not a property belonging to it; neither is the nerve capable of enduring extension to any considerable degree, without suffering injury. The term, then, leads to false conclusions, and ought to be rejected.

The anatomical characteristics of the nerve are *mycleuthytona*, or straight fibres, with the medullary substance; and those characteristics are fully comprehended in the term *μυελος*, the substance of the brain, and *ευθυς* straight fibres. But *mycleuthytona* is necessarily divided into two genera, dependent upon associations: it is demanded, therefore, that these distinct genera be provided with distinguishing appellations. The characteristic of the first genus is an association of the medullary substance, with muscular fibres: it comprehends all the immediate organs of sense, and the brain within the head; and it is clearly and beautifully distinguished from the second genus by a qualifying adjective *hæmeuthytodes*, *mycleuthytona hæmeuthytodes*, *μυελος ευθυς*, and *αἷμα ευθυς*, strikingly illustrative of the peculiarity of the association of brain with muscle.

The second genus has for its characteristic an association of brain with membrane, and it is limited to the nerve or nervous cord. In this genus there are no muscular fibres; but the medullary substance with straight fibres is so closely associated with membrane as to be enclosed by it through its whole extent; and it is eligibly distinguished from the first genus by a qualifying adjective, *enyphantodes*, *mycleuthytona enyphantodes*, *μυελος ευθυς*, and *ενυφαντοδης*, strikingly illustrative of the association of brain with membrane.

12. Periosteum, *περι οσσειον*, about bone. This term is indeterminate: what is intended to be denoted by it is something which is placed immediately upon bone, and attached to bone. Now, inquiring into its real character, let me ask, What is it? — I answer, it is a modification of muscle; and belongs to *hæmeuthytona*, as strictly as tendon. There needs not any further argument to prove the validity of this opinion than what will be elicited to every man's mind by a solitary experiment; namely, in macerating or boiling, the periosteum quits the bone, and keeps its connexion with the muscle or tendon. I would, then, consider a tendon and periosteum only modifications of muscle.

13. Tendon, *τεινω*, to extend. The term is at variance with the substance represented, It is not a property of tendon

to admit of extension; such quality being imposed upon it, would defeat its physiology. Tendon appears nothing more than a modification of a muscle, and therefore does not require any distinct appellation.

14. Vein, venio, to come, because veins bring the reflux blood to the heart. But the term is not anatomical, denoting the construction and composition of the solid; but it is physiological, denoting function, and even for that purpose is so indeterminate as to demand exclusion.

A vein is tubulated membrane, as an artery is tubulated elastic fibre, and that is its distinguishing characteristic. The denominating term ought to be such as represents this character. Enyphanta siphonodes answers the purpose fully, *ενυφαντα*, intertexted fibre, and *σιφων*, a tube.

2. Compound Solids, and those which may be considered visceral.

It has already been observed, that the abstract solids of the animal frame are necessarily divided into genera, and that this division depends upon three circumstances:—1. The association of one abstract solid with another.—2. Peculiarity of form or shape.—3. The association of membrane with a substance which itself secretes.

Certain of these genera have been noticed, which I mention again, and refer to their respective numbers; and then proceed with such as remain:—

1. Artery, No. 1. Helasmata siphonodes.
2. Bone, No. 2. Enyphanta conoides.
3. Cartilage, No. 3. Enyphanta collodes.
4. Cellular membrane, No. 4. Enyphanta steatodes.
5. Gland, No. 5. Helasmata siphogyrodes.
6. Lacteal, No. 6. Enyphanta siphonodes.
7. Ligament, No. 7. Enyphanta platynodes.
8. Lymphatic, No. 8. Enyphanta siphonodes.
9. Membrane, No. 9. Enyphanta platynodes.
10. Muscle, No. 10. Hæmeuthytone.
11. Nerve, No. 11. Myeleuthytone.
12. Periosteum, No. 12. Hæmeuthytone.
13. Tendon, No. 13. Hæmeuthytone.
14. Vein, No. 14. Enyphanta siphonodes.

It remains only to consider the following genera of solids:—

1. Enyphanta hæmeuthytodes.
2. Enyphanta helasmatodes.
3. Enyphanta siphogyrodes.
4. Enyphanta siphocollodes.
5. Enyphanta siphoconiodes.
6. Hæmeuthytone antrodes.

15. *Enyphanta hæmeuthytodes* is instanced in the whole of the intestinal canal in the bladder, and in the uterus of women; but there is no distinguishing appellation by which the anatomical characteristics are denoted.

This solid is an association of membrane with muscle, and the precise nature of it is expressed in the term *ενυφανία* intertexted fibre, *αιμευθυωδης* muscular.

16. *Enyphanta helasmatodes* is instanced in the substance of the lungs, and in the corpora penis; but there is no distinguishing appellation for this solid which expresses its anatomical characteristic, or even its function. Such a term is wanted, and it becomes necessary to provide one.

This genus is governed by the association of membrane with elastic fibre; and the precise nature of it is expressed in the term *enyphanta helasmatodes*, *enyphanta*, *ενυφανία*, intertexted fibre, and *ελασμαλωδης* laminated, signifying the association of membrane with elastic fibre. Whoever will give himself the trouble to examine the substance of the lungs, will find that the anatomical character I have given it is sufficiently correct, and that the representation given by the denomination agrees with its character. Nor will the examiner be less surprised to find that the auricles of the heart do not turn out to be what is commonly taught and understood, or rather believed. I ask, is the substance which constitutes the auricle of the heart purely muscular? If not, what is it? Then give it a name worthy of its construction and composition. I am prepared with one, but am inclined to withhold it, for reasons which I may explain some future day. I have, however, thrown out the suggestion, that others may make their examinations and their observations on the subject, before I bring forth my denominator.

17. *Enyphanta siphogyrodes*, instanced only in the substance of the liver. It has no name descriptive of its anatomical construction and composition. It is, however, a similar distribution and convolution of a vein to form a venous gland, as the distribution and convolution of an artery to form an arterious gland; the only difference is, one is *elasmata siphogyrodes*, tubulated and convoluted elastic fibre; the other *enyphanta siphogyrodes*, tubulated and convoluted membrane, *ενυφανία, σιφον, γυρος*.

18. *Enyphanta siphocollodes*. This is a genus of *enyphanta*, dependent upon association and form; for its dependence on association, see 2, No. 3.; and the tubulated form which constitutes the present genus is instanced very conspicuously in the annular cartilages of the trachea and bronchia, and in the bony meatus or the ear. It is fully and clearly represented by *enyphanta siphocollodes*, *ενυφανία, σιφον, πολλή*.

19. Enyphanta siphoniodes. This genus, also, of enyphanta, like the one preceding, is dependent upon two circumstances; the first upon association, see No. 2, and the second upon form or shape. The form or shape imposed upon it is tubular; and it is instanced in the large bones of the extremities, and in the bony meatus of the ear. This genus is fully represented by enyphanta siphoniodes, *ενυφαντα, σιφων, κονια*.

20. Hæmaphysa antrodes. This genus is dependent upon form or shape, and the form is chambered. It is instanced only in the muscles of the heart, and is sufficiently distinguished from the first genus of Hæmaphysa, see No. 10, by the addition of the qualifying adjective, antrodes, making the term Hæmaphysa antrodes, *αιμειθυλονα αντρον*.

Having given the etymology, import, and application of the new nomenclatura anatomica, so far as relates to the classes and genera of all the solids which enter into the composition of the human body, it now becomes necessary to do the same with respect to the fluids.

The fluids are necessarily divided into classes, genera, varieties, and species, in order that they may be clearly distinguished, and that the etymology, import, and application of the terms by which they are each designated, may be taught logically and radically; for without such arrangement it would be impossible to avoid the confusion and consequent misconception, inseparable from the present method of teaching the doctrine of the animal fluids.

Classes denote existing states of fluids, and are two in number:—1. Perirrotica, or those which are circulating in vessels. And, 2. Lymnetica, or those which are not circulating in vessels.

1. Arterious blood, distinguished from venous blood chiefly by its florid colour. It is found only in the substance of the lungs, in the pulmonary blood-vessels which carry it to the left side of the heart, in the left chambers of the heart, and in the arteries. It is the only perfect blood, possessing all the elements of every solid and fluid in the animal system; and it is therefore the only fluid entitled to the dignified appellation, blood. The term by which it may be distinguished from all other fluids, is hæma, *αιμα*, pure or perfect blood.

2. Venous blood, distinguished chiefly from arterious blood by its darker colour. It is found only in the substance of the lungs, the pulmonary blood-vessels which carry it to the lungs, the right side of the heart, and in the veins. It is

not perfect blood, because it has been deprived of some of its elements which it has imparted, in its arterious tour, for the supply of the solids and fluids individually and collectively which they respectively stand in need of, to repair the loss they sustain in the exercise of their natural functions. Nevertheless, in point of value, it stands next to hæma, because without a considerable quantity of it hæma cannot be formed. Having, however, lost part of its elements, it cannot stand so high in the catalogue of fluids as hæma, and is distinguished from it and all other animal fluids by the term hæmatodes, αιμαλωδης, bloody.

3. Lymph, a fluid circulating in vessels, but deprived of the colouring particles of the blood, consequently of more of its elements than hæmatodes; it is therefore of less value than hæmatodes; nevertheless, it is essential in the formation of arterious and of venous blood, and serves as their menstruum and vehicle. It is distinguished from other fluids circulating in vessels, by the term diaphanodes, διαφανωδης limpid.

4. Chyle, a fluid separated from the food, proceeding towards the heart, on vessels for the nourishment of hæma. This fluid has never passed the tour of circulation; is not animalized, but animalizing; therefore its value is not so great as diaphanodes; it is, nevertheless, essential to the continuation of a formation and regular supply of hæma, and is distinguished from the fluids before mentioned by the term galatodes, γαλαλωδης, milky.

These are all the fluids which can be said strictly to be circulating in vessels; they therefore constitute the first class.

The second class of fluids comprehends all other animal fluids not yet mentioned. Not being circulating in vessels, the whole tribe is denominated lymnetica. It is requisite here to observe, that this class is divided into genera and varieties.

Genera.

The first genus is denominated phylacteria; φυλασσω, to imprison, because they are kept in cysts or reservoirs till wanted in the animal economy, or for the purpose of convenience; consequently this genus comprehends, and yet is limited to those fluids which are encysted.

The second genus is denominated diakosia, διαχωω, to disperse, because they are not strictly imprisoned, but dispersed into communicating cells; and are commonly called interstitial.

The third genus is denominated exothism, εξοθεω, to expel, fluids thrown out of the body.

But these genera are subdivided into varieties, and the varieties demand their respective denominating terms.

- Gen. I. — 1. Cholodes, Χολη, bile.
 2. Coprodes, Κοπρος, dung, fluids of the intestines.
 3. Ophthalmodes, Οφθαλμος, the eye, ocular.
 4. Spermatodes, σπερμα, semen.
 5. Urodes, ορον, urine.

The whole of these varieties are understood by their appellations, which need not any further explanations.

- Gen. II. — 1. Hydatodes, Υδωρ, water.
 2. Blennodes, Βλεννα, mucus.

- Gen. III. — 1. Hydatodes, Υδωρ, water.
 2. Blennodes, Βλεννα, mucus.

These are all the terms necessary in the Anatomical Nomenclature: it requires, however, to be well understood, as it is the basis of the Nosological Nomenclature, both in form and in substance. Species relate to situations only, in every department of Medical Nomenclature.

(*The Physiological, Nosological, and Therapeutical Nomenclature in our next, and succeeding Numbers.*)

DEPARTMENT OF NATURAL HISTORY, &c.

On the Metamorphoses which Insects undergo during their Growth. By MR. GRAY.

AMONG the various phenomena of animal life there is none that is so remarkable as the change of form, and the acquisition of new parts during the growth of an insect. The changes are so wonderful, that it would appear to us, if the phenomena were not common, that the animal died and came again to life in another form. Indeed, this appeared actually the case to the first observers, and accordingly the priests of the heathen religion chose this change to represent symbolically, according to the spirit of that religion, the state of the dead, and of the soul reviving again in a form superior to that with which it was formerly invested: and the phrases derived from it may be traced by an accurate and unprejudiced observer in our own.

This change is not found to take place in any of those animals whose vital fluid does not circulate, except in insects, properly so called, that is to say in the winged insects, and pulex of Linnæus; each of the great families (or orders as

they are called) into which the proper insects are divided, having something peculiar in regard to their metamorphoses: and these metamorphoses are not confined to the external appearance of the insect, but extend even to the most important internal organs. They are in reality either successive alterations of parts already developed, or they are the formation of new additional organs which were not before visible.

No naturalist has paid more attention to the study of the changes undergone by insects during their growth than Lamarck; and in his large work on invertebral animals, he has treated the subject with that care that it demands; and has shown its analogy with certain crises in the growth of the larger and vertebral animals. Some naturalists have even used the metamorphosis as the foundation of their division and arrangement of these animals; but to this use being made of it, at least as a primary character, there occurs the very considerable objection, that they are not permanent characters existing in the insects, even when dead, but temporary circumstances arising in the course of their life, and requiring for their discovery a continual attention to the living insect, from its first being hatched. As secondary characters their use is certainly necessary, for we may well suppose that the insects of each large family or order ought to agree in their metamorphosis, if the division be founded upon nature.

The change of form, in regard to its extent, is either general or partial; each of which has some peculiarities in their first and second states, or those of the infancy and adolescence of the insect.

The insects which undergo a general metamorphosis, undergo such a complete change, that their form, when first hatched, is quite different from what they afterwards acquire; none of their external parts being the same in their full-grown and infant state.

In the larva or infant state of these insects, they have in general a soft tender skin, except on the head, and they are destitute of reticulated eyes; by which marks they may be known.

In the second state of those insects which undergo a complete metamorphosis, they are immoveable, take of course no nourishment, and appear dead.

On the other hand, in the partial metamorphosis there is no change takes place in the general form of the insect, but it only acquires some new external parts, which it did not possess in its infancy.

These insects are furnished at their birth with net-work eyes, and a leathery or horny skin; and their mode of feeding is the same as in their adult state.

In the adolescent or half-grown state of these insects, they are more or less active, and feed the same as usual.

It was established as an axiom by many physiologists who have confined their attention to the more perfect classes of animals and plants, that every living being originates from an egg; but further researches show the futility of this hypothesis; and as there are many tribes of animals and plants, in which no traces of any sexual organs, whether fecundating or fecundable, can be discovered, so there are many modes of multiplication, by division of parts, buds, and bulbs, in which fecundation is not necessary.

Insects in general are oviparous; and the eggs require no other heat than that of the atmosphere, or at most, of the nest or hive for their being hatched. The aphides, or plant-lice, have, however, this peculiarity, that they are viviparous in the summer, and in the autumn lay eggs, which are not hatched until the next season; by which means only the species is preserved, as the insects themselves are too tender to survive through the winter, although the eggs can bear the cold.

Larva State.

The state of an insect when first hatched, is called the larva state: as their form varies very much, they are sometimes called worms, sometimes larvæ; and those of lepidopterous insects are called caterpillars.

The larvæ of the insects which have only two clear wings in their adult state, and many of those which have four clear wings, have no feet; hence their name of worms. These have the skin always of a soft nature.

Other larvæ have six or more feet. The six fore-feet are jointed, hard, and have claws to them; their situation coincides with those of the adult insect. The other feet are soft, not jointed, and have no claws: two of these are usually separated at a distance from the rest, and are called caudal feet.

Although these larvæ, which differ entirely from the adult insect, are without large net-work eyes, they have sometimes small smooth eyes, or stemmata.

It is in this state that the insect takes the whole, or the principal part of its nourishment and its growth; and during this state it changes its skin several times. This change of skin, which is, however, not peculiar to insects, is in them a crisis of a very serious nature, and they prepare for it by abstinence from food: during this mew, they remain immovable, become of a pale livid colour, appear diseased, and frequently perish. Some suppose that those-larvæ which have no feet do not change their skins.

The nymph, or chrysalis state.

A few days after the last time of changing their skins, the larvæ of insects pass into the nymph or chrysalis state. This state is very different from that of the larvæ, for although some insects in this second or adolescent state move and eat the same as in their form of larvæ, and merely differ by possessing new parts, a considerable portion of insects remain immoveable, and do not take any food; some being hidden in an opake cocoon, others covered with a fine membrane, and others without any covering.

Insects which undergo a complete metamorphosis, change in their second state either into a chrysalis or a mumia. The chrysalis is shut up in an opake cocoon, which has no mouth, eyes, antennæ, nor feet, and it does not move, unless it be touched. It breathes, however, by stigmata, which are sometimes placed on the tip of certain eminences, like small horns, or tubular threads.

The chrysalides of lepidopterous insects are rather oval, pointed at one end, and obtuse at the other, with impressions in relievo, which show the form of the parts under them. Those of butterflies are hung to a wall or tree by a thread; most of those of moths are enveloped in a cocoon of a silky nature; and those of the hawk-moths are concealed under ground, surrounded by earth, &c. held together by silky threads.

The chrysalides of the insects which have two clear wings are rather hard, of a rather oval form, partly encircled with remains of rings, and not showing the impressions of the parts underneath. This chrysalis is formed of the skin of the insect, which is not changed, but merely contracted and hardened: it has at one end a kind of door, by which the full-grown insect escapes from his confinement.

There are two sorts of mumiæ. Those of the beetles and the hymenopteræ become inactive, take no nourishment, and are covered with a fine and generally transparent membrane, which permits their form to be seen, or which envelopes the parts separately. These mumiæ are soft, whitish, and merely stir when pressed.

Another sort of mumiæ is that of the phryganææ, and some few other insects, and called a cadis worm, by anglers: it is inactive, and takes no nourishment, naked, rather contracted, and enclosed in general in a sheath formed by itself.

Those insects which undergo only a partial metamorphosis, preserve the same parts which they had on their first being hatched, and only acquire some new parts in their second state; but neither lose their activity, nor cease to take food.

The second state of these insects is called a nymph. It has the same eyes, antennæ, feet, and skin as the larva, and nearly the same form, but it has the rudiments of the wings which it is to have fully developed in its adult state. This metamorphosis is undergone by the orthopterous, hemipterous, and many neuropterous insects.

The third, or perfect state.

This state is the only one in which insects have perfect wings; and for the most part, in which they increase and multiply. It appears, however, that a few insects breed in their nymph state. Their life is in this state usually very short, as the males perish almost immediately upon their having met with the females, and the females perish in the act of laying their eggs, or very soon after.

The cause of the metamorphoses of insects has been generally considered, not only as one of the most curious and most interesting in natural history, but also as one of the most difficult. Lamarck considers the changes as depending upon two circumstances; first, the horny nature of the integuments of insects in their perfect state; and, secondly, the crisis which takes place in all animals (and even plants) furnished with sexual organs at the age of puberty.

From the horny nature of the integuments of insects, their growth would have been impeded, if this consistence of their skin had always been preserved; but by the skin of the larva being soft and flexible, the insect is allowed to increase freely in size, and when this increase is no longer required, the integuments take their proper consistence.

In respect to the crisis taking place in organic bodies at certain periods, nature, although prodigal of the means of continuing the species in the lower classes of them, is yet economical in not developing, at least fully, the necessary organs until the time in which they are wanted, but bestows her whole attention upon the acceleration of the growth. The crises and developments are more remarkable in insects and sexual plants than in other organic beings, because their sexual organs are fitted only for a single fecundation, after which the insects and annual plants perish entirely, while in perennial plants the organs and part only of the plant perishes, the remainder survives, and the next year new sets of sexual organs are produced. The changes, however, are more or less visible in other animals, even in man himself. In the infant state the physiognomical expression of the different sexes are not very visible; the teeth and much of the voice are wanting; by degrees these are developed, and the coun-

tenance takes a more decided character; but the most decisive change takes place on the approach to puberty; the voice in the male entirely changes, and many organic alterations take place, which it were needless to rehearse.

Calendar of Natural History from the 16th of March to the 11th of April, 1819.

March 16th.—Cloudy morning; fair afternoon. The thermometer rose as high as 60° of Fahrenheit. The *Tussilago Farfara* was in flower beside Lea river. Daisies also bloomed. I found the *Peziza Scutelata* var. (of Sowerby, Feb. 24th,) on cow dung to-day in the marshes. The *Tussilago Petasitis* in bloom in the garden.

18th.—Fair day, but cold. The *Bellis perennis* every where in flower; and the *Ficaria verna*, or Pilewort, here and there.

19th.—The first day of spring showers, the wind changing at ten A.M. from SW. to NW., and blowing a gale at times, with rain and hail in showers. Grape Hyacinth and the Blue Hepatica in flower.

23d.—The Rooks and Daws building their nests. *Stellaria media* in flower.

24th.—This was a fine spring day, with west wind and mild air. The Cumulus cloud as usual prevailed, but there was a fine display of Cirrus and Cirrostratus in mottled rows up in a higher region. I noticed the *Leontodon Taraxacum* in flower. The willows are in catkin every where; and the leaves of the Eglantine budding. The birds sung till past seven in the evening, when the *Scarabæus fimetarius* was on the wing.

25th.—Fine warm day, with westerly wind and Cirrus clouds. We had a smart thunder shower, with hail, at about noon; and slight showers followed. The Larch trees are budding, and the Elms in full flower. *Tumaria tuberosa* in bloom: also *Viola odorata*.

26th.—Fine west wind, with slight flying showers. The *Carabus hortensis* first appeared to-day. The Horse Chesnut trees began to put forth leaves. The *Anemone hortensis*, the Marigold, and several other early plants in flower in the garden.

27th.—Strong wind from W. and troublesome dust ushered in rain.

28th.—Fine small rain and warm air; vegetation begins to advance rapidly.

29th.—Fine day, with showers. I saw the *Veronica arven-*

sis* in blow on a wall at Woodford. Several kinds of *Narcissi* (*exotici*) came into flower in the garden. The *Tremella deliquescens* (of some authors) is still abundant on the sear wood of an old paling.

30th.—*Cardamine hirsuta* in flower to-day. Some of our vernal songsters are already arrived, and fill the groves with their music.

31st.—To-day came into flower the Cowslip *Primula Veris*, the Dead Nettle, *Lamium purpureum*, the *Veronica agrestis*, and *Veronica hederifolia*. Clouded, warm, still day. SW. wind, and thermometer barely reached 60° of Fahrenheit. Pilewort is now plentiful in the meadows. I have not yet seen the Marsh Marigold; but as this plant flowered by unseasonable anticipation in December last, it may not, perhaps, have flowered a second time yet.

April 1.—Fine warm weather, wind WSW., and thermometer 62°. The Garden Spiders and the Earwig first seen. The Wallflower in bloom, and also *Lamium amplexicaule* on the walls. The Bees begin to abound.

2d.—*Caltha palustris* at length coming into flower: fine warm weather.

3d.—The temperature above 60°, with clear Welkin, and red Sunset. I first noticed to-day the Least Willow Wren (*Sylvia Hippolais*) and the Blackcap (*Curruca Atricapilla*). The Bat was flying about in the evening. The yellow and brown Butterflies first appeared; and the Auricula, Sweet William, Hyacinth, and *Narcissi Odori* in blow.

4th.—The Redstart (*Phœnicurus Ruficilla*) first appeared. *Anchusa sempervirens* in bloom in the garden †.

6th.—Cold east wind; but fine day.

7th.—Fine day; wind SE., with Cirrus cloud, &c. The *Anemone nemorosa*, *Erysimum Barbarea*, and *Oxalis Acetosa* in flower on Hainault Forest. The Pettychaps became frequent on the Larch and Pine trees in the garden. Various species of *Staphilynus* come forth.

8th.—Rainy day. The lesser Pettychaps already frequent the Larches.

9th.—The female Redstart seen.

* Botanists should avoid confounding this *Veronica* with the *V. agrestis*, which it much resembles; the latter grows usually on the ground; the former generally on walls, in company often with the *draba verna*.

† The flowers of *Veronica Chamædris*, when growing wild, are of a lively blue colour, and so like those of *Anchusa sempervirens*, that only the slightest shade of difference can in general be found by comparison.

10th.—Fine and warm SW. wind in the evening. The Wryneck (*Jynx Torquilla*) heard at Walthamstow.

11th.—The Cuckoo (*Cuculus Canorus*) at North Mims. Plants in flower, *Populus nigra*, *Primula elatior*, *Ribes Alpinu*, *Vinca major*, and *V. minor*. *Scilla nutans* and *S. Italicus* in the garden. *Luzula pilosus*, *L. Forsteri*, and *L. campestris*. *Pulmonaria officinalis*, and *P. Longifolia*, *Narcissus pboticus*, *N. Pseudonarcissus*, *N. major*, *N. odorus*, *N. incomparabilis*, *N. tenuis*, and *N. Italicus*, (in open ground in the garden,) *Caltha radicans*, *Ranunculus aquatilis*, *Lamium Garganicum*, and *Anemone ranunculoides*.

Vegetation rapidly advances; the fields begin to be spangled every where with pilewort, daisies, and dandelions. A few instances are still afforded of the production of unseasonable phenomena, with which these last two years have abounded; among others the Bundelfungus, *Agaricus fascicularis*, is growing abundantly at Upton, in Essex.

Mr. T. F. Forster, of Clapton, discovered, at North Mims, on the 11th, a variety of the *Primula Vulgaris*, with bright saffron coloured yellow flowers.

T. FORSTER.

[This journal is to be continued in the neighbourhood of Tunbridge Wells.]

PART II.

ANALYTICAL REVIEW.

I.

Observations on the Prevention and Treatment of the Epidemic Fever, at present prevailing in this Metropolis and most parts of the United Kingdom. To which are added, Remarks on some of the Opinions of Dr. BATEMAN and others, on the same subject. By HENRY CLUTTERBUCK, M.D., Licentiate of the Royal College of Physicians, and one of the Physicians to the General Dispensary. Longman, pp. 299. 1819.

Practical Observations on the Treatment, Pathology, and Prevention of Typhus Fever. By EDWARD PERCIVAL, M.B., M.R.I.A., &c. Longman, pp. 156. 1819.

Practical Observations on Continued Fever, especially that form at present existing as an Epidemic. With some Remarks on the most efficient Plans for its Suppression. By ROBERT GRAHAM, M.D., Regius Professor of Botany in

the University of Glasgow, &c. &c. Smith and Son, Glasgow; Constable and Co., Edinburgh; Longman, Underwood, and Cox, London; pp. 84. 1818.

Statements relative to the present Prevalence of Epidemic Fever among the Poorer Classes of Glasgow; together with some Suggestions, both for affording more adequate Assistance to the Sick, and for checking the farther Progress of the Contagion, in a Letter addressed to the Hon. the LORD PROVOST of Glasgow. By RICHARD MILLAR, Lecturer on the Materia Medica in the University of Glasgow, &c. &c. Smith, Constable, Longman, Underwood, and Cox, pp. 48. 1818.

Remarks on the Causes, Prevention, and Management of the present Prevailing Epidemic, commonly called Typhus Fever, for the use and benefit of the People. By W. O. PORTER, M.D., one of the Physicians to the Bristol Infirmary, &c. &c. London, Baldwin and Co., pp. 53. 1819.

Observations on the Necessity of Parochial Fever Wards, with Remarks on the present extensive spread of Fever. By JAMES PARKINSON, Member of the Royal College of Surgeons. Sherwood and Co., pp. 20. 1818.

Observations on the Prevalence of Fever in various Parts of the United Kingdom, and on the eminent Utility of Houses of Recovery, exhibiting the great Advantages that would result from such an Institution for the Reception of the Sick Poor of Bristol and Clifton. By D. J. H. DICKSON, M.D., F.R.S., Ed. and L., &c. &c. Bristol.

An Attempt to estimate the Power of Medicine in Controlling Fever. By WILLIAM BROWN, M.D., Fellow of the Royal College of Surgeons, and Emeritus Professor of the Royal Infirmary, Edinburgh. Whyte, Black, Longman, Underwood, and Anderson and Chase, pp. 65. 1818.

THE term epidemic, in its application to disease, implies visitation; and when it is designed to predicate the existence and prevalence of any particular malady, its employment supposes that the occurrence of such malady has reference to causes that are in some measure extrinsic; or, at least, not in constant operation. What is the precise nature, and what the *modus operandi* of such causes? are questions then which naturally suggest themselves to the thinking mind when an epidemic affection makes its appearance; and accordingly we find such an event to be invariably followed by a multitude of conjectures and reasonings, and assumptions and

inferences, upon the origin and essence of the induced disorder.

The investigations that are thus set on foot soon branch out into collateral and dependent inquiries, and so become of a more complicated nature than might at first be supposed ; and as their object is not merely the satisfaction of speculative curiosity, but is of high practical moment, the most effectual method both of preventing the evil and mitigating its influence, forms necessarily a part of the inquiry.

That a certain state of morbid being, to which in a very vague manner is applied the generic term of fever, has recently been prevalent in a more than ordinary measure, is scarcely disputed ; and that the activity of the medical profession has been excited to a scrutiny of the particulars above alluded to, is sufficiently evidenced by the long list of publications, the title-pages of which have been just transcribed. The main questions which may be regarded as involved in the present inquiries, are, first, whether the epidemic of the present day is the same with the low nervous or typhoid fevers of preceding authors ; and if not, whether the diversity is attributable to the exciting source of the distemper, or to the constitutional peculiarity of the times ? Secondly, fever having established itself in an individual, is the induced deviation from health necessarily and *ab origine*, a topical disturbance, or are the local affections which occur mere consequences of the primary and radical derangement ? In the third and last place, how is the complaint most effectually to be guarded against, or most efficiently combated ?

That these are still unsettled and debatable points we need no further proof than is furnished us by the several publications of the day ; and in the documents immediately before us for review, we see how different are the inferences of sensible speculatists from precisely the same premises. By some accredited Practitioners of the present period it is asserted, that in assuming the identity of the now prevailing fever, with that of twenty or thirty years since, we commence our investigation by a *petitio principii*, and therefore stumble at the very outset of our inquiry. Other instruction, likewise of high authority, teaches us to regard idiopathic fever as virtually the same in kind, however it may incidentally and individually differ in degree : it goes on to say that the disease itself is nothing more nor less than a certain condition of the blood-vessels in the brain, known by the name of inflammation. This doctrine, both of the identical nature and “ local habitation” of all fevers, is denied and derided by many, who look upon the derangement to be of a more general origin and diversified character : and with respect both to prevention

and treatment, we meet, as might naturally be expected, with an equal discrepancy of feeling and opinion. To dash cold water upon the surface of the body, to take blood from the veins, to administer an emetic, to excite nausea, to produce sweat, and smartly to evacuate the contents of the intestinal canal, have all been lauded in their turns as measures, if early and judiciously had recourse to, sufficient often *in se* to prevent the establishment and full formation of fever; while the very principle itself of thus meeting and subduing the enemy, has met from one respectable quarter with formidable opposition; it being maintained that we possess no absolutely curative power over fever, and all that medicine is capable of effecting, from first to last, is to palliate or to mitigate the severity of accidental symptoms. Lastly; neither are the means of prevention absolutely decided upon; and while fever houses and fever wards are recommended, and earnestly insisted on as absolutely necessary, by the majority; others, who from their demonstrated talent and presumed sincerity, deserve at least to be heard, laugh at such plans of prevention as the devices of either mistaken benevolence or jobbing expediency.

In considering this extensive subject, the first suggestion that presented itself to our minds was to endeavour at the formation of a general essay on fever from the materials furnished us by the respective writers who have favoured us with their works for notice. It will, however, be more consistent with our professed plan of analytical reviewing, to discuss the prominent particulars of each of the volumes and pamphlets before us, interspersing such notice with occasional remarks of a critical nature; and if we find time and space at the end of the paper, we intend to close the whole with a few aphoristic corollaries.

Dr. Clutterbuck. This is a name that can never be pronounced without respectful feelings: and when we speak of the candour and ability of this author, we merely echo the general voice of the profession. If the point for which he strenuously contends be not made out to the satisfaction of others, the failure must be sought for in the defect of the principle itself, and not in the deficiency of talent by which it is supported. And if his volumes are closed by his readers with sentiments short of conversion, such readers, nevertheless, will always be instructed by the matter, and pleased with the manner of the author.

The following passages we extract at length, as expressive of Dr. Clutterbuck's notions on the contested point of identity or variety in fevers; and from which we imagine it will be inferred, that he contends for a sameness of essence in all

febrile disorders that are not symptomatic of local irritation, the diversities being merely circumstantial, and not properly referrible either to their exciting source, or proximate characteristic.

“ Fever in general is subject to be so much varied by circumstances, many of them of a very trivial kind, without any essential alteration in its nature or treatment, as almost to defy description, if we allow ourselves to descend to all the *minutiæ* which present themselves in different individuals. *Situation, mode of life, occupation, individual constitution, sex, and age*, are, all of them, circumstances capable of considerably modifying the character of the disease, so as to give minute shades of difference to it in appearance ;— to say nothing of the effect of medical treatment, and the general management of the patient while under cure.

“ That this is really the case, any one may satisfy himself, who will be at the pains of comparing together the histories given by different writers, of the present epidemic, as it has appeared in London, Dublin, Cork, Glasgow, and other places. In each, a variety of feature may be discovered, though a *family* likeness prevails throughout the whole. I have now lying before me a history of more than fifty cases of the prevailing fever in my own practice, as it has appeared in this city, and of which I noted down the symptoms with the greatest minuteness at the bed-side of the sick, generally once, and often twice, in the twenty-four hours throughout the disease. Upon a revision of these cases, I find that no two of them correspond in the minuter points ; though they all agree in the essential one, that is, in a manifest affection of the brain and its functions ; various in degree, and probably in extent ; with numerous, but accidental, complications from the affection of other organs.

“ Independent, however, of the circumstances above mentioned, epidemic diseases are subject to considerable diversity, from causes that are as unknown as those which originally produce them. This we learn from the works of Sydenham, one of the most acute observers and faithful narrators of what he saw. In tracing the history of epidemic fever for five successive years, he describes each as marked by considerable peculiarities ; and so, no doubt, it would be found at any other period ; new varieties springing up every day with every change of circumstances.

“ This serves to shew, that an affectation of extreme minuteness, in the description of diseases that are liable to be varied by a number of trivial circumstances, can answer no pathological purpose. The nature of fever must be deduced from more general views of the disease, and not from the laboured descriptions that have been often given ; which, though they prove the industry of their authors, serve only to confuse the subject, by confounding the *essential* with the *adventitious* circumstances of the disease. Were it otherwise, indeed, we should not, at the present day, be so continually disputing about the essence of fever, and as to its seat in the body ; for accurate observers and minute describers of diseases have abounded in different

ages, quite down to the period of the present epidemic; without, however, having either settled the pathology of the disease, or agreed upon the proper method of cure."

To the practical inference which is deduced by Dr. Clutterbuck from this principle of essential similarity in all fevers, we shall shortly have to advert. We shall now present our readers with another extract, by which the author's sentiments on the local origin of the malady will be more fully exhibited. After mentioning the general feelings and symptoms of falling off from health which usually usher in fever, Dr. Clutterbuck goes on to observe:—

"There is as yet no remarkable general disorder of system, nothing that in strictness entitles it to the appellation of *fever*. Yet such symptoms constitute, indubitably, the *incipient* state of the disease, and which it is of great practical importance to be aware of; for the entire and almost immediate suppression of it, is now greatly in our power. It is this stage, however, that is always the most neglected.

"The disease hitherto is merely *local*, and confined to the brain and its *immediate* or proper functions. In many instances it proceeds no further, the symptoms gradually declining again. This is the case where the disposition to fever is naturally but little; or where an indisposition has been acquired by habitual exposure to contagion; and also where prompt and active means of cure have been applied.

"But if the disease is about to pursue its course, the general vascular system becomes affected precisely as in other inflammations. Rigors, in greater or less degree, take place, and are succeeded, as usual, by increase of heat, frequency of pulse, thirst, and foulness of the tongue; in a word, by the concurrence of symptoms, technically called *pyrexia*: and now it is that the disease literally merits the name of *fever*. This is the *confirmed* state of the disease. It may terminate in two or three days, sometimes spontaneously, but especially by the active treatment of inflammation being applied to it; or it may be protracted to one, two, or three weeks, and even longer.

If it terminate early, and especially when the solution has been effected by blood-letting, the termination is generally rapid, and by sweating, which seems to be *critical*. But if, on the contrary, the disease is prolonged to the extent of three weeks or more, it then declines gradually; both the *general* symptoms, and the *local* affection of the brain, subsiding by slow degrees."

The remaining portion of this section is devoted to an announcement and description of varieties of form, and to detailing the manner in which the disorder becomes confirmed when not stopped short *in limine*.

In respect to the exciting causes of fever, Dr. Clutterbuck professes his dissent from the opinion of Dr. Bateman, that "unquestionably epidemic fever is generated, in the first instance, by defective nutriment." All that a deficient supply of necessary aliment is capable of effecting, is, according to

Dr. C., merely that of rendering the individual more susceptible of the actual exciting sources; and he suggests, whether the atmospherical or other circumstances occasioning scarcity by affecting the vegetable creation, may not, at the same time, exert a somewhat similar influence upon animal life, so as to excite a more than ordinary disposition to disease. This we conceive to be a very fair supposition; but the fact is, as we observed in our remarks on Dr. Bateman's book, that epidemic affections frequently break out without the operation of any causes that are at all cognizable either by sense or by science: and poverty, distress, cold, filth, and famine, are often quite as abundant where no particular malady is present, as during the existence of a distemper which we are too prone, from our desire to pry into causation, to attribute, in a wholesale manner, to these sources. "Even the present fever of the metropolis, as we have before remarked, did not make its first appearance at the time when suffering from scarcity was at its height; but it broke out with the greatest virulence in the year subsequent to that in which large numbers of our manufacturing community fell into unexpected and deplorable poverty." Some, indeed, we are aware, have traced its origin in this metropolis from the visits of Irish paupers, who, either in their clothes or their bodies, conveyed the poison to London. We are disposed, however, to think that the whole history of the recent epidemic justifies the presumption, to say the least, that a something beside transferred contagion has been operative in its generation and spread. We do not carry our scepticism so far as to deny the communicable nature of the engendered poison; but we cannot help thinking, that were contagion the sole source of epidemic fevers, a crowded population like London could never be free from their visits. Typhus, if we are allowed the employment of the term, as expressive of the complaint, would be rather an *endemic* than an *epidemic* of great cities. We are not quite sure whether certain conditions of the atmosphere, the nature of which has hitherto eluded all scrutiny, may not be necessary to the easy propagation and extensive spread of even the specific contagions, as they have been termed; for the origin, course, and decline of those diseases, which result from decidedly contagious poisons, often present peculiarities which are quite inconsistent with the presumed independence of such poisons upon what is passing about us. Indeed, the more we inquire into the laws of infectious and contagious disorders, the firmer becomes our conviction that a considerable degree of obscurity still involves the subject, and that a great deal has been inferred respecting them upon premises by far too

slender. A professor and practitioner of celebrity recently asserted, in a large assembly, that he had not seen a case of true typhus for the last twenty years. What did he mean by this assertion? Are we to understand by the proposition, allowing its truth, that the poison creative of "true typhus" is *in se* and absolutely different from that which gives birth to the present fever, in the same manner that measles differ from small-pox? Or does the avowal merely go to the assumption of a different state of the individual recipient? Here lies all the difficulty of the determination. But it appears to us that writers and teachers talk too much about identity and diversity in disease, without sufficiently recognising the necessity of the radical distinctions now referred to; distinctions which are not merely nominal and speculative, but upon which must hang a considerable weight of decision, as it refers to the controversy now carried on respecting the communicability or contagious nature of different distempers. It has been asserted that typhus fever would become plague, could an individual affected with the virus of the former be conveyed, while the disease was upon him, to Constantinople during the prevalence in that city of plague; but that, if the same speedy conveyance could be effected of a person in small-pox, the latter disease would, in spite of the prevailing atmosphere, retain its specific peculiarities. Now, could these positions be substantiated, they would go far to prove that the differences in fever of which we talk are rather incidental than absolute; and the fact would further justify the conclusion that, without denying the contagious nature of either plague or typhus, we might divest our minds of a considerable degree of that apprehension which would otherwise follow an abolition of quarantine enactments. It will not be understood that we mean to say such is actually the case: indeed the facts which are upon record, if they can be depended on, respecting the origin of plague in different parts of the world, from single individuals having transported thither the contagion, are at variance with the supposition now alluded to: certain, however, it seems, that susceptibility to infectious distempers is governed by somewhat different laws from that of the specific contagions. These hints, it is repeated, are merely thrown out for the consideration of those who, in our judgment, are too much inclined to confound predisposing with exciting causes when discussing the question of identity in disease.

The following quotation from Dr. Clutterbuck, with regard to the mode in which the present epidemic may be propagated, it will be seen, leaves the great question undetermined, respecting the independent origin of contagion: but the

extract, we think, is too much in the spirit of those theorists who think that fever must, in all cases, be either contagious or not. Does it not appear to be more in harmony with observation to infer, that the distemper is at once contagious and not contagious ; or that neglect of cleanliness and ventilation may, under favouring circumstances in the recipient, be equal to the production of a fever, which, in its course, shall engender a poisonous virus, that may be imparted to another in the same way that the specific contagions are received ?

“ Whether the *virus* producing the disease be generated, like that of small-pox, in the bodies of the sick, and thrown off from them by exhalation or excretion ; or whether, as some have imagined, the mere crowding together of numerous individuals, with neglect of cleanliness and ventilation, is sufficient for its production, without the actual existence of the disease previously, is a question that is more difficult to be determined. The decision is of some importance, undoubtedly, in regard to the means of prevention to be employed : for if the cause of the fever be *extrinsic* to the body, and merely the result of the accumulated exhalations and excretions taking place from it, prevention becomes an easier task, and will depend almost solely upon cleanliness and ventilation. In the other case, such means will of course be less effectual. I must however pass by this point for the present, having no means of deciding it satisfactorily.”

It will not be necessary to follow our author through his directions on the head of preventive measures, which are all, like those contained in most of the other works before us, grounded upon the three important principles, *separation*, *ventilation*, and *cleanliness*. 1st, “ The speedy removal of the sick from his family and friends.” 2d, “ The destruction of contagion in the places from which the sick have been removed,” by airing, white-washing, and fumigation ; and, 3dly, The correction of the evils which arise from confined and filthy habitations, by “ opening the confined courts and narrow alleys in the most crowded parts of the town ; or rather by removing altogether the most objectionable of them, and erecting in their stead straight and sufficiently wide streets, the elevation of which should be always proportioned to their breadth.” On the disputed subject of fortifying the body against the influence of contagion, Dr. Clutterbuck expresses his scepticism with respect to the alleged power of the Peruvian bark in effecting this purpose. “ The analogy,” he tells us, “ is, perhaps, too much strained, in imagining that because the bark prevents the recurrence of a paroxysm of *intermitting* fever, it will, upon a similar principle, prevent the accession of fever of a *continued* form.” And even allowing that “ a generous mode of living, with a moderate quantity of wine,” may guard the body in some degree against

contagion, as it does against cold ; we are likely, according to our author, to lose, by adopting it, as much as we gain ; since when fever does attack the generous liver, “ the disease is attended with more danger than in feeble habits.” Might not, however, an occasional and moderate use of the Peruvian bark, under some circumstances of necessary exposure, be calculated to insure the good without the risk of the evil ?—The virtues of this drug, both preventive and curative, were at one time lauded far beyond desert ; but it is questionable whether we are not altogether abandoning it, in the present day, too much in the spirit of disgust with which an old lover regards the object of his former unreasonable attachment.

When discoursing on the treatment of the present epidemic, Dr. Clutterbuck takes occasion further to enlarge on his favourite principle of the local, inflammatory, and identical nature of fever, under whatever form or degree it may appear. “ Contagion,” he tells us, “ first excites active disease in the brain ; and the variety observed in the general symptoms, is owing to the different degrees and extent to which this organ is affected.” But, on this head, we must make room for an extract of considerable length :—

“ To understand this, it is necessary to advert to the peculiar constitution of the brain, in regard to its circulation, in which it differs from all other organs.

“ The brain, it is to be considered, is included in an unyielding case of bone, which defends it from all immediate pressure of the surrounding atmosphere. The skull, like the other *cavities* (as we call them), is always completely filled by its *contents*, namely the brain, with its membranes and vessels, and the blood contained within them : there is no *vacuity*, all the surfaces being in perfect apposition, when no fluid happens to be interposed between them. These contents are all in their nature *incompressible*, at least by any force that can possibly be supposed to be applied to them during life.

“ It follows from this construction, that neither can the brain itself suffer any immediate alteration in its bulk, from pressure of any kind being made upon it ; nor, upon the simplest hydraulic principles, can the whole quantity of blood in its vessels vary, from one time to another, in any sensible degree. A difference in the *force* and *velocity* with which the blood moves in them, or in the *relative distribution* of this fluid, is all that can possibly take place. To one or other of these must be referred the changes that are observed in the state of its functions when suffering under active disease.

“ From the peculiarities mentioned, an increased action of arteries in the brain will often produce effects widely different from those which take place in other organs, not similarly circumstanced.

“ The arteries of the brain, as well as others, may have their actions increased in a certain degree, and at the same time preserve their diameters unchanged, or nearly so. When this happens, the force

and velocity of the circulation in the brain will be increased, and the functions of the organ be carried on with augmented energy. A state of *excitement* in the general system will succeed, with or without disorder, according to the degree of increased vascular action in the brain, and according as it is accompanied with inflammation, or otherwise.

“ After a time, however, and sooner or later in different instances, from the continuance of increased action, the diameters of the arteries will be increased; and these, by occupying a disproportionate space within the skull, will compress the veins, which, in this case, are the only parts capable of yielding to pressure. The circulation through the brain will, in consequence, be interrupted in greater or less degree, and the functions of the organ be proportionally impeded, with a diminution of energy throughout the whole system. Thus the same cause, *increased vascular action*, may produce the most opposite effects.

“ This serves to explain what takes place in fever. At the *outset* of the disease, while the inflammatory action is moderate, the functions of the brain are carried on in an *excited*, but *unequal* and *disordered* manner; accompanied with that general disorder of system, (*pyrexia* or the febrile state) which inflammation, wherever seated, so commonly induces.

“ In an *advanced stage* of the disease (and, in unfavourable cases, even in the beginning) the *arterial* system of the brain becomes distended, the *veins* are compressed, and the circulation through the organ more or less interrupted; and its functions, consequently, imperfectly performed. This may take place, up to the degree of complete apoplexy, or total insensibility; but still with more or less of *disorder* in the functions, owing to the nature of the disease (inflammation), and the unequal affection of the organ.

“ When we consider the variety of structure in the brain; that, in all probability, each part has its destined office, and is connected with, and influences, a different part of the system; and further, that the disease may affect one or more of these parts, and that unequally and in different degrees, we need be at no loss to account for the great diversity observed in the character of fever at different times, independent of that which proceeds from climate, constitution, and other causes.

“ From these physiological considerations in regard to the brain, I conclude that the oppressed state of functions, observed in violent or *malignant* states of fever, is not the result of the *sedative* operation of contagion, upon either the *nervous power*, or *vital principle*; but proceeds from interrupted circulation in the brain, the consequence of increased arterial action taking place there, and producing its effect in the manner stated. The use of such vague terms as *debility*, *exhaustion*, *collapse*, *venous congestion*, and the like, in order to explain the phenomena, appear to me to be quite unnecessary.”

Now the theory which the above positions involve, respecting the incompressibility of the brain, appears to our concep-

tion to be totally void of foundation ; and this we venture to assert, notwithstanding the avowal exposes us to the charge of differing from Dr. Monro, who, as Dr. Clutterbuck tells us, taught the doctrine many years since. It seems surprising that any pathologist can maintain the opinion, who recollects the large quantity of fluid which is often poured out into the ventricles of the brain, so as to distend these cavities to an enormous degree, without producing any alteration in the dimensions of the containing parts. When such deposition is gradually effected, Dr. Clutterbuck and Dr. Monro would tell us, that there has been a corresponding absorption in the actual matter of the brain : but, beside that this is a doubtful point, and, if Gall's principles of brainular construction are correct, an absolutely untrue assumption ; it will be recollected that the effusion is often so suddenly made, as to render the supposition of proportionate absorption, to say the least, highly improbable. From every view, indeed, that we find ourselves able to take of the case, our conclusions would be precisely the reverse of those now referred to ; and we should say, that if there be any part of animal organization more compressible than another, it is the brain ; and it seems thus constituted on account of the unyielding nature of its bony investments. Dr. Clutterbuck surely recollects, that it is not in this organ alone where we find " all surfaces in perfect apposition," but that the very same *natural* position of parts is even found in what is erroneously called the abdominal cavity, which is capable, nevertheless, of becoming enlarged by disease to an enormous extent. Indeed, every tyro in physiology, knows that there is no such thing as a cavity, strictly speaking, in any part of the body.

Dr. Clutterbuck admits that there may be a difference in the *relative distribution* of blood in the brain ; but it seems strange that he should, in the very face of this admission, talk in terms of contumely of that doctrine, which is altogether founded upon this principle, and should ridicule Dr. Armstrong's notion of congestive states as inconsistent with a sound pathology. The great source of failure, as it appears to us, of Dr. Clutterbuck's theory of fever, consists in his neglecting to recognise the primary link in the chain of causation. A something is applied to the body, say contagion, which proves sufficiently forcible to derange the whole system, and the impulse of which is first felt upon the sentient and moving powers of the body : the brain then, as the great organ of sensation, especially feels the influence of the deranging power ; its circulation becomes, by consequence, irregular ; vascular congestions take place from the induced irregularity in the balance of circulatory movements ; and thus

is the original affection of the head (an affection, which we conceive to be prior to any vascular change,) rendered more urgent and conspicuous. The occurrence of positive inflammation within the cavity of the cranium, we conceive to be infrequent, unless in those instances in which the fever terminates fatally; and it appears to us, that mere irregularity in the distribution of the blood, and consequent congestion, are not sufficiently distinguished from inflammation by authors in general, when they are endeavouring to ascertain the conditions that accompany or characterize fever. Not long since, the body of an individual was opened, who died from the first shock of fever virus, in a state of collapse, as Dr. Armstrong would term it; or, to use the almost exploded language of the Cullenian school, prior to the reaction, which, had the individual survived, would soon have become established. Now, in the encephalon of this man was found exactly that state of vessels which would have been *a priori* expected; the venous system was throughout actually gorged, while the arteries were even more empty than usual. Had the first shock been survived, the brain would necessarily have become the seat of much vascular irregularity before the circulatory balance could have been readjusted: but still, it is conceivable that the disorder might have run its course, and have terminated in health, without the induction at all of the real inflammatory state of parts; which, as above hinted, we should be glad to see more accurately defined by those authors, who insist so much upon inflammation being but another name for fever.*

But we must still further urge upon our readers the practical errors which may be likely to arise from the indiscriminate reception of these general and simplifying notions of fever's production. In Dr. Clutterbuck's own hands, we believe that fever patients would be always safe, since we could hardly name any individual who has come forward upon the world as a declared theorist, with so little disposition to make every fact bend to such theory; but we are apprehensive that the tenets he inculcates, respecting the identical and necessarily inflammatory nature of all fevers, is calculated to lead to a practice too indiscriminately depletory. Sydenham himself, it will be recollected, observed a marked difference in

* A sick headach, as it is erroneously termed, is a minor degree of the febrile state; and it is attended, not caused, by an irregular congestive state of the encephalic vessels, in the same manner as it is accompanied, not occasioned, by faulty action in the digestive organs; but it would certainly be improper to apply the term inflammation to the condition of vessels here present.

what is called the type of fevers in different years; and even allowing that the majority of cases we meet with of the present epidemic may bear bleeding very well, it is more than possible that, long before Dr. Clutterbuck's volumes lose their popularity, an epidemic may visit us which shall be characterized by different features, and demand a different treatment. We have just received a letter from an intelligent correspondent, (Mr. Woodham*), which want of room prevents us from inserting at length, containing an account of a fever that prevailed at the depôt for prisoners of war at Norman Cross, in Huntingdonshire, from 1797 to 1802, during which time the writer was Physician's assistant at that place. "From 1797 to 1799," says Mr. W., "the fever principally was that denominated by Huxham the low nervous fever; whereas from the latter date to the period of 1802, it was the putrid malignant fever of the same author, chiefly characterized by extreme prostration of strength, feeble pulse, and a dry mahogany tongue." With respect to these last, our correspondent goes on to state, "the head and contents of the thorax were the parts which chiefly suffered; and it is worthy of notice, that we invariably lost our patients when the lungs were seriously affected, but seldom or never when the head was so." The treatment was, by "the exhibition of an emetic, if the strength would admit, followed by a gentle aperient," with columbo and aromatics to give tone to the debilitated stomach, with "wine, from four ounces to a pint during the 24 hours." Now let us submit, as a respectful query to authors and readers, whether these patients would have fared better under a treatment directed by the dashing, inflammatory doctrines of the present day; or whether even Brunonian stimulation might not have been nearly as safe an expedient as bold depletion. At any rate, we feel fully convinced, that both the type and treatment of fever must be judged of and regulated with reference to something further than mere vascular conditions; and, on this score, if on no other, should we object to that simplification of its essence and management, which meets, we think, with too much encouragement from Dr. Clutterbuck's views. "It is inflammation," he tells us, "that we are to treat, whether the brain alone suffers, as in the simplest forms of the disease, or other organs are affected at the same time along with the brain—it is still inflammation; and our remedies are essentially the same. The proper adaptation of them to the different circumstances of the case, is the only point of difficulty."

* The writer of a paper in the present Number of the *REPOSITORY*.

Dr. C. divides "the prevailing fever with a view to practice merely" into three different stages; the first, or incipient; the second, or active stage in which the disorder is fully formed; and "the third, or stage of oppression, which, when strongly marked, approaches in its characters to the apoplectic state." He tells us, that blood-letting employed in the incipient stage of fever, will generally bring the disease to an almost immediate termination." He admits, however, that vomiting and purging used at this period will rarely fail to answer the intended purpose. "Stimulation may occasionally also succeed; but in case of failure, it is well calculated to confirm the disease." Of the cold affusion he has had no experience. In the second stage, blood-letting "ought to be the first measure resorted to," if the Practitioner be called within three days of its complete formation. Single large bleedings, as from twenty to thirty ounces, are generally preferable to repeated small ones: when the latter are employed, it is sometimes necessary to take from eighty to one hundred ounces before the object is fully effected. Blood should be drawn from the patient while he is in a recumbent position, "in order to insure a sufficient loss of blood, and at the same time to avoid fainting." The following remark, in regard to bleeding in the advanced stages of fever, we insert as, in our minds, exceedingly important, feeling as we do, that "the full and bounding pulse" is by far too indiscriminately set down as a mark of strength; it is, on the contrary, often an index of a state of the circulation in which weakness is exceedingly urgent. "The full and bounding pulse appears to me to be much more equivocal, as a reason for bleeding, than a small and contracted state of it." Purging and digitalis are the principal remedies of a general kind, which Dr. C. uses as adjuncts to bleeding in the active stage of fever. Blistering, our author objects to as a general practice, both in the first and second stage of the disease. Of antimonials he has not much to say. It may be remarked by the way, how much the fashion of medicine has changed, in respect to this last medicine: at one time it was lauded as a febrifuge, nearly in the same terms of encomium that blood-letting is at present spoken of; and now, an advocate for its employment is a sort of phenomenon in the medical horizon. Such an advocate has, however, recently appeared in Dr. Balfour, who tells us that tartar-emetic might, if properly employed, be made, in a very great measure, to supersede the lancet, both in fevers, inflammations, and even in affections menacing apoplexy. Dr. Clutterbuck concludes his section on the treatment of the confirmed stage of fever by some very just observations, in respect to

the propriety of occasionally supporting the system by nourishing diet to a moderate extent, in inflammatory states, even when we are pursuing the remedial plan of depletion. There is, however, we conceive, much more propriety in such a principle, as applied to inflammation, than true febrile complaints; and the vulgar adage of feeding a cold, (which is an inflammation) and starving of fever, is not altogether without foundation*.

When, on the treatment of the third stage of fever, Dr. C. takes occasion to ridicule the doctrine propounded by Armstrong, respecting venous congestion, and says he is at a loss to conceive how such a state should take place, "combined (as Dr. A. contends) with a deficiency of arterial action." For ourselves we should say, that in no other way but want of propelling power in the vessels, can this congestion have place: such propulsion being in one moment suspended, and in the next restored, constitutes, indeed, as we have before hinted, the principal peculiarity of fever, as far as mere vascular states are concerned. Dr. C. himself admits that this oppressed or apoplectic stage of fever, "consists in a *partially interrupted* state of circulation in the brain;" and that "the object to be aimed at in the cure, is the restoration of the circulation to its natural state;" and "the small bleedings" which are recommended in these circumstances, "followed by a moderate use of cordials and stimulants," are quite in harmony with the notion of relieving congested vessels, and urging on the circulatory energy, in such sort as to obviate re-accumulations. The practice of blistering, Dr. C. does not seem to be very partial to, even in this stage of the disease; but he recommends, when the oppression is urgent, small quantities of wine, of spices, of ammonia, and, if there be much restlessness, six drops of the *tincture of opium* at night, or even once or twice in the day."

We must now take leave of our ingenious author, merely adding, that the cases which he has recorded as an appendix to the present volume, are drawn up with a great deal of candour; and were it not that other cases likewise of different and still successful treatment in the present fever might be adduced, we should say that they might be considered as almost absolute demonstration, if not of the correctness of his principles, at least of the propriety of his practice. It has, however, lately fallen to our own lot to notice, upon a pretty extensive scale, the effects of remedies in the early stages of

* As in moral, so in medical science, we often find the trite axioms that are circulated among the vulgar, to be in accordance with correct principles.

fever; and we have generally found reason to be satisfied with insuring a free discharge from the intestinal canal, and using blood-letting both general and topical, rather incidentally, in order to meet the occasional urgency of unfavourable symptoms, than absolutely, invariably, and, in fact, as a febrifuge, in the way that Dr. Clutterbuck recommends.

Dr. PERCIVAL.—The volume now to be noticed we have read with considerable interest and pleasure, and we are sorry that our restricted time and room will prevent us from doing justice to its contents: it opens with some general remarks on the origin of infectious fever, and on the means of restraining its threatened prevalence in England. With Dr. Clutterbuck, and almost all other writers, Dr. P. considers that much is in our power, in the way of prevention, by the use of the three important measures,—separation, cleanliness, and ventilation. “What are the positive means of controlling the future progress of contagion throughout the country?” I answer in the terms which have been repeated and confirmed by almost every individual authority, from the time of Dr. Lind, SEPARATION, CLEANLINESS, and VENTILATION.

With respect to the dose of poison which is requisite to produce fever, Dr. P. remarks, that “it varies, first, according to the state or degree of fever in the person who emits the miasma; secondly, according to the degree of its concentration; and, thirdly, according to the bodily and mental condition of the recipient.” He further notices another law respecting contagious influence, namely, the curious fact, that exposure for a length of time to a fever atmosphere, renders the person less obnoxious to the poison producing fever. Hence the immunity of nurses and other attendants on fever hospitals. Does this fact explain the infrequent attacks of medical Practitioners, compared with what might be *a priori* supposed? Dr. Percival believes in the spontaneous origin of typhus fever, contrary to the tenets of those who maintain the absolute necessity in all instances for the application of contagion. “There are, indeed,” he says, “those who deny the influence of contagion; and the same incredulity seems to have led others to deny the spontaneous origin of typhus fever.”

The following remarks we present to the reader at full length, as bearing upon the disputed point of our means of controlling contagion.

“The contagious property of the plague was not discovered earlier than the fifteenth century. The horrors of that disease induced the Venetian Government, in the year 1478, to appoint officers of health for the protection of the public; and this appointment may be considered as the origin of medical police. These

officers soon discovered the necessity of preventing all communication between the healthy and diseased. Hence arose lazarettos and quarantines: and these institutions, which were the first fruits of medical police, have banished the plague from the greater part of Europe. The medical police of Malta, under the direction of a board of health, kept the garrison absolutely free from the plague which lately ravaged that island. Only seven soldiers died of the pestilence; while of the inhabitants, who were not under medical police, there perished 3348.

“Twenty years ago, a zealous and benevolent Physician in Chester, demonstrated that small-pox might be extinguished by means that were successfully practised for some time in that city. Had there then existed a national board of health, co-operating with provincial branches, it is scarcely to be doubted that small-pox would have been eradicated from these kingdoms, though the efficacy of vaccination had never been discovered.

“The same intelligent Physician has pronounced very sanguine expectations, that a similar plan adopted in reference to typhus would banish that pestilence also from the empire.”

In noticing the opinions of the present author, we mean rather to be analytical than critical, otherwise the several particulars which the anticontagionist would oppose to these anticipations of our author, on the efficacy of preventive measures in contagious and infectious diseases, might here fall under discussion. We must just allow ourselves to remark, that Dr. Percival, in another part of his book, admits, that “contagious influence is modified or graduated by causes, many of which are beyond our discernment; and *that fevers have their periods of prevalence or declension independently of the interference of human art.*”

Dr. Percival presents us with some very interesting remarks on the head of difference of susceptibility to fever, from age and sex, and rank in life. While, according to his own observations, the proportion of females which fall with fever are larger than of men, the mortality, on the other hand, is reversed; and this he very justly ascribes to the difference in organic integrity, so to express it, between the sexes. “It is obvious,” he says, “that the lower classes of men are more exposed to violence and hardships, and more addicted to intemperance and excess of all kinds, than women of the same rank; and in broken subjects, febrile actions, from whatever cause they originate, fall upon the diseased organs with peculiar force, and not only augment, but complicate the fever.” But farther: the rank in life is an important circumstance in modifying the nature of fever, as to the individual affected: and Dr. P. tells us, that while among the poor, the mortality from this disorder does not exceed, in ordinary circumstances of medical care, one in fifteen; “and in peculiarly

auspicious circumstances, perhaps one in twenty ;” one fatal case in five has been given as the ratio among the higher orders. This striking disparity our author ascribes—“ 1st. To the artificial habits of the higher orders, which render them more prone to severer congestive and inflammatory affections than the lower classes. 2d. All the cerebral functions, so peculiarly implicated in fever, are in the former much more susceptible of excitement and disorder. 3d. The intelligent sensorium, through which so much energy is distributed or misplaced in the system, is, in the poor man when laid on his sick bed, a dormant faculty ; but in the rich man, under the same circumstances, is the busiest instrument imaginable, of hopes and fears, provisions and anxieties, recollections and anticipations.”

These circumstances of difference are, we think, exceedingly well conceived, and admirably expressed. We should be glad, did our limits allow us, to lengthen the quotation.

The following we extract, as expressing our author’s sentiments on the nomenclature and classification of Typhus. “ Substantially,” he says, “ the arrangements, both of Dr. Bateman and Dr. Armstrong, correspond with my own. It has been our common object to dispose a family of fevers, which have hitherto boasted of more than twenty names, under the simplest generic denomination and the most obvious specific divisions. The genus then may be denominated *Typhus* ; the *species*, *gravior*, *mitior*, *mitissimus*, or *febricula* ; and the individual may be characterized in each species by the organ more peculiarly engaged with congestion or inflammation, as cephalic, pulmonic, enteric, &c.”

One remark shall suffice here, in addition to those which we have had occasion often to make on the absolute error even of the attempt to class diseased production according to the principles of arrangement in other departments of philosophy. In the above division it will be perceived that a slight febricula from cold, or irregularity in diet, is set down as a Typhus fever, and thus are all the disputes at once settled as to the specific or more general character of the disorder under notice. We do not mean to assert that such is not the case ; all that we wish to point out, is the incorrectness of assuming the fact in nomenclature until opinion is unanimous with respect to the fact itself.

“ Morbid Characters and Indications of Typhus.” This division of the volume is opened by the following statement:—

“ The leading features of Epidemic and Contagious Fevers are, rapid prostration of strength, with sanguineous determination to the head or other principal organ, attended with frequent pulse, increased heat, partial or general, and disordered secretions. The strong

analogy, prevailing amongst all fevers of this description, indicates a community of generic character. They differ from fevers arising from simple local inflammation, in many important particulars; but in none more remarkably than the sudden failure of mental and voluntary power, the tendency to perform a certain cycle of morbid changes in definite periods, and the power of propagating their kind in healthy subjects by contagion."

Dr. Percival then goes on to trace the general history of the complaint, remarking upon the pulse, the tongue, the temperature of the body, &c.: on the disputed point of critical days, he announces his agreement with the facts observed by Hippocrates; and, with respect to appearances after death, we meet with the following statements:—

"I have superintended numerous *dissections* of patients who have died in typhous fever. The examination has been almost invariably made within twenty-four hours after death. In typhus gravior, attended with low muttering delirium, and coma, the brain usually exhibited evidence both of venous and arterious congestion. These were not less observed in cases that had run a short course, than in those which were more protracted. On removing the upper part of the cranium, blood was frequently effused. The vessels of the pia mater and plexus choroides were often turgid, and portions of the serous membrane opaque. A glairy fluid, sometimes tinged with blood, was interposed between this membrane and the arachnoid tunic. Globules of air appeared often in great abundance in the vessels of the pia mater, which were easily ruptured in their small branches. More or less of limpid fluid was found in the ventricles; yet seldom in any considerable volume. The substance of the brain was in some cases firmer, in others softer, than the common standard. On dividing its substance, numerous bloody points usually presented themselves on the surface of the separated parts. No case of abscess of the brain (as described by PRINGLE and others) occurred to my observation.

"The phenomena here specified are in strict correspondence with the symptoms of typhus gravior, especially towards its decline; and elucidate the common termination of the disease in the manner of coma. In many fatal cases of petechial fever, however, the brain exhibits very slight evidence of sanguineous congestion. But these cases are not distinguished in their progress by acute cerebral affections.

"In almost every case that comes under dissection, whether of mild or malignant typhus, one or other of the following organs is found engaged with disease; namely, the lungs, the pleura, the liver, the peritonæum, the mucous and villous texture of the intestinal canal.

"The morbid appearances of the lungs, in such cases as have antecedently shown symptoms of pulmonic inflammation, resemble those which are observed after peripneumonia notha, viz. sanguineous congestion of one or more entire lobes, with mucous and purulent engorgement of the bronchiæ, a florid hue of the pleura of one or both

cavities, with serous effusion, coagula, and membranous adhesions. Sometimes the lungs are found studded with abscesses, or tubercles in various stages of advancement to suppuration.

“ The liver is found diseased, especially among paupers broken by habits of intoxication. That organ is sometimes found shrunk in its dimensions, hard, or knotted ; sometimes preternaturally enlarged, soft, and rotten in its texture ; gorged with blood, and grumous rather than bilious secretion. Sometimes its investing membrane is inflamed, with adhesions to the neighbouring parts. The gall bladder is in some cases distended with green or black bile ; in others it is found empty.

“ The peritonæum, in cases of antecedent tympany, exhibits a diffused blush of preternatural redness. The intestinal portion of it, in some enteritic cases, is marked with circumscribed patches, of a livid hue, accompanied with adhesions more or less extensive throughout the viscera. The abdominal sac, under these circumstances, always contains some serous fluid, from the quantity of a pint to that of two or three quarts, with filmy coagula. The inner coat of the intestinal canal is found variously diseased, from the mucous tissue of the fauces to the opposite alvine extremity. Portions of florid congestion, or livid patches, are not unfrequently discovered. Sometimes the membrane is invested with tenacious mucus ; in other instances it is preternaturally denuded of it. When dysenteric symptoms have prevailed, the surface of the membrane is partially or generally florid, with sero-puriform secretion, and scattered spots of darker hue, with separation of texture. Ulcerations, however, are seldom observed, except in cases of confirmed dysentery.”

The above account of the appearances on dissection, refers principally to what Dr. Percival calls typhus gravior. Typhus mitior is, he says, much seldomer fatal than typhus gravior ; but when death has taken place among his patients in the former, he has very often found, upon examining the brain, “ no deviation from the due or ordinary condition of that viscus ;” and, on a careful dissection of three persons who died suddenly, in appearance just recovering from mild fever, “ neither the brain nor any other organ showed the probable cause of these sudden deaths ; and there was no ground to impute them to errors or excess of diet.”

Our inflammatory theorists will, perhaps, urge that these were anomalies, for the explanation of which they are not accountable. To us, however, the occurrences seem rather in too large a number to be explained away by any evasive remarks of this kind ; and we must be allowed to contend, that they make strongly and strikingly against that theory which we have all along opposed, viz. That an inflammatory condition of the cranial contents, is identical with true fever.

Here, however, we must reluctantly break off, as the admission of other articles, which are already composed for the

present Number, will be inconsistent with the lengthening of the present. In the next Number, then, we shall resume the subject, and finish the consideration of the works that remain to be noticed.

II.

Medical Botany, or History of the Plants in the Materia Medica, illustrative of the London, Edinburgh, and Dublin Pharmacopæias, arranged according to the Linnæan System.

THIS work is published in monthly numbers, each containing six plates, and is evidently an imitation of Dr. Woodville's Medical Botany, but far inferior in execution. The advertisement is signed T. T. and dated from Cambridge; but the author is not known to us.

As a periodical work of this kind, well executed, would be agreeable to many young Practitioners, to whom the purchase of Dr. Woodville's book might be inconvenient, we should be happy if it were in our power to praise the present work, but our duty to the public forbids this proceeding. In the first number, the generic character is either omitted, or, as in rosemary, blended with the specific difference; but this is altered afterwards: the language of the whole, however, is very careless: the figures are as indifferent, and do not agree with the descriptions; that of the olive-tree is very bad, and two varieties of the fruit appear on the same branch. The black pepper is represented with the flower of a polygonum, coloured yellow, yet described as white, although authors unanimously agree it has neither calyx nor corolla; and the fruit is equally incorrect. The sugar-cane would scarcely be recognised by a West Indian; the two upper leaves are also represented as opposite. Although the leaves of madder are said to grow in whorls of four or five, they are represented in the figure in a whorl of three. As apothecaries usually purchase their jalap, &c. in the form of powder, their apprentices are, on examination, frequently at a loss to recognise the roots, &c. in mass: the representation of a root of jalap here given will certainly be of no assistance. In the figure of datura stramonium the capsule is represented with a four-leaved calyx adhering to it; yet the author himself says the calyx is deciduous; and we do not know what authority he can adduce for constantly writing "strammonium." The flowers of atropa belladonna are represented of three different shapes, the leaves wrongly placed; and we neither understand the figure of the berry, nor the use of figuring the root. But we are tired of having nothing to do but to find fault. The

figures adding so much to the expense of the work, they should in return be correct; but almost any old herbal, with wood-cuts, would give the student a better idea of the plants.

III.

A Treatise on Midwifery; developing New Principles, which tend materially to lessen the Sufferings of the Patient, and shorten the Duration of Labour. By JOHN POWER, Accoucheur, &c. Member of the Royal Medical Society of Edinburgh.

A WORK, the title-page of which promises so much as “*materially to lessen the sufferings of the patient, and shorten the duration of labour,*” could not fail to attract the attention of those, among whom we profess ourselves to be the most forward, who are anxious to alleviate the afflictions of parturient women. Whether the author has formed too sanguine expectations of the success of his peculiar method of practice, or has, indeed, chalked out a new path of usefulness to the cultivators of the obstetric art, we shall now proceed to inquire.

The work is divided into two parts: the first contains “the doctrines of parturition;” the second “practical observations relative to parturition;” and there is an appendix of illustrative cases.

We shall not be detained long by the doctrinal part of this work, which might have been abridged at least one half, with great advantage: yet we marked, as we read, a passage on which we feel inclined to offer a few comments.

The passage in question is at page 24, where the author announces a new method of trying a pain, without putting the patient to the inconvenience and unpleasantness of submitting to an examination *per vaginam*.

“We now turn to such effects of the parturient paroxysm as are detected by the attention of the accoucheur.

“On applying the hand to the abdomen of the patient, previous to the approach of the paroxysm, the uterus will be found in a flaccid state; the parts of the child, and other abdominal contents may, indeed, be felt presenting harder masses through its parietes, but its general feel will offer an easy compressibility; the paroxysm now commences; it immediately becomes evident, even before the patient has a perception of it, that a change is taking place; the compressibility gradually diminishes, until it is entirely lost, and the abdominal tumor is rendered so hard and tense, that a difficulty is found in producing the slightest indentation, so that it may be said, to speak emphatically, to become hard and solid as a board.

“ As the paroxysm recedes, the contraction and incompressibility gradually go off, and the softness and flaccidity return.

“ It may not be improper here to deviate, in some degree, from the subject before us, to notice the very delicate and excellent mode of trying a pain, which the above state of uterine contraction, as evinced through the abdominal parietes, affords; the information it gives is most important, and uniformly correct; no genuine parturient action is without it, and, when perfect, no false or unprofitable action is ever found co-existent with it, its presence evidencing the existence, and its absence the want, of the true energetic uterine principle, by which it unfortunately happens, that the most distressing states of parturition are often, for a length of time, totally unaccompanied. It is true, that it will not indicate the state of presentation, or the degree of progress; but when those points are ascertained to be favourable, the necessity of frequent examination *per vaginam*, which is always distressing to female delicacy, will be obviated by its use: the information it is capable of affording, might even be acquired through the dress of the patient, without trouble, or much appearance of interference; its most decided importance must, however, rest upon the ready opportunity it gives of becoming satisfied that the state of the parturient energy is correct; a point which will be found to require a regular attention, and to involve the most interesting consequences.”

The method here recommended, if implicit reliance may be placed upon it, promises to be very useful under certain conditions of labour. It cannot, however, supersede the necessity of an examination *per vaginam*, at the time, of all others, when such an examination is most unpleasant to the female, the commencement of labour.

But we conceive that this mode of examination may be advantageously called into use, in order to determine a question, which we have found even skilful Practitioners at a loss to resolve; viz. whether pains, apparently very strong, after many hours of labour, were uterine or not. We were called some time since on a Monday to a woman of forty, in labour of her first child. Upwards of twenty-four hours elapsed before any considerable impression was made on the os uteri. On the Wednesday, however, the os uteri being well dilated, a termination of the labour was looked for; but the head of the child had not passed through the superior aperture on the Thursday. The advice of a very eminent accoucheur was therefore requested, who, finding the patient suffering frequent and apparently strong pains, gave it as his opinion that there was no necessity for the interference of art. We objected, that though the pains were apparently strong, yet that they were in reality inefficacious; the consulting Practitioner thought they were rather spasmodic than uterine, and he attributed them to commencing inflammation either of the

uterus or peritonæum, and not to healthy uterine efforts ; and he alleged, in proof of this position, the extreme tenderness of the abdomen on pressure. The arguments that he used were not considered satisfactory, and it was determined to leave the case longer to nature. The next day, however, demonstrated the necessity of proceeding to artificial delivery. The perforator was employed, but not in sufficient time to save the life of the mother, who died in a few days, of what was called puerperal fever. Now if the criterion that this author proposes can be made available in such a case as this, he will have conferred a very great boon upon his brethren of the profession by giving it publicity.

At the end of the first part, the author has given a kind of *nosological* view of the varieties of the parturient state, which exhibits great research and precision.

Having thus given a very brief account of the first part of Mr. Power's book, we hasten to the second, containing his "practical observations relative to parturition."

After some preliminary observations, the author enters upon the consideration of his first class of labours, (Eutocia) NATURAL PARTURITION, which he defines to be *labour without painful action* ; and he adds, "the case terminates favourably within six hours."

"The happy state of parturition, which is described in the above definitions, is, unfortunately, under the *present* state of society, to be regarded as almost an ideal or imaginary process." We would ask, Under what state of society did this "happy state of parturition" ever exist? The oldest records we possess *uniformly* speak of childbirth as a process full of pain, anguish, and woe.

The second class, (Dystocia) UNNATURAL PARTURITION, is divided into three orders and twenty-three genera ; but the author treats only of the first order, "unnatural labour arising from derangement of the parturient principle."

This order of labours is subdivided into the following genera:—1. Labour with painful uterine action. (Oxytocesis). — 2. Labour with partial uterine action. (Merergasis). — 3. Labour with metastatic determination to muscular parts. (Myopathia). — 4. Labour with metastatic determination to the arterial system. (Angiosmus). — 5. Labour with diminished production of the parturient energy. (Apenergesis). — 6. Labour with exhaustion of the parturient energy. (Asotia). — 7. Labour with defective irritation of the os uteri. (Anerithismus).

Though each of these states of labour obtains some attention from the author, yet the object which he has principally

in view is to discuss the subject of metastatic determination, to which he attributes the difficulty of the labour in a great majority of instances.

It will not be in our power to follow the author through the long, and rather verbose disquisition which he has entered into upon metastatic determinations: he first gives a history of "the general symptoms," then of "the specific varieties;" next he treats of "the causes of metastatic determination to muscular parts," under the different heads of "the proximate cause, the pre-disposing causes, and the exciting causes." Afterwards he directs us how to form a prognosis and a diagnosis, and at length comes to the more important subject, "the treatment of metastatic determination to muscular parts."

"Admitting that most of the protracted cases of parturition, which have been characterized in the doctrines of the obstetric art, as occupying a longer period than twenty-four hours, depend upon the existence of metastatic determination, it will follow that the consideration of those measures which are best capable of removing it, must constitute a subject of the highest importance.

"This importance is not a little enhanced when it is also found that a considerable portion of the more favourable cases, occupying a less portion of time than twenty-four hours, are also referable to the same cause, since it has been attempted to be established, that a case of labour of the natural class should arrive at its termination within six; and of labour, with painful uterine action, within twelve hours from the commencement of the process.

"Whenever the case is protracted beyond these periods of suffering, it is most probable that it will be found, so far as it is referable to the nervous order, to be affected more or less by metastatic action of the muscular kind.

"The indications of treatment, which naturally present themselves, are threefold:—

"1. To effect the removal of the causes of the metastatic state.

"2. To obviate the effects of those causes; or, in other words, to relieve the spasmodic affections which are excited by them.

"3. If the above indications should be disappointed, to produce a temporary suspension of the case, in expectation that the ensuing efforts may be of the proper uterine kind."

For the removal of the metastatic determinations, the author proposes two sets of remedies:—*A*. Internal antispasmodics. *B*. External antispasmodics.

By internal antispasmodics he means such as are administered by the stomach, or that operate generally on the nervous system by external topical applications.

The *internal antispasmodics* most deserving of notice are:—1. *Æther*.—2. *Ammonia*.—3. Wine and spirituous fluids.—4. *Camphor*.—5. *Opium*.—6. Abstraction of blood.

The three first of these are, he thinks, rarely admissible,

since they are likely to increase the resisting powers nearly in the same proportion that they increase the propelling efforts.

Camphor is not much objected to ; but its beneficial effects are doubtful, in such doses as prudence would authorize the use of.

Opium is recommended in doses of thirty to forty drops, under certain conditions ; but we are judiciously cautioned not to induce suspension of the parturient action by its improper exhibition.

Abstraction of Blood, though introduced under the head of antispasmodics, is said to be hardly entitled to such an appellation. The author thinks it may be of advantage by producing relaxation in a rigid state of the parts ; but he rightly objects, that in proportion as it increases the disposition to relax, it diminishes the power of propulsion. The author on the whole believes that it will be seldom necessary, and says that he has never found occasion to resort to it. " One disadvantage attends it, that it is a formidable operation in the opinion of the patient, and may be productive of much mental emotion."

This objection to blood-letting during parturition is again strongly insisted upon in another part of the work, and we cannot avoid saying is an objection that ought not to be mentioned. To omit a useful means of giving relief, solely because the opinion of the patient is adverse to it, can never be a justifiable reason. We can remember when the same objection was urged to bleeding in the state of childbed ; and to this deference to the weak opinions of the attendants in the lying-in room, may be attributed the death of many women in puerperal fever.

The other objection to blood-letting, that it tends to weaken the propelling powers, is very deserving of consideration : we feel assured that we have witnessed this effect lately, in a poor woman from whom the quantity of blood taken was certainly much greater than the case demanded. This, however, is the abuse of an excellent remedy, not the warrantable use of it.

The *external antispasmodics* recommended by the author, are :—

" 1. Embrocations. — 2. Fomentations. — 3. Injections. — 4. Warmth. — 5. Pressure. — 6. Frictions.

Embrocations are supposed to be principally beneficial by supplying warmth and friction.

Fomentations are useful by imparting warmth and moisture to different parts : they are said to be particularly serviceable in painful affections of the pubic region, pudenda, and perinæum : our own experience strongly supports this opinion.

Injectiōns are deservedly commended; but the author seems to use them only into the rectum.—Mild injections have been recommended to be thrown into the vagina and uterus. Of their use during labour, we can say but little; but we have found them abundantly beneficial when employed after all kinds of artificial delivery.

Warmth, applied in a dry state, is often of service.

“ *Pressure*.—It is well known that supporting a muscular part which is acting spasmodically, will assist materially in preventing or relieving that spasmodic state: this is instanced in various cases of cramps and pains, and in midwifery is familiarly illustrated by the anxiety the patient so commonly expresses, to have her back supported under the paroxysm of pain.

“ The same assistance, where it is possible to give it, may be advantageously extended, during parturition, to every part affected with spasmodic pain, but more particularly to the abdomen, back, hips, thighs, sacrum, and perinæum. It may be effected by the pressure of one or more hands; and it seems proper to continue the support during the interval, as well as the paroxysm. An excellent mode of adhibiting it will be found in the application of a napkin expanded about the abdomen, and tied tightly round the back: this may be tightened at pleasure by an attendant placed behind, so that a regular and uniform pressure may be kept up to any degree.”

Friction. The greatest novelty in the work, and that for which the author claims to himself the merit of originality, is the introduction of friction, as a powerful means of relieving the metastatic determination of the parturient energy.

“ Friction is, without doubt, beneficial, by exciting warmth in the part rubbed, and also in affording it pressure and support; it is probable also that it possesses a peculiar *ratio operandi* dependent upon a stimulating action produced amongst the nervous rami of the muscular fibres, by their consequent agitation or concussion, and by which their local or innate irritability (*vis insita*) may become so far exhausted, or changed in its quantity, or susceptibility of receiving nervous impressions, as to give rise to diminished action or quiescence of the moving fibres, with correspondent cessation or diminution of painful sensation. The nervous energy being thus prevented from being expended upon the part affected metastatically, is determined to the proper seat of its action, the uterine muscles.”

“ It has been advanced that the present genus is characterized by the existence of spasmodic pain of the muscles affected, and soreness on pressure continuing through the interval; the above state of pain, although it occasionally and partially continues or lingers through the interval, is more particularly attendant upon the paroxysm. The application of friction will be found to alleviate or disperse both these symptoms, so that the spasmodic pain will often be entirely removed, the subsequent paroxysms being simply attended by the efforts of expulsion, conjoined more or less with the pains necessarily arising

from the dilatation of sensible parts or spasmodic uterine action ; the state of soreness will totally be done away with, so that the patient who, at the commencement of the friction, could scarcely bear the slightest touch, will now suffer the roughest pressure without inconvenience.

“ This sense of soreness occasionally produces a strong objection on the part of the patient to the use of the friction ; and she will, in consequence of the distress accompanying its commencement, earnestly entreat its discontinuance. Her wishes must, however, on no account be complied with, and she ought to be encouraged to support the operation with resolution and patience, under the full assurance (an assurance which will not be disappointed) that the inconvenience of which she complains will speedily vanish under its use : the objection, in reality, constitutes the strongest reason for perseverance, as being a certain evidence of the existence of metastasis, the removal of which is necessary for her welfare, and which the friction will, if persisted in, be almost certain to remove.

“ The application of friction will, however, rarely be found a painful operation to the patient : on the contrary, if artfully commenced, the relief and comfort experienced from it will both surprise and gratify her, although this happy effect may prove not a little troublesome to the accoucheur himself : the author has occasionally been compelled to keep up his friction, even with both hands at once, for one or two hours without intermission, in consequence of the urgent entreaties or commands of his patient, whose relief from it has been so great, that she would on no account allow him to desist or quit her for a moment.

“ The length of time required to produce the desired effect will be found different in different cases, according to the nature of the exciting causes : in some the improper action will be removed almost instantly, and, as it were by a miracle, so that a case which has been protracted for the greater part of a week under the most intense suffering, without the least progress, has been happily terminated in fifteen or twenty minutes from the first commencement of the friction ; in other cases a longer period will be requisite, before any evidence can be gained of its good effects ; but it may in general be expected that the paroxysm following the commencement will be combined with uterine efforts, and the pain and soreness which had previously existed, materially lessened.

“ The spasmodic actions of the part affected may be taken off without the metastatic action being removed ; which action will then be determined to a new set of muscles : for instance, if it has previously existed in the abdominal muscles, it may, on being expelled from thence, fix itself upon the lumbar ones : in this case particular attention should be paid to the exciting causes, which may be considered as powerfully exerting their actions ; but the use of friction is not to be relaxed from ; on the contrary, a more vigorous application will become necessary, and the back must be rubbed in its turn. The spasmodic pain may now possibly revert to the abdomen, and may be thus made to oscillate at pleasure from one to the other : it will

now be requisite to apply the friction to both parts at once, each hand being brought into action, and occasionally a third or fourth may become desirable: this want may be imperfectly supplied by an assistant, who can, if unable to supply the friction, at least keep up warmth and pressure.

“ In the above case, the operation always requiring much exertion from the Practitioner, becomes peculiarly laborious, at least until he is habituated to it; if, however, it multiplies his exertions, and exhausts a portion of his strength, he will find himself amply recompensed by the saving of time, and the satisfaction of having afforded real good to his patient. The old adage, that “ practice makes perfect,” will eventually operate in his favour, and neutralize his exertions: the author has, from practice, acquired so much facility, as to be able to use both hands at the same time for one or two hours without intermission, and with little fatigue.

“ It is a feature of no small importance in the effects of friction, that those patients with whom it has been used have, in almost every instance, recovered with remarkable celerity, although in previous and protracted parturitions, where it was not employed, they had sustained much subsequent illness, and deferred recoveries: in short, in the practice of the author, puerperal diseases are comparatively unknown.”

Respecting the manner of applying the friction, we are told by the author, that

“ Experience has proved that it is not so efficacious when applied with the palm or flat part of the hand; the friction is then not so regular, the warmth and glow attending it less excited, and the exertions of the operator are materially increased; nor will its good effect be so decided.

“ The better mode of applying it is with the ends of the fingers, applied together so as to form the segment of a circle, and moved over the part to be rubbed, in much the same way as the sound is elicited from a tambourine: this must, however, be done with great celerity, making from 130 to 150 motions of the hand in a minute, and, at the same time, with such degree of pressure as will produce considerable warmth and glowing feel in the part. The application should be made to the skin itself, and not through the medium of clothing, and must be vigorously kept up in the above described manner, and extended with rapidity over the part affected; and if the spasmodic action should be found to vary its situation, it must instantly follow it.

“ Notwithstanding it may appear to have produced its full and decided effect, the friction must be persisted in for some time, as it will not unfrequently happen, that, when discontinued, the metastatic action will return; at least it must be occasionally repeated, particularly if any variation in the nature or seat of the pain is observed.

“ If the state of soreness is considerable, the friction must be cautiously commenced, only a slight degree of pressure being at first used, according to the sensations of the patient: this must gradually

be increased; and it will be found, that, in proportion as it proceeds, the soreness will be diminished, until its full force can be sustained without inconvenience.

“ In order to perform the operation with comfort to the accoucheur, the bedclothes and dress of the patient should be arranged so as to offer the least possible impediment; for it is singular, how immediately the arm tires if any obstacle is opposed to it; the position of the patient must be regulated by the part requiring assistance, and will generally be obvious: to make the application to the abdomen, she will conveniently lie on the back, but the usual position on the left side will generally be found most convenient. It may be remarked as an useful fact, that the part on which the patient lies is very rarely affected by the spasmodic state, in consequence of the pressure and support given to it.”

Of the use of friction, as a means of giving relief, in protracted labours, we can really say nothing, for though we may occasionally have partially employed it, yet it has never been tried in our practice so perseveringly, or with the same motive, as by Mr. Power: but that it may sometimes be beneficial, is very probable. We regret to observe, however, that even in the author's practice it has not been so successful as his juvenile ardour induced him to expect: so unfortunately do our too sanguine hopes end in disappointment.

The author with praiseworthy candour admits:—

“ For a length of time his success was so decided as to encourage in him the flattering expectation, that the practice afforded an almost certain means of overcoming every case of difficulty, which a protracted case of what was termed natural parturition could present; experience has now corrected his juvenile ardour, by evincing that, in many instances, the causes of the protraction are various, and the spasmodic affections too obstinate to be subdued by its use, as well as their seat too remote to be affected by its application. Yet he still believes, that in a majority of cases the eulogium, which his first experience suggested as due to it, is fully merited.”

Upon the whole, we must acknowledge that this book contains much sound practical information, drawn up by a man of experience, skilfulness, and learning. Its great defect is an exuberance of words, and a highly reprehensible substitution of new terms for novel principles: the reader is fatigued with the ornaments that are heaped about the sense: he is cloyed with the sweets, before he can make himself master of the substantial matter. A judicious use of the pruning knife might render it a work of standard reputation.

PART III.

SELECTIONS.

Some Observations on the Opinions of the Ancients respecting Contagion. By G. D. YEATS, M.D., Fellow of the Royal College of Physicians, &c. &c.

(*From the Quarterly Journal of Science and Arts.*)

AN opinion having been promulgated that the ancients disbelieved in the doctrine that fevers were contagious, that is, that the disease was propagated from one individual to another by contact, it appeared to me a matter, at least, of curious, if not of useful, research, to inquire how far this opinion was founded in truth. They who will take the trouble to turn over the pages of the ancient historians and poets, will soon find that the description of fevers, both by medical and historic writers, clearly shows that it was the generally received opinion, that human bodies conveyed to each other febrile infection of a highly malignant nature; and further, it is stated, that diseases were propagated by contagion and infection from brutes to the human race. It would be a matter of grammatical hypercriticism to give the etymology of the word contagion, which, of itself, as so closely connected with its Latin derivation, is sufficient to show what was the idea entertained of the mode by which some diseases were conveyed from one individual to another. It will not be necessary to look into histories more early than that of Thucydides; although it is related that, after the destruction of Troy, a pestilential disease raged in Greece and the neighbouring countries of Asia; and Herodotus attributes it to the miseries consequent to, and connected with, the Trojan war.

In the second year of the Peloponnesian war, which scourged Greece for twenty-seven years, and which commenced about four hundred years before the Christian æra, a raging pestilence broke out in Athens; an invading army of sixty thousand men covered the beautiful plains of Attica, and compelled thousands of the inhabitants to seek protection within the walls of the already populous and crowded cities; thus generating and increasing, by a pollution of the air in confined habitations, pestilential disease; accordingly, as Thucydides says, ἡ νόσος επενείματο δὲ Ἀθήνας μὲν μάλιστα, ἔπειτα δὲ καὶ τῶν ἄλλων χωρίων τὰ πολὺ ἀνθρώπινα.—*Thucydid. Hist.* lib. ii. p. 134. Francofurti, 1594.

“ This pestilent disease raged chiefly at Athens, and also in other places where the inhabitants were the most crowded. Diodorus Siculus, in his account of the same pestilence, declares the opinion that the disease arose in consequence of the unusual crowded state of Athens—οἱ δ' Ἀθηναῖοι πάρατάξασθαι μὲν οὐκ ἐτολμων, συνεχόμενοι δ' ἐντὸς των τειχων, ἐνέπεσον εἰς λοιμικὴν περίσασιν. πολλὰ γὰρ πλήθους καὶ παντοδαποῦ συνέρρηκτος εἰς τὴν πόλιν, διὰ τὴν στενοχωρίαν εὐλόγως εἰς νόσους ἐπιπτον, ἐλκοντες ἄερα διεφθαρμένον. Lib. xii. p. 101. “ The Athenians, not daring to meet the Peloponnesians in open battle on the plain, remained cooped up within their walls, and caused pestilential effluvia ; for great multitudes of people from all quarters congregating in the city, very readily generated disease by breathing a corrupted air.”—The eloquent and animated description which Thucydides gives of the symptoms, clearly describes a fever of the most violent kind. It was attended with such violent thirst and evolution of animal heat, that the miserable sufferers threw themselves into the sea, into ponds, and even into the wells, to quench their thirst and raging heat. The art of the Physicians not only was of no avail, but they themselves, and all who approached the sick, were cut off by the contagion—ἀλλ' αὐτοὶ μάλιστα ἐθνησκον ὅσω καὶ μάλιστα προσήσαν. P. 129.—Such was the dread created by thus catching the contagion, that people were unwilling to attend the sick ; there was a mutual fear of visiting each other, and whole families perished in consequence of want of assistance ; and they who braved the danger, from a principle of virtuous affection in attending their sick friends, perished in heaps—καὶ ὅτι ἕτερος ἀφ' ἑτέρου θεραπείας ἀναπιμπλάμενοι, ὥσπερ τὰ πρόβατα ἐθνησκον καὶ τὸν πλεῖστον φόρον τῷτο ἐνεποίει. εἴτε γὰρ μὴ θελοιεν δεδιότες ἀλλήλοις προσιέναι, ἀπώλυντο ἔρημοι, καὶ οἰκίαι πολλαὶ ἐκενώθησαν ἀπορία τοῦ θεραπεύσοντος, εἴτε, προσίοιεν, διεφθείροντο, p. 132. Thus, then, it appears clearly from the account of Thucydides that the contagion not only spread from one individual to another, but what is very remarkable, as showing the belief of the virulence of the disease caught in this way, he adds, that the greatest part of the mortality was produced by this communication of the contagion—καὶ τὸν πλεῖστον φόρον τῷτο ἐνεποίει, and in the popular clamour which was raised against Pericles for involving his country in the destructive Peloponnesian war, he was accused, says Plutarch, of giving more violence to the pestilence which raged at Athens, by keeping the people cooped up like herds of cattle to be infected with contagion from one another ἀλλ' ἔων ὥσπερ βοσκηματὰ καθειργμένοις, ἀναπιμπλάσθαι φθορᾶς ἀπ' ἀλλήλων. Plutarch, *vita Periclis*.

Aristotle, the son of a Physician, has in one or two of his problems, proposed questions for reasons why diseases should be propagated from a diseased person to a sound one who approaches him. So prevalent was the opinion of the contagious nature of pestilential diseases, that he puts it down as a problem — *Διὰ τι ποτε ὁ λοιμὸς μόνη τῶν νῶσων μάλιστα τῆς πλησιάζοντας τοῖς θεραπευομένοις προσαναπίμπλησιν; ἢ ὅτι μόνη τῶν νῶσων κοινῇ ἐστὶν ἅπασιν ὥστε διὰ τῆς τοῦ πᾶσιν ἐπιφέρει τον λοιμὸν, ὅσοι φανλῶς ἔχοντες προὔπαρχσι, καὶ γὰρ διὰ τὸ ὑπεκκαυμα τῆς νοσῆ της παρὰ τῶν θεραπευομενων γεινομένης, ταχέως ὑπὸ τῆ Πράγματος ἀλίσκονται.* Sect. 1, Prob. vii.

“ From what cause does it happen that the plague alone of all diseases especially infects those who approach the persons labouring under it? Whether is it that, of all diseases, mankind are more susceptible of it? Therefore, on this account, the plague attacks all who, being of a bad habit, are first seized with it; for a fomes of the disease being generated in those labouring under it, others are quickly infected with it.”

No doubt can possibly be entertained here of the opinion respecting the contagious nature of plague; on the contrary, the opinion is so established and believed, that it is asked, why it should be so? It is also not a little curious, that Aristotle should state, that the plague first commences in those who are of a bad habit of body; or, to speak in modern language, he conceived a predisposition of the constitution rendered the body more susceptible. The constitution, being thus impregnated with disease, generated a fomes, which readily communicated the contagion to another. I take *υπεκκαυμα* to be very expressive in this way. Thus we have the complete modern doctrine explicit and clear in a single problem of Aristotle, the susceptible predisposition of the body in taking infection, the generation of a fomes, or infectious principle, readily communicating the disease to others by contact. In the eighth problem of the seventh section are some more explanations on this point; in which he observes, all are easily affected with such diseases as arise from a corrupted source, such as pestilences, for they who approach such are immediately infected, *ὁ δὲ πλησιάζων τοῖς τὸν ἀνάπτει.*

(To be Continued in our next Number.)

PART IV.

**FOREIGN MEDICAL SCIENCE AND
LITERATURE.**

PHYSIOLOGY.

I. *Condition of the Stomach during the act of vomiting.* — Professor Magendie, it will be recollected, in the year 1812 presented to the French Institute a memoir, intended to prove, by a long series of experiments, that the stomach is not the principal agent in vomiting, but the pressure exercised by the abdominal muscles on the gastric organ during this act. Messrs. Cuvier, Pinel, Humboldt, and Percy, were commissioned to inquire into the correctness of the facts and opinions thus advanced; and, after having witnessed the repetition of all the Professor's experiments on this subject, declared themselves perfectly satisfied with his new theory of vomiting. These experiments have also been shown annually by the Professor in his lectures, and repeated in different parts of Europe, without, he asserts, in any known instance, invalidating the doctrine which they were intended to establish.

Nevertheless, a memoir, in which these experiments were contradicted, subsequently appeared from the hand of Dr. Maingault; who, however, did not assert that he had seen the stomach contract in vomiting, but cited facts, in his opinion, inexplicable by the theory of Professor Magendie. Thus he had seen a dog, while stretched on his back, and in whom the abdominal muscles, and even diaphragm, had been divided, in some cases reject the liquid contained in the stomach. This work was presented to the Société de l'Ecole de Médecine; and Legallois and Beclard appointed to examine it; but as these gentlemen did not find the facts advanced by Dr. Maingault contradictory to the results stated by the Professor, the former withdrew his memoir in a pique, and printed it previously to the report of the committee. This, however, did not prevent Legallois and Beclard from publishing the results of the experimental inquiries instituted by them on the occasion; and which, completely substantiating the theory of Magendie, were inserted in one of the bulletins of the society for 1813*.

* Bulletin de la Société de l'Ecole de Médecine. 1813. No. X.

In October of the same year, Magendie presented to the Institute another memoir, wherein he examined, by fresh experiments, the influence of the œsophagus upon vomiting, and described, and explained, in harmony with his own theory of that operation, the phenomenon observed by Maingault*. This, in conjunction with the report of Legallois and Beclard, seemed to have destroyed all the objections advanced against the doctrine, and to have silenced in every respectable quarter the spirit of controversy respecting it.

Under these circumstances has appeared a memoir of Professor Portal†, wherein he proposes to re-establish, on the ruins of Magendie's theory, the ancient doctrine, which regards the stomach as the principal agent in vomiting, and the contraction of the abdominal muscles as merely an accessory. Such being his object, he ought clearly to have shown that the stomach contracts at the moment of vomiting. This, however, he has not done; and, if the experiments of Magendie and his partizans be not utterly deceptive, could not do; since, according to them, the gastric organ does not contract during the act; but on the contrary becomes distended, and filled with air. Professor Portal has therefore adopted a different and much less conclusive mode of reasoning. After rapidly tracing the various opinions of authors upon vomiting, and particularly those of Professor Bayle, of Thoulouse‡, who, in 1621, first started the doctrine so ably advocated in our own days by Magendie, he formally decides for the contraction of the stomach, and advances in proof of it:—1st. The experiments of Maingault, already alluded to. 2dly. Two experiments made by himself in 1771. And, 3dly. Inferences deduced from pathological observations.

1. The experiments of Maingault, which go to prove that vomiting takes place in the stomach of living animals, not only after the division of the phrenic nerves, but even after destruction of the diaphragm, and transverse section of the abdominal muscles, have, Portal asserts, been repeated in the presence of Chaussier, Desormaux, and Muigrier.

2. The experiments upon vomiting, instituted by Professor Portal, are the following:—A *certain* dose of arsenic was given to one dog; and to another, a large quantity of paste, prepared with nux vomica. The first dog was speedily attacked with vomiting, hiccup, and convulsion. The abdomen was then opened, and the recti muscles, as well as the aponeuroses of the obliqui and transversales, were cut across;

* Bulletin de la Société Philomatique; Année 1813.

† Journal Universel des Sciences Médicales. Avril, 1818.

‡ Dissert. Physicæ Sex. Tolosæ, 1631.

yet the vomiting continued, and the stomach was observed to relax and contract alternately with force, and invariably during expiration, when the diaphragm was elevated towards the thorax. The stomach, full of alimentary matter, was several times compressed during the contraction of the diaphragm, with a view of causing its contents to regurgitate into the œsophagus and excite vomiting. But these attempts were unavailing, as the inferior extremity of the œsophagus was strongly constricted by the diaphragm while contracting. The dog which had swallowed the *nux vomica*, continued to experience violent vomiting, although its abdomen had been likewise opened.

3. Professor Portal does not deny that in the healthy state the stomach may derive powerful assistance from the abdominal muscles in the act of vomiting, particularly from the transversales, the principal office of which is to contract the abdominal cavity; in doing which they invariably impel the spleen and liver against the stomach, and consequently compress it in a lateral direction, while by the aponeuroses, the anterior surface of the organ, when distended with aliment, is thrust backwards against the spine, and down towards the navel. Hence results a change in the situation of the stomach, which so signally favours vomiting, that it may almost take place from this cause alone, with little or no assistance from the contractions of the organ itself.

This will be more clearly understood on recollecting the observation of Winslow, that in the empty state of the stomach, one of its surfaces is placed anteriorly, the other posteriorly; that one of its curvatures is superior, the other inferior, and both situated on the same plane; and that its large or cardiac extremity is situated superiorly with respect to the pyloric. Under these circumstances, adds Portal, the œsophagus opens directly into the stomach, without forming any bend by which it can be contracted at the point of insertion into the organ; while the duodenum, contained in its sheath of peritoneum, and unadherent in its superior third part, except by a loose cellular structure, forms two or three very remarkable curvatures. On being distended by aliment, however, the situation of the stomach undergoes a considerable change. Its anterior surface then becomes nearly superior, and its posterior inferior; while the smaller curvature is carried backward, and its larger raised anteriorly, and applied against the anterior sheet of peritoneum, immediately behind the abdominal muscles, so as to project visibly, and render sensible, particularly in weak and irritable subjects, the pulsation of its inferior coronary, or right gastro-epiploic artery. When the stomach is thus elevated,

its left extremity is, by the contraction of the transversales muscles, thrown somewhat inward with the spleen against the diaphragm, while the pyloric is raised and carried anteriorly: whence result such a bend in the lower part of the œsophagus, and extreme contraction of the cardia, as effectually oppose the reflux of alimentary substances from the stomach into this canal. Meanwhile, the superior flexure of the duodenum diminishes or disappears; hence necessarily facilitating the passage of the food into the commencement of the small intestines, where it the more readily descends, as the duodenum possesses a muscular structure much stronger than that of the jejunum and ileum. This circumstance, joined to its excess of capacity, has caused the intestine in question to be regarded in man as a second stomach. Of these views, considered only by Winslow in their relation to the natural condition of the organs, Professor Portal makes the application to the state of disease.

The regurgitation of food into the œsophagus, and consequently vomiting, is, he observes, singularly favoured, if the bend of that canal disappears while the curvatures of the duodenum are again forming; and this constantly takes place when the stomach is thrust backward and downward by the abdominal muscles. An idea of the effects of their action may be formed by exercising pressure anteriorly on the full stomach of a living animal, after having opened the abdomen, or on that organ in the dead subject, when it has been previously filled with water. These physiological notions explain how it happens that even a small tumor, situated in the great curvature of the stomach, or an enlargement of the left lobe of the liver, exercising compression on its lesser curvature and superior surface, excites frequent vomiting, as also elongation of the spleen towards the umbilicus, and congestion of the omentum; and why an hypogastric bandage, or the horizontal posture, will, in the last case, by obviating the mechanical effect of the enlarged omentum on the gastric organ, cut off the source of irritation. Two successful cases, illustrative of this practice, are detailed. In one of these the omentum, in the other the spleen was *thought* by Dr. Portal to be enlarged, and thus to have incommoded by weight in the first instance, and by pressure in the latter, the digestive viscus.

Invariably in vomiting, concludes the veteran Professor, the stomach is in a state of convulsion, which is subsequently communicated to the abdominal muscles; for every thing announces that the contractions of the latter are, at least most commonly, but consecutive; and by admitting these opinions we combine physiological knowledge with that of pathology,

and confirm the doctrine of idiopathic and symptomatic vomiting; the first an effect of contraction, from irritation operating directly on the stomach; the other consequent on some affection of the nerves of the different parts, communicating with those of the gastric organ.

To this memoir Professor Magendie has published a spirited, and, in our opinion, tolerably satisfactory reply. The present article has, however, already so far exceeded its prescribed limits, that we can only allow ourselves to notice the refutations of the arguments advanced by Portal in the three preceding paragraphs.

1. With regard to the experiments of Maingault, we have already, in tracing the grounds and origin of the controversy, stated the objections of Magendie. Portal also, it seems, acted somewhat disingenuously in not citing, with those of Maingault, the experiments and conclusions of Legallois and Beclard.

2. No one who is an advocate for precision in experiments can admit, as conclusive, those which have been detailed by Portal. In fact, after the division of the recti and aponeurosis of the other abdominal muscles, vomiting may continue, since the fleshy part of these muscles which remains will act on the basis of the thorax, compress the stomach, and support this viscus when pressed by the contraction of the diaphragm. The alternate dilatation and contraction of the stomach, Magendie formally denies; having in vain sought for the phenomenon in experiments on more than one hundred animals; and he offers at any time to demonstrate to Portal, the passage of the contents of the stomach (into the œsophagus) at the moment of the depression of the diaphragm, and, consequently, during inspiration.

3. In the reasonings deduced from pathological facts, Portal admits as positive the contraction of the stomach in vomiting never witnessed by Magendie; and the latter considers the attempt at refutation useless; as, dissenting so much on the principle, they cannot fail to differ on the consequences. Magendie then concludes by declaring that, in the face of Portal's authority, he regards it as demonstrated, that the contractions of the abdominal muscles and diaphragm principally determine vomiting, by the pressure which they exercise on the stomach*.

* *Nouveau Journal de Médecine*, Avril, 1818.—We shall notice, in our next Number, a memoir, by M. Bourdon, on vomiting, the object of which is to invalidate the theory of Dr. Magendie.—EDIT.

PATHOLOGY (INCLUDING MORBID ANATOMY) AND
PRACTICE OF MEDICINE.

II.—*General transposition of the Viscera.*—The importance of cases of this nature to the physiologist and practical Physician may not, on a first view of the subject, appear very obvious; but when it is considered that they are probably more frequent in occurrence than has commonly been imagined; and that, minutely and philosophically examined, they are calculated not only to elucidate unknown points in physiological, and explain extraordinary phenomena in pathological science, but to inculcate extreme caution in the diagnosis, where such phenomena present themselves, we really think that their value has been in general greatly underrated*. In this comprehensive view of the subject, every well-authenticated case of unusual disposition of the internal organs acquires an aspect of considerable interest, and particularly when, as rarely happens in such instances, the previous history of the individual has been duly observed and recorded. By these considerations we have been induced to notice a communication on a general transposition of the viscera, which M. Rostan has lately published in the French Journal edited by himself, in conjunction with several other gentlemen†.

* In examining a patient, whose heart constantly pulsated in the right region of the thorax, or who presented tumor or induration of the right hypochondrium, attended with a very slight or contradictory train of constitutional symptoms, the Physician might be betrayed into very serious and discreditable error of opinion, if he bore not in mind the possibility of the existence of transposition of the viscera.—
EDIT.

† Nouveau Journal de Médecine. Mai, 1818. It may perhaps be interesting to our readers to enter cursorily into the history of this curious variety of malformation. Perrault is said to have once presented to the Academy of Sciences, of which he was a member, an example of general transposition of the viscera; but this fact rests upon no very solid foundation. Bartholine (*Histoire Anatomique*, liv. 29. cent. 2.) cites the instance of a thief, in whom Guy Patin had discovered a similar disposition of the internal organs. An analogous fact had also been communicated to him by Petrus Servius, the Roman Physician. Skenkius, in his compilation (liv. 2. obs. 188.) reports a like instance. Rœmer (*Syllog. Opusc. Ital. Fasc. 1*), the *Acta Curios. Naturæ*, Vol. IV. observat. 132, and the *Journal de Médecine*, Tom. XXXIII and LXXV, furnish various examples of it. Sabatier, in his fine *Traité d'Anatomie*, merely observes, that the phenomenon is not uncommon; but Bichat has left in his works a well known instance of the malformation in question. Since that time, it has been repeatedly observed by French pathologists. The hospital of

A woman, aged sixty-seven, of robust constitution, previously quite healthy, and the mother of twelve children, inhabited a low and damp situation, when in 1811 she experienced tightness of respiration, and palpitations of the heart in the right thoracic region. By these palpitations, which she frequently pointed out to her husband, the woman was greatly incommoded. In 1814 she became gradually hemiplegic on the right side, and shortly afterwards lost her sight and hearing. It may be worth while to remark, that this woman habitually employed her right hand.

April 8th, 1818.—She was admitted into the infirmary of la Salpêtrière, after having on the day before sustained a violent shivering fit, succeeded by heat and pain in the side. She had long, from the report of her attendants, been subject to palpitations and dyspnœa; but as she was completely deaf and blind, no satisfactory information could be obtained from herself. It was, however, remarked, that immediately after the shivering, there arose round the neck considerable heat, redness, and tumefaction, which disappeared with the paroxysm. The face was flushed and swollen; respiration tight and rattling; cough frequent; expectoration scanty, difficult, but not mixed with blood. There was pain in the right side of the thorax, increased by percussion. This region, moreover, sounded obscurely, and imparted to the hand a sense of tumultuous pulsation, scarcely perceptible on the left side. This phenomenon, rendering probable the existence of an unusual position of the heart, did not very strongly attract M. Rostan's attention. Four years previously he had attended a plumber, who for a long time had experienced pulsations in the right region of the chest, without any on the left side; and hence supposed to arise from transposition of the viscera. On dissection of the body, however, there was discovered an enormous aneurism of the descending aorta, which had projected into the right cavity of

à la Charité alone has, within a few years, offered three cases of it; and Beclard, in 1816, (*Bulletins de la Société Médicale d'Emulation*, for December,) published an example, the third of this description which he has met with. Others also may be seen in the *Memoirs de l'Académie Royale des Sciences*, Tom. X. and in one of the German Journals (*Journal der Practischen Heilkunde*), for December 1817, two cases of transposition are cursorily noticed; the subject of one, a young man who had died of hydrocephalus; that of the other, an unmarried woman, aged 36, and commonly healthy. The case observed by Mr. Abernethy, the peculiarities which it displayed in the distribution of the hepatic vessels, and the important physiological inferences naturally resulting from this peculiarity, are too well known and obvious to require particularization here.—EDIT.

the thorax, and therein burst. He moreover recollected that Lancisi had observed, in the same family, four persons affected with palpitation in the right thoracic region; and that this phenomenon, on dissection of three of the subjects, was found to have originated from dilatation of the pulmonary auricle of the heart, which had encroached considerably on the right cavity of the thorax*. These examples he considered as quite sufficient to render him very circumspect in the diagnosis of transposition of the viscera. The symptoms were hence regarded as indicating an affection of the heart.

During the night the suffocation had been very urgent. The pulse was soft and irregular; tongue of a yellowish white colour; appetite lost; thirst intense; and deglutition difficult, and effected only drop by drop. Slight diarrhœa existed. The paroxysm took place at two o'clock in the afternoon. No important change occurred till the 12th of April, when a fresh pain attacked the left side of the thorax. Relieved by the application of a blister, it attacked the opposite region, and continued till death. No answer could be obtained from the patient, who was now reduced to a state of merely automatic existence.

16th.—Tongue brown, and subsequently black; countenance altered; weakness increasing; fæces passed involuntarily; and neck constantly red and swollen during the paroxysms. Death on the morning of the 19th.

Dissection.—Anatomical disposition.—External appearances. Nothing remarkable. *Thorax.*—The right cavity contained

* For the information of the student and young Practitioner, it may not be amiss to review the causes of preternatural pulsation in the right thoracic region as far as they are at present known. They may be principally arranged under the five following heads:—1. Malformation, as exhibited in the case now under review.—2. Dilatation of the pulmonary cavities of the heart, as exemplified in the dissections from Lancisi.—3. Aneurism of the descending aorta, as observed by Rostan; of the arteria inominata; of the internal mammary artery?—4. Copious extravasation of pus or serum into the left sac of the pleura. Of this we have ourselves seen a memorable instance.—And, lastly, Some obscure and inexplicable derangement of the thoracic organs, not always producing a permanent change in the site of the heart's pulsation, nor invariably fatal in its termination. Of this a curious example may be seen in the *New Medical and Physical Journal*, Vol. IX. page 192. The boy, who forms the subject of it, after having enjoyed good health for more than two years, died in the spring of 1817, of phthisis, consequent on severe pneumonia. The pulsation in the right region of the thorax, however, did not again show itself. Leave to examine the body could not be obtained.
— EDIT.

the lung with only two lobes, and the heart in an inverted situation, so that the pulmonary auricle and ventricle were turned to the left, and the opposite cavities to the right. The œsophagus, trachea, and aorta, descended on the right of the vertebral column, which here preserved its ordinary curve. The left lung, with three lobes, occupied the whole corresponding cavity of the thorax. *Abdomen.*—The cardiac portion of the stomach was situated towards the right; the pyloric to the left. All the intestinal convolutions were in an inverted position. The cœcum and its appendix occupied the left iliac fossa; the sigmoid flexure the right. The liver and spleen respectively the left and right hypochondriac regions. The kidneys, bladder, and uterus, would obviously present no remarkable disposition. *Morbid appearances.*—Heart voluminous; both ventricles, particularly the right, thickened. Aorta in several points ossified. Slight congestion of the left lung; right lung *hepatized*, and reddened. The internal structure of the other organs was not examined.

In M. Rostan's "reflections" on the preceding case, he observes, that in order to ascertain whether the peculiarity of conformation were, in this instance, as sometimes happens, hereditary, he examined the only one of the two surviving children of the deceased to whom he had access, and found her suffering from symptoms of a morbid affection of the heart; but the palpitations were on the left side of the thorax. He farther infers, from the history and dissection which have just been recorded, that the preference universally given to the right arm in all the common occupations of life, does not depend on the anatomical disposition of the large blood-vessels destined to supply the superior extremities.

III.—*Rupture of a Sound Heart.*—Several instances of sudden death from rupture of the parietes of the heart, where the organ has exhibited no vestige of previous disease, are to be found on record. Of this the author of the following case, Dr. Fischer, whose attention has, for six or eight years past, been especially directed to the pathology of the heart, appears not to be ignorant. Yet the history to which we advert presents, in his opinion, some characters so uncommon, and even peculiar, as to render it worthy of minute and elaborate description*.

A gentleman, aged sixty-eight, stoutly made, and apparently possessing every claim to longevity, was, after having spent many years at court, compelled to quit it, and retire to a country residence. This trying reverse of fortune was sustained with great apparent fortitude; and every one,

* Journal der Practischen Heilkunde. Dec. 1817.

with the exception of his family and Physician, considered him as indifferent, or at least perfectly resigned to his fate. In his retirement too, the complaints almost invariably incident on a court-life, and with which he had previously suffered, as indigestion, derangement of the biliary secretions, catarrh, nervous affections, and slight and irregular gout, ceased nearly to persecute him, except at the changes of the seasons: and during the last ten years he had very rarely been confined by the gouty affection of the lower extremities, and then but for a few days. Towards the close of life, his attention was occupied by an unpleasant business, which, as interfering with the indulgence of his propensity for solitude, had the effect of aggravating his melancholy. With the exception of this, there was nothing in his mode of life which could prove at all detrimental to his health.

On the 16th of October he was seized, while walking, with violent pain, which he supposed to be cramp at the stomach; and, after having reached with great difficulty the place of his destination, distant about half an hour's walk from his own abode, sank faint and almost breathless into a chair. On the administration of some of Hoffman's anodyne, he speedily recovered; and remained in company without farther complaint, till fetched home in the carriage by his daughter.

17th.—After having passed a good night, Mr. V. K. found himself so triflingly indisposed, that he repaired, in his carriage, to the house which he had visited on the preceding day; held a family conference; and returned home on foot, accompanied by his coachman. But scarcely had he walked a third part of the way, when he sustained another attack of pain, so violent, that he was more than an hour in reaching home, supported by the servant. Arrived here, he soon recovered, ate his supper, and slept as usual.

On the morning of the 18th he wrote to Dr. Fischer, communicating the particulars of the indisposition, which has just been described, and requesting his advice. He represented his appetite and digestion as being unimpaired, and bowels regular; and, from the momentary relief invariably following eructation, attributed the affection of his stomach to the accumulation of flatus. The doctor, however, disposed rather to refer the complaint to a disturbance of the cutaneous functions consequent on cold, prescribed a diaphoretic mixture, and prohibited exposure to the weather. Under this plan, the remainder of the day and succeeding night were passed very comfortably; and, on the 19th, he went to church, and exerted himself in singing aloud with the congregation. Immediately on his return home he sat down to his writing-desk; but scarcely had he written a few lines, when he ex-

perienched a general rigor, with spasmodic contraction of the extremities, and dreadful pain in the region of the stomach. Strong infusion of chamomile, tepid pediluvia, and warmth to the affected part, were instantly applied : and Dr. Fischer, who arrived in about an hour and a half, found that the paroxysm had completely subsided, with the exception of some pain in the pit of the stomach. The sensations of the patient indicated the existence of induration in this region ; but none was apparent on examination. The abdomen, from the umbilicus to the scrobiculus cordis, was sensible to the slightest pressure, but without tension, hardness, or tumefaction ; and its temperature, like that of the somewhat flushed countenance, perfectly natural. The extremities were yet very cold ; the skin dry and rough ; and the pulse regular, except that, at times, it was, for two or three strokes together, somewhat contracted. The patient had just eaten some soup ; and, but for the fear of obstructing the operation of the medicine, would have taken other food. A remedy, capable of dispersing the wind, would, he declared, completely restore him. Yet Dr. Fischer felt confirmed in the idea that the complaint arose from cold, and disturbance in the crisis of an arthritic affection. Hence he prescribed confinement to bed, diaphoretics, an anodyne embrocation, and, occasionally, antispasmodic injections. In the afternoon there was an apparent amendment ; and, at night, the patient felt himself so well, with the exception of the flatulence, that he expressed a wish to quit his bed, and join the family at table ; but this was not allowed.

Early on the 20th, Dr. Fischer learnt that his patient had passed a partially good night. The first injection had brought away some indurated feces, and a few drops of blood, followed by such violent pain in the rectum, that he would not submit to a repetition of the remedy. The frictions also had been found to aggravate his suffering. In other respects the patient felt himself somewhat better than on the preceding day. The skin, without perspiration, was naturally warm and moist. At his own particular request, a saline aperient was now prescribed, with the direction to discontinue it if productive of any aggravation of the pain. After sending off the messenger, the patient had quitted his bed, smoked a pipe, and walked about ; whereby a scanty evacuation from the bowels was induced. The pain instantly returned ; and on the receipt of the medicine, a dose was administered. With the rapidity of lightning, a paroxysm, more violent than that of the preceding day, ensued ; and Dr. Fischer was immediately summoned.

On his arrival about ten, A. M. the paroxysm had again

declined; but the pains yet continued so severe that the patient predicted with groans and exclamations his approaching end. After minute examination, nothing at all inflammatory was discovered in the case; but, in addition to the previously existing symptoms, there was now felt a numbness of the left arm, extending to the finger-ends. With a view to excite sweating, warm fomentations, as requiring less time for preparation than a bath, were employed; and, about half past eleven, Dr. Fischer left his patient tolerably composed. Two hours afterwards, however, he received intelligence that considerable vomiting of bile and mucus had taken place, and been succeeded by relief. And scarcely had Dr. Fischer written a prescription to be had recourse to in the event of a return of the vomiting, when he was again summoned in haste. On this occasion he arrived in time to witness the paroxysm; and never, he adds, can forget the horrible scene which it presented. Two strong men led, or rather dragged the patient about his chamber. Despair was marked upon his countenance; and he roared aloud for relief or death. The agitation and agony, whether induced by the vehemence of the pain, or an effect resulting from the same cause, were extreme. With some difficulty he was prevailed upon to go to bed: a combination of ammonia, with opium, and strong chamomile infusion, were administered; and poultices of conium, hyoscyamus and belladonna, applied. Hereupon the skin speedily became moist; the pain decreased; transient sensations of prickling were felt sometimes in the great toes; sometimes in the right or left shoulder; and then the pain at the stomach seemed to have momentarily subsided. Asafoetida, given alternately with the medicine above mentioned, produced several eructations, with evident relief. The stomach was now no longer the seat of complaint; but the pain seemed to have extended generally over the body. At first, after the paroxysm, the patient was cold and shivering; the pulse small, spasmodic, and intermittent; but, as the body regained warmth, it became more free: and, on the eruption of a sweat, full, soft, regular, and scarcely more frequent than in the healthy state. The cutaneous discharge was profuse. Pain was, however, again felt in the stomach; but the patient remained tranquil. In this state Dr. Fischer again left him, indulging the hope of a more decided and permanent amelioration; but, next morning, received the unexpected intelligence of his patient's death, by a sudden seizure, in its appearance resembling apoplexy.

In about an hour after the departure of Dr. Fischer, the patient, although still perspiring abundantly, had, it seems, complained of increased pain; but begged that his daughter

might not be distressed by the intelligence. Soon afterwards he suddenly sprang upright in bed ; and, with a look of wildness, seized his attendant by the neck, as though intending to strangle him ; and, with a loud exclamation, entreated that his head might be sustained. In this posture he lay composed for more than half an hour. Shortly afterwards, having turned first on his left, and then on his right side, he expired without a struggle.

Dissection, eighteen hours after Death. — The body, in consequence of having lain in a warm situation, was yet flexible, and not quite cold. The whole back of it, from the neck to the heels, was of an uniformly bright red colour. On opening the abdomen, the different viscera were found buried in a considerable quantity of adipose substance, but displayed externally no morbid appearance. The cardiac orifice of the stomach was regularly situated : but, on tracing it from this point, the organ ascended towards the left, under the arch of the diaphragm, so as to be situated very high up, and wholly on the left side. The colon rose upwards, at an obtuse angle from the cœcum to the epigastric region ; proceeded from thence below the stomach, and in a direction parallel to it, and formed, in its descent, an acute angle. The thorax was now opened, and the sternum removed : and here also every thing seemed, on a first view, natural. The heart was nearly covered by the healthy lungs ; and upon the pericardium there was a layer of fat. On the cautious removal of this, a crackling noise proceeded from the air contained in the adipose structure, which was of a whiter colour than elsewhere. Upon puncturing the pericardium, which had the appearance of being distended by a substance of a dark blue colour, a quantity of reddish fluid escaped, and afterwards florid blood to the amount of two or three pounds. The membrane was then slit up, and the heart seen surrounded by a coagulum more than three pounds in weight. This being cleared away, a rupture was discovered in the aortic ventricle ; and not far from it, at the apex of the heart, a dark blue, somewhat elevated round spot, about two lines in diameter, and apparently formed by small varicose vessels. For the purpose of more minute examination, the heart, with its large blood-vessels, was now removed from the thorax. It was somewhat whiter than natural ; surrounded with fat at the upper part ; and, like the whole body, softer than dead muscle is usually found. The rupture extended upwards from the apex, about an inch and a half, on the external surface. Its borders were fringed, but in accurate contact except in the middle, where, for about half an inch, they were separated by intervening coagulum. Upon opening the ventricle,

the internal wound was found but about half an inch in length, and its lips at least as wide again asunder as those of the external breach. The blackish speck before described was readily detached by the scalpel, and seemed to consist of a thin bluish membrane. Beneath it the substance of the heart was healthy. This organ and its vessels contained not a drop of blood. Yet they, as well as the other thoracic and abdominal viscera, presented not the slightest deviation from the natural state, except that the aorta seemed to be everywhere little less capacious than the pulmonary artery. The cranium it was not deemed necessary to examine.

Should nothing more important meanwhile present itself, we shall, in our next Number, review the comments and conclusions of Dr. Fischer on this instructive case.

IV. — *Rupture of the Heart consequent on Chronic Inflammation.* — Since the preceding paragraph has been concluded we have received one of the foreign journals for the present month*, wherein is detailed a case of ruptured heart, which presents so fine a contrast with the history just traced, that we cannot resist the temptation of transcribing it. In this instance a morbid change of the parietes of the heart, probably the consequence of intemperate habits, had preceded the fatal rupture; in the production of which, a profound moral affection may evidently be regarded as the direct agent.

The subject of the case to which we have adverted was a robust and plethoric female, aged 22, and long addicted to dissolute and intemperate habits. For some time previously to her decease she had complained only of slight and apparently rheumatic pains: but, within a day or two of the fatal event, she had been deserted by a man to whom she was engaged in marriage. In consequence of this her mind became very deeply affected. After having supped on the preceding night, she retired to rest as usual; and, in the morning, was found dead in bed. She lay in a bent position on the left side; and was hence supposed at first to be in a profound sleep. Neither the countenance nor limbs were at all contorted.

On dissection, the sac of the pericardium was found filled with about ten ounces of coagulated blood, and two of serum. The heart, on all sides covered by it, was of the ordinary volume, but much loaded with fat. At the summit of the aortic ventricle was discovered the breach from which the effused blood had issued. It was irregularly lacerated, and

* Journal Universel des Sciences Médicales. Avril, 1819. The case was originally published in the "Transactions of the Physico-Medical Society of New York."

measured about half inch in diameter. The parietes of the ventricle around the rupture were much thicker than in the natural state; and, on close examination, a very sensible fluctuation was distinguished, to the extent of an inch on one side of it. From this, flocculi of a cheese-like substance were discharged on pressure. The pericardium presented traces of inflammation in the part opposite to the rupture, and a little above it had become adherent to the heart. That portion of the aorta which is invested by the pericardium, exhibited also externally some appearances of inflammatory action. The abdominal viscera were perfectly sound, with the exception of the liver, which was enlarged, paler than common, and had acquired an adhesion to the peritonæum.

V.—*Cardiac Syncope*.—About ten years since, Mr. Chevalier published some cases of death from an affection of the heart, before unnoticed by writers on medicine, and to which he has given the title of *Asphyxia idiopathica**. We have ourselves seen in practice several accidents bearing a very close resemblance to these; but in all of them the privilege of dissection after death has been denied. A case, recorded by Dr. Ozanam†, appears to be of a nearly similar description: and as few dissections, elucidating the nature of this affection, are upon record, and very erroneous notions commonly prevail respecting it, we shall offer a brief transcript of the history in question‡.

A midwife, belonging to the Milan Hospital, aged forty-two, rickety, and with a spine so curved from right to left as to form an angle of nearly thirty-five degrees, had, in consequence of her deformity, and repeated attacks of pulmonary inflammation, become subject to habitual dyspnœa. On the

* Medico-Chirurgical Transactions, Vol. I. p. 157.

† Recueil Periodique de la Société de Médecine de Paris, Tom. LXI. p. 87.

‡ It is very probable that the sudden death, frequently succeeding the more important surgical operations, and parturition, where neither hæmorrhage, nor other obvious cause, explanatory of the event, has occurred, results from the affection of the heart here described. About twelve years ago, an aged, but apparently very healthy man, suffered amputation of the hand in consequence of a morbid affection of the tarsal bones. He sustained the operation with uncommon firmness, and very little blood was lost; but immediately on being removed to his bed, he sank into a fit of syncope, and expired, without any apparent struggle, except a transient convulsion of the facial muscles. The body was opened, and death attributed to “*collapse of the lungs* ;” a state which we cannot comprehend where no breach of the thoracic parietes has existed. The condition of the *heart* was not mentioned.—EDITOR.

5th of July, 1815, in returning from the city, she was overtaken by a shower; in her haste to seek shelter from which she re-entered her room almost breathless. Scarcely had she sat down, when she fell against the bed, and instantly expired. On dissection, forty-eight hours afterwards, the body exhibited no trace of apoplexy or contusion; and exhaled not the slightest offensive smell, although it had lain exposed to a very high temperature. The condition of the brain was perfectly natural. The left cavity of the thorax was found so much contracted by the curvature of the spine, that there remained the space of only an inch and a half between the dorsal vertebræ and the ribs. The lungs had acquired adhesions to the pleura. The heart, and all the large blood-vessels, as well arterial as venous, were in a state of most extreme flaccidity. The aorta, at its exit from the heart, was slightly ossified, and somewhat changed in structure at the point opposite to the acute angle formed by the spinal column. The fatal event is, in this instance, attributed by Dr. Ozanam to obstructed circulation from embarrassment of the lungs, the result of unduly accelerated progression.

The influence of pain and terror in producing sudden extinction of life, is, moreover, illustrated by reference to the case of a middle-aged criminal, who, having throughout evinced extreme weakness and depression, expired on his way to the scaffold. The body was completely cold and stiff ere it reached the place of execution, distant about eight miles from the spot where the man died; and a few drops of blood only stained the instrument by which the lifeless head was severed from the body.

VI. — *Diabetes*. — A man, aged thirty-two, of small stature, and healthy, but somewhat full habit, in a few weeks after, having got wet in a storm of rain, first perceived that the functions of his stomach were impaired. Considerable diminution had also taken place in his bulk and strength; and his sight was particularly weakened. On his arrival in Paris to consult Dr. Demours, no defect was perceptible in the eye, except a slight dilatation of the pupils. The iris performed its functions in a nearly natural manner; yet the patient could no longer see to read, and with difficulty found his way alone. The general depression of the vital powers seemed to affect in a particular and more decided manner the optic nerves. In fact, the case was one of incomplete amaurosis from asthenia. The patient exhibited all the symptoms which characterize diabetes mellitus. The disease, of about five months' standing, and now in its second stage, had come on simultaneously with the weakness of vision, and never been

steadily opposed by judicious treatment. The urine, on being mixed with tincture of litmus, became of a red-violet colour; and the chemical analysis of it, made by Thenard, left no doubt as to the nature of the case.

In a consultation, on the 8th of November, 1817, it was agreed that only two pints of chalybeate water should be allowed a day; that bread, and all vegetable substances, should be prohibited in the diet, which was to consist of animal food, as beef and bacon. Business prevented the immediate adoption of this plan; and on the 9th the man died suddenly, at noon. The final struggle was slight and transient. On dissection, neither the optic nerve, brain, kidneys, nor any of the other organs, presented the slightest apparent change of structure.

2.—A Dutch general, aged forty-five, of robust constitution and sanguine temperament, consulted Dr. Demours, in October last. He was suffering from chronic inflammation of the margins of the eyelids, evidently consequent on diminished secretion of the lachrymal fluid. Dryness of the mouth; general lassitude, particularly on waking; and marked though gradual reduction of the vital powers. His thirst was constant and insatiable; his bowels habitually constipated. He had lost much flesh; and the sound of his voice was greatly altered, from defective moisture of the membrane of the pharynx and bronchiæ. The urea had totally disappeared from the urine, which contained a saccharine matter, evident to the taste: it was perfectly clear and inodorous, and voided, in twenty-four hours, to the amount of between sixteen and twenty pounds; while, in the same period, not more than half that quantity of fluid was usually drank. The diet had consisted of vegetables, with only a small proportion of animal food. He had been in the habit of taking warm tea very largely every night and morning; and the water which he had employed previously to his arrival in Paris was of a very bad quality. The disease appeared to be yet in its first stage.

The treatment was commenced by large doses of an *anti-scorbutic syrup*, which speedily brought out an eruption of small boils on the surface. The employment of tea was, at the same time, forbidden, and small quantities of wine substituted for it. A diet, consisting, almost exclusively, of animal food, was, moreover, enjoined. On the third day from the adoption of this plan, the urine had regained a faint yellow colour, and some smell. Its sweet flavour was also less perceptible. All the symptoms rapidly declined: the lachrymal secretion increased in proportion as the morbid excess of the urine was reduced; the different functions were gradually re-

established; and the patient was, in less than three months, completely well.

The preceding cases* have been transcribed with a view of showing the similarity of the results obtained in France, on the dissection of subjects destroyed by diabetes, to those which British pathologists have recorded; and to expose the practice of the French in this unmanageable disease†. In an instance of it recorded by Dupuytren and Thenard, several strongly-marked morbid appearances were exhibited on dissection; and, as anatomical examinations of the diabetic subject rarely occur, a description of that to which we have just adverted, cannot fail to prove interesting: nothing unnatural was observed in the fauces, pharynx, or œsophagus. The stomach was extremely voluminous; and displayed, on its internal surface, a reddish net-work, formed by dilated blood-vessels: it moreover contained a considerable quantity of unflammable gas; and some greyish fluid, on the surface of which were floating seven or eight small, yellow, soft, round bodies, of an adipose nature. The duodenum and commencement of the jejunum and cœcum were more thick, and of a redder colour than natural. The other portion of the intestinal canal was sound; as were the structures of the liver, spleen, and pancreas. The gall-bladder contained a little healthy bile. The kidneys were at least one-third larger than ordinary; but their structure, although soft and greyish, was not more readily penetrable by injection than that of the organ in a healthy condition. In other respects they, with all the other organs of the urinary system, were free from disease. The bladder was very small: the abdominal lymphatics and thoracic duct were unduly developed. The arterial and venous systems presented no alteration. The lungs adhered to the parietes of the thorax by a loose cellular

* Journal Universel des Sciences Médicales. Avril, 1819.

† The following are the medicinal articles enumerated by Renaudin, (Dict. des Sciences Méd. Tom. IX. Art. Diabetes) as applicable to the treatment of Diabetes, in conjunction with a strictly animal diet:—venesection, sometimes in the commencement; opium, combined with musk or cinchona, and phosphate of soda to obviate constipation; ammonia, or phosphorous acid, largely diluted, for common beverage; frictions of the lower extremities with unctuous substances; aromatics; camphor; catechu; chalybeate waters; asa-fœtida with valerian; the tincture of lytta; Dover's powder; Iceland-moss; lime-water; purgatives; sulphur; sulphate of alumina; cold baths; mercury; and blisters to the sacral region.—From some recent experiments of our own, we are led to believe that the solution of *pure potash*, and consequently that of *pure soda* also, will prove a most valuable remedy in diabetes mellitus.—EDITOR.

substance: the right, moreover, contained several small collections of pus; and the left, some cysts, with thin parietes, analogous to those of serous cysts, and merely filled with an elastic fluid. The muscles were pale and wasted, as commonly happens in chronic diseases; but there existed no apparent change in their organization.

The article from which the preceding description has been taken* is terminated by an observation too important, and, at the same time, too little known to be passed over in silence. Messrs. Dupuytren and Thenard have noticed, that, towards the favourable close of diabetes, the urine presents, at first, an albuminous matter; the quantity of which, for some days, goes on increasing, and afterwards gradually disappears; that then the kidney begins to secrete urea, the uric (and doubtless also the acetic) acid; and the urine again resembles that of the healthy subject.

[Some interesting articles on Surgery, Midwifery, and Botany, which were transmitted for the present Number, are postponed to the next, for want of room.—D. U.]

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

A SOCIETY has been established in London bearing the designation of "The Hunterian Society." It professes the most friendly feeling towards all similar existing Institutions, and is founded principally, but not exclusively, for the accommodation and benefit of medical men residing in the eastern parts of the metropolis.

Its objects are to concentrate the zeal and experience of a large number of respectable Practitioners, whose places of residence are at a distance from Professional Associations already existing, and to receive and discuss communications on Medical, Chirurgical, and all other subjects connected with Medicine. It aims particularly at the cultivation of a spirit of liberal and friendly intercourse among the members of the Profession within the sphere of its influence.

It consists of honorary, corresponding, and ordinary members, and already the Society is honoured by the names of a considerable number of men of character and talent. The following is the list of the Officers and Council for the present year:—

President.—Sir William Blizard, F.R.S.

* Dictionnaire des Sciences Médicales, Art. Diabetes.

Vice-Presidents.—James Hamilton, M.D.; George Vaux, Esq.; John Meyer, M.D.; and Lewis Leese, Esq.

Treasurer.—Benjamin Robinson, M.D.

Secretaries.—John T. Conquest, M.D., F.L.S.; Thomas J. Armiger, Esq.

Council.—Thomas Addison, M.D.; Thomas Bell, Esq. F.L.S.; Henry James Cholmley, M.D.; Thomas Calloway, Esq.; William Cooke, Esq.; George Edwards, Esq.; James Alexander Gordon, M.D.; William Kingdon, Esq.; Benjamin Pierce, M.D.; James Parkinson, Esq.; Henry Richard Salmon, Esq.; and Frederick Tyrrell, Esq.

The Hunterian Society holds its meetings every alternate Wednesday evening throughout the year, at No. 10, Saint Mary Axe, where communications on any department of medical science, addressed to the Secretaries, will be thankfully received.

Method of determining the Specific Gravity of the Gases.

THE apparatus necessary for taking the specific gravities of gases by the following method, consists of a delicate balance, or rather beam, so constructed that two bulky vessels of exactly the same size and weight may be conveniently suspended from its extremities. One of these vessels may be a globe, or flask, furnished with a stop-cock as usual, and of any convenient size. The other must be cylindrical, so as to admit of being graduated; say, into 1000 equal parts; and must be likewise furnished with a stop-cock, having an extremely minute aperture.

The two vessels, as before stated, must be exactly of the same size and weight, so that, when filled with atmospheric air and suspended, the index of the beam shall stand at 0, and these easy adjustments are the whole that are required. When used, the globe or flask is to be filled with the gas, whose specific gravity is to be determined in the usual manner, and the cylindrical vessel is then to be so far exhausted as to be rendered *lighter* than the globe or flask, thus filled. Both vessels being now suspended, one at each extremity of the beam, the stop-cock of the cylindrical vessel is to be opened, and so much air be permitted to enter, by the minute aperture above mentioned, as shall be requisite to bring the two vessels in the same exact equilibrium as at the commencement of the experiment. The cylindrical vessel is then to be removed from the beam, and its stop-cock opened under mercury, and thus the precise *bulk* of air contained in it to be accurately measured, which bulk (if the whole vessel has been graduated to 1000 parts) represents the specific gravity of the gas weighed, common air being 1000. Thus, suppose hydrogen to be the subject of experiment, and it be found that 69.44 parts of common air be equal in weight to 1000 parts of hydrogen, the specific gravity of hydrogen will be .06944 common air by 1.000, or it is 14.4 times lighter than common air.

The above form of the apparatus is more particularly adapted for determining the specific gravity of gases *lighter* than common air; but it is obvious that the principle upon which the method is founded is equally applicable to gases *heavier* than air, by a little modification in the apparatus. The advantages of the method are many and important. Besides the greater general accuracy attainable by *measuring* than *weighing* gases, the use of weights, as well as the necessity of ascertaining the bulk and weight of the apparatus, as in the common mode of determining the specific gravity of gases, are entirely superseded; nor are errors likely to arise from any change in the atmospheric temperature, or pressure occurring during the performance of the experiment.

NOTICES OF LECTURES.

Dr. Davis will commence his next Course of Lectures on the Theory and Practice of Midwifery, and on the Diseases of Women and Children, on Saturday, May 22d, at Six o'Clock in the evening.

Mr. Taunton will commence his next Course of Lectures on Anatomy, Physiology, Pathology, and Surgery, on Saturday, May 22d.

Dr. Clutterbuck will begin his Summer Course of Lectures on the Theory and Practice of Physic, Materia Medica, and Chemistry, on Tuesday, the 1st of June, at Ten o'Clock in the morning, at the General Dispensary, Aldersgate Street; where farther particulars may be had, and at his House, No. 1, in the Crescent, New Bridge Street.—Elementary Lectures on Botany, with an Exhibition of the most important Medicinal Plants of indigenous growth, will be given during the Summer to the Pupils attending this Class and those of the Dispensary.

LITERARY NOTICES.

Mr. J. G. Mansford, author of a Treatise on Consumption, will shortly publish Researches into the Nature and Causes of Epilepsy, as connected with the Physiology of Animal Life and Muscular Motion; with Cases illustrative of a new and successful method of Treatment.

Dr. Bateman is preparing for the press, Reports on the Weather and Diseases of London, from 1804 to 1816 inclusive; comprising Practical Remarks on their Causes and Treatment; and preceded by an Historical View of the State of Health and Disease in the Metropolis in former times, in which the extraordinary improvement in point of Salubrity which it has undergone, the Changes in the Character of the Seasons in this respect, and the Causes of these, are traced to the present time.

Dr. John Reid's Treatise on Hypochondriasis and Nervous Diseases has been translated into German.

A METEOROLOGICAL TABLE,

From the 21st of MARCH to the 20th of APRIL, 1819,

KEPT AT RICHMOND, YORKSHIRE.

D.	Barometer.		Therm.		Rain Gauge	Winds.	Weather.
	Max.	Min.	Max	Min			
21	29	49	29	40	41	34	NbW.. 1 Sun. 2 Cloud... 4 Starl...
22	29	48	29	36	44	32	SbW.. WbS.. 1 Sun..
23	29	27	29	08	44	34	15 SW. SbE. 1 Cloud.. 4 Rain..
24	29	20	29	14	46	37	W... 1 Sun...
25	29	26	29	18	46	39	05 WbS.. 1 Sun.. and Show.
26	29	42	29	35	45	40	15 WSW... 1 Sun.. and Show..
27	29	36	29	27	46	40	11 WSW... SW 1 Show.. 2 Sun...
28	29	22	29	17	52	44	02 SW.. 13 Show. 2 Sun.. 4 Starl..
29	29	36	29	23	52	43	15 SW.... 1 Sun.... 2 Show..
30	29	55	29	44	53	46	WSW.. SW.... 1 Sun..
31	29	64	29	59	54	47	SW.. SW... 1 Sun.. 3 Cloud... 4 Moon..
1	29	68	29	64	62	46	SW.. 1 Sun..
2	29	73	29	66	56	41	03 Vble. 1 Sun. 3 Rain.
3	29	78	29	76	62	41	W. NE. 1 Sun.... 2 Cloud...
4	29	73	29	72	56	36	SE. W. 1 Cloud... 2 Sun.. 4 M....
5	29	72	29	63	50	32	NW. NE. 1 Sun....
6	29	48	29	43	52	38	SE.. 1 Sun.... 3 Cloud..
7	29	51	29	47	61	39	SE.. 134 Cloud.. 2 Sun..
8	29	63	29	63	60	40	05 SE. NW. 1 Sun.. & Sh. 4 Moon....
9	29	69	29	60	56	43	WbN.. 1 Sun...
10	29	25	29	04	56	43	SW.. 1 Sun..
11	29	07	29	01	52	30	02 WSW.. 1 Sun.. & Show. 3 Sun....
12	29	14	29	03	58	40	35 NE... N.. 1 Sun.. 3 Cloud... 4 R....
13	29	12	28	99	53	37	43 N.. W.. 1 Mist... 3 Showers....
14	29	12	29	07	56	33	SW.. 1 Sun...
15	29	13	29	02	58	35	SSW. W. 1 Sun.. 3 Cloud.. 4 Starl..
16	28	92	28	78	48	38	39 NE. SE. SW.. 134 Cloud.. 2 Rain....
17	29	05	29	03	56	38	SE.. S. 1 Show. & Sun.. 3 Thun..
18	29	23	29	22	54	41	01 SW... 13 Sun.. 2 Cloud... 4 Rain.
19	29	40	29	34	57	39	SW.. 13 Sun.. 2 Cloud..
20	29	25	29	12	48	41	62 SW. E. NE. 1 Cloud... 2 Rain....

The quantity of rain during the month of March was 1 inch & 24-100ths.

Observations on Diseases at Richmond.

The disorders under treatment were Cephalalgia, Colica, Cynanche tonsillaris, Diarrhœa, Dyspepsia, Febris catarrhalis, Febris simplex, Gastrodynia, Obstipatio, Podagra, Rheumatismus acutus, and Sphacelus.

THE METEOROLOGICAL JOURNAL,

From the 20th of MARCH to the 19th of APRIL, 1819,

By Messrs. HARRIS and Co.

Mathematical Instrument Makers, 50, High Holborn.

D.	Moon	Rain	Therm.			Barom.			De Luc's Hygrom.		Winds.		Atmo. Variation.		
									Dry.	Damp.					
20			45 50 44	29 48 29	72				9	10	NNW	NNW	Rain	Clo.	—
21		,05	46 49 42	29 80 29	85				10	11	N	SE	Fine	—	—
22			47 51 44	29 84 29	81				11	10	Wva.	Wva.	Fine	—	Clo.
23			47 50 45	29 77 29	69				8	11	SW	SSE	Clo.	—	—
24			48 55 47	29 59 29	71				12	11	WSW	SW	Rain	Fine	—
25	☾	,05	50 54 41	29 70 29	74				11	11	W	Wva.	Rain	Sho.	Fine
26		,04	45 50 45	29 85 29	99				11	9	W	W	Fine	—	Sho.
27		,03	49 51 47	29 91 29	88				8	7	SW	Wva.	Fine	Rain	Clo.
28		,24	51 57 49	29 85 29	81				9	10	SW	SW	Rain	Clo.	—
29			54 53 46	29 75 29	87				10	10	WSW	Wva.	Fine	Rain	Fine
30		,03	50 55 47	29 75 30	04				11	11	SW	Wva.	Rain	—	—
31		,12	54 58 47	30 10 30	14				13	11	WNW	WSW	Clo.	—	—
1			54 59 48	30 16 30	16				10	12	W	WNW	Fine	—	—
2	☾		55 62 47	30 15 30	12				11	10	NW	SE	Fine	—	—
3			53 63 47	30 04 30	00				10	9	W	SE	Fine	—	—
4			52 57 45	30 05 30	08				9	10	SE	SE	Fine	—	—
5			51 56 41	30 09 30	05				8	8	NE	SE	Fine	—	—
6			45 53 46	29 93 29	74				7	8	SE	SEva.	Fine	—	—
7			50 61 50	29 71 29	78				8	9	SSE	SE	Fine	—	Sho.
8			54 54 45	29 86 29	96				11	10	S	N	Fog	Rain	Fine
9			50 58 47	30 03 30	07				10	10	N	N	Fine	—	—
10	☉	,32	51 57 47	30 05 29	78				7	6	N	W	Fine	—	—
11			51 56 44	29 47 29	41				7	8	WSW	W	Fine	—	—
12			45 52 49	29 39 29	32				10	12	W	NW	Clo.	Rain	—
13		,26	52 55 45	29 27 29	51				13	10	ESE	SSW	Fog	Rain	Fine
14		,19	47 53 41	29 50 29	44				8	8	SW	SW	Clo.	Fine	Rain
15		,23	48 54 47	29 46 29	41				7	7	WSW	SE	Sho.	Fine	Clo.
16		,09	49 55 44	29 37 29	33				8	10	SW	SW	Sho.	—	—
17	☾	,15	48 54 49	29 42 29	52				7	9	SW	SW	Sho.	Stor.	Sho.
18		,17	51 58 48	29 55 29	50				10	11	WSW	WSW	Fine	Sho.	Clo.
19		,31	50 55 49	29 65 29	69				10	11	SW	W	Fine	Sho.	Rain

The quantity of rain fallen in March is 1 inch and 15-100ths.

A REGISTER OF DISEASES

Between MARCH 20th and APRIL 19th, 1819.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	6		Febris <i>Typhus grav.</i>	2	2
Abscessio	12		—— <i>Synochus</i>	46	2
Amenorrhœa	11		—— <i>Puerpera</i>	1	
Amentia	3		—— <i>Remit. Infant.</i> ..	11	1
Anasarca	13	3	Fistula	2	
Aneurisma	1		Furunculus	4	
Aphtha <i>lactentium</i>	3		Gastrodynia	18	
Apoplexia	4	3	Gonorrhœa <i>pura</i>	4	
Ascites	5	1	Hæmoptœ	15	
Asthénia	15		Hæmorrhœis	9	
Asthma	62	8	Hemiplegia	6	
Atrophia	3	1	Hepatalgia	1	
Bronchitis <i>acuta</i>	4	1	Hepatitis	12	2
—— <i>chronica</i>	3		Hernia	3	
Calculus	2		Herpes <i>Zoster</i>	1	
Cancer	2	1	—— <i>labialis</i>	2	
Carbunculus	1		Hydrocephalus	4	1
Cardialgia	4		Hydrothorax	2	2
Carditis	2		Hypochondriasis	3	
Catarrhus	68		Hysteria	3	
Cephalalgia	24		Hysteritis	1	
Cephalæa	3		Icterus	1	
Chlorosis	1		Impetigo <i>erysipel.</i>	2	
Chorea	1		Ischuria	4	
Cholera	6		Lepra	1	
Colica	18		Leucorrhœa	9	
Convulsio	3		Lichen <i>simplex</i>	2	
Coryza	9		Lithiasis	1	
Cynanche <i>Tonsillaris</i> ..	12		Mania	3	
—— <i>Trachealis</i> ..	2		Menorrhagia	18	
—— <i>Parotidea</i>	3		Morbi Infantiles*	42	2
—— <i>Laryngea</i>	1		—— Biliosi*	30	
Delirium Tremens	1		Nephritis	1	
Diarrhœa	19		Neuralgia	1	
Dysentéria	10		Obstipatio	11	
Dyspepsia	24		Odontalgia	15	
Dyspnœa	5		Ophthalmia	18	
Dysuria	3		Otalgia	5	
Ecthyma	2		Palpitatio	4	
Eczema	5		Paracusis	1	
Enteritis	11	1	Paralysis	4	
Entrodynia	7		Paronychia	2	
Epilepsia	6	1	Pemphigus	1	
Epistaxis	5		Pericarditis	3	
Erysipelas	5		Peripneumonia	11	
Erythema <i>nodosum</i>	1		Peritonitis	29	2
Febris <i>Intermittent</i>	7		Pertussis	17	1
—— <i>catarrhalis</i>	79		Phlogosis	1	
—— <i>Synocha</i>	2		Phthisis Pulmonalis	35	10
—— <i>Typhus mitior</i> ..	7		Plethora	2	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Pleuritis	21	1	Scarlatina <i>simplex</i>	5	1
Pleurodyne	6		———— <i>anginosa</i>	1	
Pneumonia	22		Scrofula	14	
Podagra	4		Spasmi	1	
Porrigio <i>decalvans</i>	2		Stricture	1	
———— <i>favosa</i>	1		Sycosis <i>menti</i>	1	
Prolapsus	1		Syphilis	25	
Prurigo <i>mitis</i>	3		Tabes Mesenterica	8	
———— <i>formicans</i>	2		Vaccinia	21	
———— <i>senilis</i>	1		Varicella	8	
Psoriasis <i>guttata</i>	1	2	Variola	19	2
———— <i>inveterata</i>	2		Vermes	18	
Pyrosis	1		Vertigo	15	
Rheuma <i>acutus</i>	26		Urticaria <i>febrilis</i>	4	
———— <i>chronicus</i>	14		Total of Cases	1358	
Rubeola	14		Total of Deaths	50	
Scabies	140				

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct head; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

INFLAMMATORY disorders of different parts of the pulmonary organs have been, as might have been expected, from the great vicissitudes of the weather, exceedingly prevalent.

Under the heads of asthma, catarrh, catarrhal fever, morbi infantiles, and phthisis pulmonalis, it will be seen the cases are considerable in number. At the west end of the town especially, catarrhal affections have appeared so generally as to constitute a kind of influenza; and children have been particularly liable to pulmonary inflammations, which have, in many cases, assumed an aspect of much severity.

The late epidemic fever is in most districts of the town decidedly on the decline. Our reporter from a north-east district of great extent, appends the following account to his table of diseases:—

“Fever, except in two or three cases, has been milder. It was more frequent in the beginning of the month; but is now evidently declining. There are no patients now but such as are convalescing, except one who was attacked with fever, after having been for two months labouring under shortness of breathing, cough, &c., and reduced extremely low for want of nourishment. The fever soon subsided, although accompanied with petechiæ, but the pulmonary affections still continue.”

MONTHLY CATALOGUE OF BOOKS.

The Hunterian Oration for the year 1819, delivered before the Royal College of Surgeons in London. By John Abernethy, F.R.S., &c. &c. &c. 8vo.

Medical Botany, No. IV.

On the Mechanism and Motion of the Human Foot and Leg. By John Cross, M.D. 8vo.

A Letter to the Rev. Thomas Rennell, concerning his Remarks on Scepticism: from a Graduate in Medicine of the University of Oxford. 8vo.

Index Botanicus sistens omnes Fungorum Species in D. C. H. Persoonii Synopsi Methodica Fungorum enumeratas unâ cum Varietatibus et Synonymis. Confectus a D. G. H. L. 8vo.

Thomas's Modern Practice of Physic. Sixth Edition. 8vo. enlarged.

Cursory Observations upon the Lectures on Physiology, Zoology, and the Natural History of Man; delivered at the Royal College of Surgeons, by William Lawrance, F.R.S., &c., in a Series of Letters addressed to that Gentleman: with a Concluding Letter to his Pupils, by one of the people called Christians. 8vo.

Wildenow's Botany, 4 vols. 8vo. a New Edition.

A Manual of Chemistry; containing the Principal Facts of the Science, arranged in the order in which they are discussed, and illustrated in the Lectures at the Royal Institution of Great Britain. By W. T. Brande, F.R.S., &c. &c. &c.

Armstrong's Practical Illustrations of Typhus Fever. 8vo. New Edition.

NOTICES TO CORRESPONDENTS.

Communications have been received this month from Dr. R. Smith, Dr. G. Smith, Dr. Parkinson, Mr. Cooke, Mr. Fosbrooke, and Mr. G. H. Davis.

A most interesting Paper was read before the London Medical Society at their last meeting, on Elaterium, written by Dr. Clutterbuck.—We are happy to announce that we have the writer's permission to publish it in the REPOSITORY; it will, therefore, appear in the next, or in an early Number.

The continuation of Mr. Fosbrooke's Paper on Vaccination we have been obliged to postpone till the next Number. By the delay, however, the Essay will have been considerably increased in value, as the writer has recently obtained some new information from Dr. Jenner and other sources.

A highly respectable individual has sent us a letter for publication, complaining of the injustice, as he considers it, done to Sir Gilbert Blane in our recent Review of that author's work. We shall be excused for reminding the writer of what, indeed, he must be aware, that to publish appeals of this kind would serve to weaken the ex cathedra authority of the reviewing department.

We shall be happy to receive the Paper on Puerperal Convulsions.

We have been prevented from fulfilling our engagement of giving in this Number an abstract of Mr. Pettigrew's Oration, at the Medical Society, on Toxicology. This shall certainly be done in the ensuing Number.

Dr. G. Smith has requested us to notice the following Erratum in his Paper on Hernia of the Stomach, published in the Number for last March, page 185, line 3d, for "opposition," read "apposition;" and we are concerned to have the same task imposed upon us to a more considerable extent, by Mr. Fosbrooke: as an excuse for apparent neglect in this instance, we must plead the exceeding obscurity of many words in the manuscript. Page 267, line 6th, for "important," read "impotent;" 23d line, insert "in" before "which;" 24th line, dele "in." Page 268, dele "note of interrogation." Page 271, line 9th, for "as it is," read "as they are;" 12th line, insert "as" before "an;" 19th line, after "excite," read "doubt." Page 273, line 8th, substitute the word "account" for "part." Insert "the" between "of" and "danger."

** * Communications are requested to be addressed (post paid) to Messrs. T. and G. UNDERWOOD, 32, Fleet Street.*

THE
LONDON MEDICAL
REPOSITORY.

No. 66.

JUNE 1, 1819.

VOL. XI.

PART I.

ORIGINAL COMMUNICATIONS.

I.

[In order to accommodate the Writer of this most interesting Paper, and indeed to meet our own wishes of presenting it in an undivided form, we have given an additional half sheet to the present Number of the REPOSITORY.—We think our able Correspondent deserves well of the Profession for calling the attention of the medical public to the pathology of a disease which has, perhaps, hitherto been either too indiscriminately ranked with inflammatory affections, or treated of, as to the immediate circumstances of its production, in a vague unsatisfactory manner.—It will be of course understood that as well in this, as in all other instances of "Original Communications," the responsibility in respect of theory or opinion rests with the authors of the respective Papers, and that the pages of the REPOSITORY are always open to candid and liberal discussion on debatable points.—EDIT.]

Cases and Observations on Hydrocephalus Acutus. By WILLIAM COOKE, of Great Prescott Street, Member of the London College of Surgeons.

NOTWITHSTANDING the great attention which of late has been directed to this disease, some of the most important *desiderata* for the early diagnosis and successful treatment are yet to be supplied.

Various authors, indeed, have done much towards discriminating it; yet there are cases of frequent occurrence where the characteristics on which their chief reliance is placed do not exist; and Practitioners the most competent to appreciate the diagnostic symptoms of disease, fail in detecting this until it has attained an incurable stage, or until an opportunity of *post mortem* inspection is afforded.

In elucidation of this circumstance I might refer to an interesting case, by Dr. Wm. Heberden, published in the

fifth volume of Transactions of the College of Physicians. The patient was an old man, who had been deaf many years. His last illness was fever, expectoration, and transient giddiness. Some time afterwards, indeed, he had a fit, but soon recovered from it; and he continued tolerably well until within twelve hours of his death.

The dura mater was found strongly adherent to the calvarium; tunica arachnoides thickened; the cellular structure of the pia mater contained about four ounces of fluid, and the ventricles about eight ounces. The internal carotid and basilar arteries were ossified. The abdominal viscera were healthy.

Here was a case of very extensive effusion, with organic disease, unattended by its usual symptoms.

Dr. Abercrombie, in his valuable Paper on Chronic Inflammation of the Brain and Membranes, says, "We have reason to believe that we have no certain mark by which we can ascertain the presence of hydrocephalus; but that all the usual symptoms of it may exist in connexion with a disorder of the brain, which, if allowed to go on, would probably lead to hydrocephalus; but which, if treated with decision in its early stage, holds out a fair prospect of being able to arrest its progress."

Dr. Fothergill attached some importance to the dejections being of a dark greenish colour, with an oiliness or glossy bile: but both he and Whytt considered the more general symptoms as common to this disease, and other causes of irritation, as worms, dentition, etc.

Dr. Cheyne, indeed, considered the oily-looking, or glazed dark green stools, as peculiar to hydrocephalus, but not constantly attending it: upon this point, however, my experience accords very much with that of Dr. Porter; for I have never seen this appearance of the stools occur until after the administration of calomel, and it has generally ceased to appear when the employment of this medicine has either been suspended or reduced to extremely minute doses. I have not, indeed, observed these peculiarly glossy stools in other cases than hydrocephalus, after the employment of calomel, except on one occasion; and although the youth is now living, I had fears at one period of a protracted indisposition, that he was a subject of water in the head; but this appearance of the stools was never exhibited after other purgatives. Even in small doses, his constitution was uniformly much disordered by calomel, which more particularly affected the hepatic secretion, suspended digestion, and gave to the undigested aliment, passed as excrement, the resemblance of boiled spinage, with an oily surface.

Dr. Coindet has directed attention to a particular aspect

of the urine ; especially to a micaceous deposition like crystals of boracic acid, and which he believes to be uré. This appearance, he says, is almost peculiar to hydrocephalus, and takes place in the second stage.

I have not had an opportunity to appreciate this observation ; and although it would be uncandid to prejudge it, many doubts will arise as to the safety of relying for pathognomic symptoms upon the adventitious appearance of a secretion so liable as urine to be modified by a variety of combinations*.

Diverse opinions have likewise been entertained respecting the origin of the disease. Many able writers have contended that it generally originates in organs remote from the brain, especially the chylopoietic viscera. Dr. Yeats seems to have been pretty generally understood to maintain almost exclusively the remote origin, but he has recently declared his sentiments more explicitly on this topic. " I beg to repeat," says he, " that I by no means intend to deny that a diseased action does occur not unfrequently in the brain, *per se*, independent of previous disease in any other organ."

On the other hand it has been maintained, that the disease very frequently exists in the head, without being attended with any very manifest derangement of the abdominal viscera, and without any trace of disease being discoverable in those organs after death. Dr. Spurzheim, whose opportunities of inquiry must have been extremely numerous, admits that often the first disorders take place in the abdomen, and the greater determination of blood to the head is the result. " Yet (says he) anatomical dissections have convinced me that in the greater number of cases, the morbid appearances of the abdomen are secondary symptoms of the affection of the head."

To rely upon the non-discovery of organic lesion in remote organs, after death, would certainly be extremely equivocal ; and inconsistent with pathology.

Diseased action may exist without a change of structure ; yet it does unquestionably induce it. Whether that morbid action be primary or sympathetic, in most cases it will produce a change in the organization of the affected part : and, therefore, although not so universal as to justify the inference that all disease must be discernible after death ; yet it is perfectly accordant with pathological phenomena to *expect* some change in structure, when the functions of those parts on which structure itself depends, have long been deranged.

Dr. Yeats has referred to the retrocession of rheumatism

* May not this " micaceous deposition" be the same as the " branny sediment" so frequently mentioned by Dr. Blackall, in his cases of dropsy, not only in the head, but in other parts of the body

to the heart, of gout to the stomach, and of erysipelas to the brain: "no mark," says he, "of these diseases shall appear after retrocession, although sufficiently apparent and severe before it, when the brain, the heart, and the stomach, shall be found diseased upon dissection, but shall have exhibited no symptom of disease, until such retrocession took place." Cherishing a high degree of respect for the talents of this distinguished Physician and author, it is with considerable deference I submit that nothing could be less conclusive than this reasoning, as it merely shows that certain parts, previously diseased, had regained a healthy state prior to death, and the circumstances are not parallel with those phenomena they were intended to explain.

So far as my experience and inquiry have enabled me to form a judgment, I should regard hydrocephalus a disease of the head, as independent as most other diseases; liable to arise from circumstances exterior to the body, as well as from derangement in the functions of some other organ, by which the balance of circulation throughout the body might be disturbed; and exciting, like most affections of the head, very considerable sympathetic influence over the digestive functions, especially those of the stomach and liver.

Individual cases of disease have been so multiplied, and the phenomena of *this* disease so long investigated by the analytic process, that it seems specious enough now to demand attention to the synthetic, to the combination of the accumulated facts, and to a deduction from them of principles to direct the treatment;—to the discovery of some more efficient method than is at present known of averting the catastrophe in which it generally issues. Plausible, however, as some Practitioners render this sentiment, and truly important as it is, we cannot admit that the period has yet arrived when we may sit down and quietly contemplate the past, and cease to pursue individual inquiries for the future. So much obscurity still envelopes anatomical and physiological science, and so tributary have zealous pursuits of morbid anatomy proved, to elucidate disease, and to impart efficiency to curative indications, that I persuade myself every individual case of disease, in which the interposition of medicine has been effectual; every fatal case, in which inspection of the body after death shall have been subservient to the illustration of preceding symptoms, and especially an aggregation of such cases, will never cease to be acceptable to this society*.

* This Paper, with others by Dr. Robinson and Lewis Leese, Esq. was presented, and partially read, at the first meeting for medical discussion, of the Hunterian Society, held on the 21st of April last. The institution of this society has been already announced through the medium of the MEDICAL REPOSITORY, and other periodical

I shall then proceed to detail four cases of this formidable disease, affixing to each the result of careful inspection after death, and shall presume, in the sequel, to make such observations on the treatment, as these and a variety of other cases have appeared to justify; in hope of eliciting much useful information from gentlemen of more extended experience and accurate observation, many such being enrolled in this society.

The cases are not adduced to establish any favourite system or opinion; they rather tend to show that the designatory phenomenon of water in the head exists under the greatest diversity of combination and symptom; and that sometimes the fluid exists without having manifested itself by any cognizable sign; whilst at others (although such cases never fell under my inspection) the ordinary symptoms of it occur, without the fact which those symptoms usually represent; and which seems to justify the inference that water in the head is but a consequence of other disease in that organ, and that the state of the patient would not be amended were the fluid absorbed without that state being altered in which the effusion originated.

CASE FIRST. — On the 28th of October, I was requested to see Ann Graves, ætat. ten. She had been a very healthy girl; and although her parents were poor, I should infer, from the healthful countenances of numerous children, that they were well fed.

She was reported to have been ill during the preceding fortnight, though to an extent scarcely perceptible. The symptoms appeared to have been those of mild pyrexia, with constipation. Various gentle aperients had been administered, without any permanent advantage, and disease had thus been stealing on insidiously, till it had assumed a somewhat marked character.

I found her sitting by the fire, supporting her head upon her hands and knees. Her countenance was distressed. She was impatient of society, continually seeking after solitude. She had no appetite; was dull and fretful; and almost perpetually moaning.

journals. It originated in local objects, but it embraces the cultivation of medical and physical science in general. It therefore identifies with it Practitioners in every part of this country or abroad, as corresponding members, from whom a quarterly communication, but no fees, are required. Whilst its laws protect it from the admission of unworthy candidates, the terms of admission to respectable men are made peculiarly easy. The continued accession of distinguished Practitioners, in each department of the Profession, renders its commencement auspicious.

I directed two grains of calomel to be administered immediately, and repeated occasionally, and the same quantity of pulvis antimonialis every six hours.

31st.—General symptoms the same as before recited. The medicines had effected but little change in the bowels.

Habeat Hydra. Subm. gr. iij.

P. Jalapæ, gr. x.—Statim.

And one ounce of a saline mixture, with tartarized antimony, every six hours.

Nov. 2.—The opening powder has induced but little effect. The general symptoms are much the same.

Habeat Hydr. Subm. gr. iij.

P. Jalapæ, ℥j.—Statim.

Contr. mist. salina.

3d.—The bowels were freely acted upon yesterday; the dejections offensive, and, for the first time, reported to be very dark coloured.

The symptoms are unabated. The head is particularly distinguished as the seat of pain; no pain or tenderness about the abdomen. The night was passed without sleep, in almost ceaseless moanings, and incoherent exclamation. The tongue is white, but there is no thirst; pulse very quick and rather hard; light irksome; the pupils much dilated; skin of moderate temperature.

I directed the application of four leeches to the temples; to continue the saline mixture, with an addition of two drops of tincture of digitalis to each dose; and to apply cold lotions to the head.

4th.—The same symptoms continue. The pupils are much dilated, and scarcely diminish on the approach of a strong light to the eyes, but the light of the room annoys her much. She had strabismus in the right eye; but is sensible when spoken to.

The application of four leeches I again directed; likewise a blister between the shoulders; the opening powder and saline mixture, with digitalis as before.

5th.—She has passed a most distressing night, vociferating throughout for victuals and other things, which when brought to her, were rejected. Only one leech had been applied effectually. The powder had operated copiously four times. The pupils are dilated, and the eye almost insensible to light; the pulse very quick, and skin cool. She is sensible when spoken to, but wanders when her attention is not arrested.

I directed for her half a grain of calomel, and one of pulvis antimonialis, every four hours; and that the cold lotions be continued.

6th. — Had rather a better night; symptoms a little abated; headach the same; pupil rather more susceptible to light; pulse less frequent. She moans constantly. At eight in the evening I saw her again. The bowels had been freely opened during the day. Stools very dark coloured. The calomel to be omitted from the next three powders.

7th. — She has had a most restless night, screaming and talking incoherently without ceasing. This morning the pulse is very small and quick, but firm. Eyes look dull; pupils exceedingly dilated, and nearly insusceptible to light; the right eye drawn towards the nose. The bowels have been very open, and stools offensive.

As there appeared no prospect of relieving the head from its oppression except by withdrawing blood, and the pulse remaining firm, I determined to open the temporal artery, in the execution of which the constant action of the temporal muscles in the act of grinding the teeth occasioned much difficulty. The radial artery progressively expanded under the flow of blood, which induced me to abstract nearly eight ounces, when syncope ensued, and considerable diarrhœa supervened.

The digitalis to be continued, and mercurial inunctions employed, with the use of cold lotions to the head.

8th. — She has had a quiet night. Pulse not so quick; pupil considerably smaller, and more sensible to light; she is able to give a rational reply, although she talks incoherently to herself, and imagines apparitions and insects in the room. She still complains of pain across the top of the head. During this day, at intervals, she conversed very rationally, but continued progressively sinking until two o'clock on the following day, when she died.

Inspectio cadaveris. — There were patches of diseased glands beneath the scalp.

The vessels of the pia mater were turgid. The lateral ventricles were distended, and contained about two ounces of fluid. The choroid plexus was very pale.

The abdominal viscera did not present any morbid appearances, except a circumscribed opaque spot on the surface of the liver.

CASE SECOND. — MR. HILL, the subject of this case, was always rather delicate. His character was amiable; his habits temperate; and his mind very susceptible of generous sentiment. He had attained about his thirtieth year.

Without observing any remarkable circumstances attending the changes which his constitution underwent, he thought that during about twelve or sixteen months prior to my visits, he had experienced a progressive increase of indisposition.

The chief character of the disease during the year had been violent headaches, with derangement of function in the chylipoietic viscera.

His stomach and bowels in general were extremely irritable, the former retaining but little food, and the latter being excited to frequent dejections by the most trivial alterations of diet, or changes of atmosphere. His appetite was often rather voracious, and probably he did not always resist this propensity, though he knew that very soon after indulging it the food must be rejected.

During the fortnight immediately preceding my attendance, having become worse, he had been under the care of an eminent Physician. His symptoms were chiefly indicative of abdominal affection; and although the head was extremely painful, it was considered as sympathetic, rather than primary; and not the cause of that disorder in organs, the integrity of whose functions peculiarly depends upon the condition of the brain and nervous system. Within the latter few days he had frequent startings, a disposition to coma, and very severe headache; his bowels being freely open.

On the 30th of September he appeared worse, to the family; but his Physician did not apprehend that any extension of disease had really taken place. He was taking effervescing draughts, with a view to quiet the stomach.

At nine o'clock in the evening he became completely comatose; and at eleven, by the request of the Physician, I was called to bleed him, and was desired by the family to continue in attendance.

His pulse was about 120, and strong; pupils rather dilated, but contracted by a strong light; temperature moderate; face not flushed.

He was sensible of the puncture, and made violent efforts to disengage his arm, yet he was perfectly incoherent, and unable to articulate. The Physician regulated the quantity of blood abstracted by keeping his finger on the pulse, and when about eight or ten ounces were withdrawn, he suggested the propriety of closing the orifice.

A blister was applied to the back; but an enema, and powder with scammony and calomel, which were ordered for him, could not be administered.

On the following day, October 1st, the patient continued in nearly the same condition, but was considerably weaker. He was, indeed, not truly comatose; but after passing some time in a state of mental and corporeal torpitude, one of furious inquietude ensued, during which, he violently resisted the administration of food and medicine. The blood was bled and cupped.

It was directed that his head should be kept cool by vinegar and water, and that he should take two grains of calomel every four hours, with a draught containing two drams of Epsom salt.

Oct. 2d. — He has had a very restless night; the vascular system has become more active.

V. Sectio, ad. ℥ xvij .

His friends had only been able to administer one dose of the medicine; but now five grains of calomel, with a saline draught, were given him.

Blisters were applied behind the ears.

3d. — The blood drawn yesterday was unusually dense, but exhibited no buff coat. Whilst bleeding him on both these occasions, the blood was as florid as arterial, and flowed in a strong current, even when syncope had decidedly occurred.

Is it probable, that the circulation of this highly oxydized blood contributed to keep up an inflammatory diathesis?

Saline aperients were ordered for him, and the lowest diet enjoined.

On the 4th he was much the same. Four leeches were applied to the temples.

On the 5th there was little variation.

V. Sectio, ad. ℥ x .

10th. — The blood last drawn was buff and firmly cupped; but the proportion of coagulable to the serous part was very small. He has been slightly improving since the last report.

He complains of violent pulsation in the head, and has a very firm pulse.

His nutriment has chiefly consisted of tea and gruel, and his medicines saline and mercurial purgatives, with digitalis.

The following week the stomach continued extremely irritable, seldom retaining fluids; and as the active part of disease had subsided, a mineral tonic, with some infusion of calumba, was prescribed for him, but the stomach did not retain it. Much difficulty has been experienced in regulating his diet, from the capricious state of his stomach.

Epistaxis has several times occurred, and has uniformly relieved him.

On the 19th, he complained that the cerebral pulsation had much increased, and that he had some confusion of intellect, and dulness of hearing; notwithstanding this, he was eating chicken and French beans when I called.

The nasal hemorrhage had not taken place since yesterday. Stools copious and offensive.

Habeat Hydr. Subm. gr. vi. immediately, and every six hours an aperient draught, and let six leeches be applied to the temples.

His nurse called in the evening to say that the nose had bled freely, and his head was relieved. The deafness also had left him.

On account of the occurrence of hemorrhage, the leeches had not been applied; but I requested their application, unless the relief of the head were decisive.

Habeat Hydr. Subm. gr. ij. h. s.

21st.—Yesterday he voided some dark bilious stools in large quantity. The stools of to-day are better, and he is more comfortable.

He is directed to continue the draughts and pills; all animal food is interdicted; and the head to be shaved and blistered.

The appetite is extremely capricious, and is observed to be greatly influenced by the state of mind.

31st.—It was reported to me, that during the whole illness, and even previously thereto, Mr. Hill has been liable to hemorrhage from the nose, and had derived advantage from it; for whenever excessive action supervened in the ramifications of the carotid arteries, manifesting itself by headach, dulness of intellect, and violent pulsation, this discharge invariably quieted it, and thus proved critical. Towards the close of his illness, however, it frequently ensued profusely, when we would gladly have prevented it. Upon one occasion I plugged, by passing a roll of lint along the floor of the nostril, by which the bleeding was arrested; but the patient was so irritated by the sensation, that I was constrained to withdraw it.

Sometimes when the hemorrhagic action had a little subsided, the snuffing up of a strong solution of sulphate of zinc appeared to shorten the duration.

On Sunday, the 27th, he lost at least six or eight ounces before he tried the solution; it then put an immediate stop to it.

Notwithstanding the debilitating tendency of this adventitious bleeding, his health improved; his intellects were clear; and the head in general but slightly painful. He frequently sat up, and lively hopes were entertained of his final restoration.

On Tuesday evening, the 29th, the hemorrhage again occurred, and continued through the night. The solution did not avail, nor was the circumstance communicated to me until my usual visit, when it had ceased spontaneously. Having been a very susceptible man, even in health, he was always greatly annoyed whenever coagula formed in the nasal cavities, as well as by the irritation of turgid vessels, and

under these events was habituated to rub his nose violently; nor was it possible to restrain him from this practice, even during the continuance of hemorrhage.

He could not have lost less than a pint, and probably the quantity exceeded this estimate; for at times he brought up by sickness, clots which must have been the coagulable part of several ounces, independently of the quantity which escaped from the nostrils.

I begged him to allow the clots to remain undisturbed in the nostrils; to keep the face cool; to avoid all exertion, especially on going to stool, on which occasions he has been accustomed to use much straining.

His condition was greatly altered by this last hemorrhage, and, indeed, presented a hopeless and melancholy aspect. He could not rise in bed without fainting. There was much *subsultus tendinum*; the tongue was apparently *ex sanguis*; stools bloody (from that which had passed into the stomach); the pulse was 90, small and soft. From this period there was no possibility of renovation; he gradually sunk, and died on the first of November, two days afterwards.

Inspectio cadaveris.—On the following day I inspected the body. It looked natural, and possessed considerable *embon-point*.

On opening the head we found the calvarium very thick, and the dura mater morbidly adherent, although not so firmly as to require removal with the bone. The diploë of the cranium was much developed. The brain felt very firm before the dura mater was raised, and imparted a sense of fluctuation, clearly indicating that fluid existed underneath.

The vessels of the dura mater were nearly empty. After having raised and reflected this membrane, the tunica arachnoides was very conspicuous, being opaque, and raised from the pia mater by a considerable quantity of serous fluid. The vessels of the pia mater were nearly destitute of blood. The substance of the brain was perfectly natural.

The roof of the right ventricle was more elevated than the left; they contained together about four ounces of fluid. By making slight pressure, fluid poured out from the *for. com. antierius*, and after the removal of the cerebrum, it was seen escaping from the cerebellum. By a careful estimate, the fluid did not amount to less than six ounces.

Each plexus choroides had a little tumor upon it. So uniformly do these parts undergo similar morbid changes, that on seeing one of them thus circumstanced, it was anticipated the same would be observed on the other side*.

* This was quite different from the knotty appearance which the tortuous vessels often present.

There was a large quantity of adipose substance on the abdominal muscles, and the muscles themselves were fine and florid.

The whole abdominal viscera were natural. The liver was free from the slightest indication of morbid lesion, or congestion. The gall-bladder did not contain much bile; but what it did contain was of healthy colour.

The mucous coat of the stomach and pyloric orifice were perfectly natural.

The thoracic viscera likewise were in a healthy condition; there were not even adhesions betwixt the pleuræ, so commonly detected; but on feeling into the left cavity I discovered about twelve ounces of serous fluid.

The heart felt remarkably firm, and the parietes of the left ventricle were at least one-third thicker than ordinary, yet without an appearance of disease. It might arise as a query, whether this thickened state of the ventricle may be considered as accounting for the impetuous flow of blood from the vein, even under fainting; or whether it was an adaptation of the ventricle to the diminished quantity of blood in circulation.

Before concluding this case, it should be observed, that during this last illness there existed no symptom indicative of hydrothorax; but previously to it the patient's respiration had been somewhat impeded; by using a little exercise he suffered palpitation of the heart, and needed two or three pillows at night. He had voided large quantities of pale urine, and during the whole illness there was no defect in the quantity of this secretion.

In comparison with his wonted accuracy, the state of his books intimated that he had not enjoyed full exercise of his faculties during two years.

He afforded during this period an example of the influence exerted by the brain and mind upon the abdominal viscera. Sometimes his appetite was voracious; at others, it was suspended by only naming food; and inquiries respecting the state of his stomach, would often produce immediate nausea and vomiting. The same influence was also observable upon the hepatic secretion; so that upon the communication of any unwelcome intelligence, or the accession of any particular affection of the head, he could anticipate the colour and appearance of his motions. Diarrhœa often succeeded transient mental agitation. The same causes likewise exerted some influence over the renal functions, but these were not so constant.

It seems unquestionable, that the bleeding, by inducing a temporary depletion of the cerebral vessels, contributed to prolong life and reason, but did not avail to ensure any permanent advantage. From the experiments of Dr. Seeds,

indeed, we might be induced to believe, that towards the close of the disease it had rather led to an increase of effusion. From his experiments Dr. S. reports, that in every instance of animals bled to death, there is an overwhelming effusion of water in the ventricles and between the membranes.

CASE THIRD.—I was requested to see Master B. in the middle of March. He was about six years of age, and had been indisposed about four months. He had chiefly complained, during that period, of occasional pain in the abdomen; his bowels were constipated; and stools pale: he had evening paroxysms of fever. His tongue white; and he extremely listless.

His parents informed me that he had not been under regular medical attendance; but that an eminent Surgeon had occasionally prescribed for him. They informed me likewise that he had frequently taken small doses of calomel; but that he was invariably worse afterwards.

When I first saw him he appeared to be labouring under a sub-acute form of hepatitis. After taking saline aperients during a week, his stools became of a tolerably healthy colour, which had never been the case after calomel; and he seemed altogether in a state of amendment, except that some affection of the head, which hitherto had appeared subordinate, developed itself more acutely.

Four leeches were applied to the abdomen, and afterwards a blister, with good effect.

On the 21st his father told me he had been a child of considerable precocity of intellect, and was very successful in his youthful studies: but during several months he had not the same facility of receiving instruction, and his temper became more irritable.

He had often complained that the light annoyed him. For some time these complaints were disregarded, and young as he was, no remission of learning was allowed. He was, indeed, often corrected for his peevishness and complaints.

The affection of the head had now rather suddenly augmented. Light was very irksome: he had pain over the forehead; tongue darkish coloured; teeth covered with sordes. He takes little notice; eats nothing; and drinks but seldom. His respiration is rather quick in general, but frequently whilst sleeping he is seized with very great oppression, lasting above half a minute. His mind is extremely irritable; his pulse small and quick: he took some Epsom salts and infusion of senna, which operated freely.

He passed the night very restlessly; and at six the following morning (22d) I was called to him. He was screaming violently; knitting his eyebrows; greatly agitated when

light was thrown upon the eyes, although it was not very powerful. Pulse 140, rather tense, and slightly irregular: he kept his head low in bed; seemed to have pain when the belly was touched; the teeth covered with sordes; skin moderately cool. His bowels had not been opened during the night, but on being opened, he became more tranquil and rational.

I ordered the application of four leeches to the temples; two grains of submuriate of mercury to be taken immediately, and the purgative mixture continued.

23d.—He has passed a composed night. This morning he has been distressed by frequent attacks of convulsive respiration, lasting about a minute; bowels once opened since last night, the dejection dark coloured and loose. He is rational; pulse small, 130, irregular; skin cool; tongue not so dark coloured. He is less irritable, and less annoyed by light. Some tinct. of digitalis was added to his former medicines, and cold lotions to the head.

During some days he has been considered as labouring under hydrocephalus; and on the 24th Dr. Farre was requested to meet in consultation. He considered the case nearly hopeless; but requested that, with a continuance of his present medicines, his head might be blistered; and, if possible, brought to extensive suppuration. He thought he had succeeded in one or two cases, where the symptoms of hydrocephalus existed, by this means. He said it had been carried on to extensive suppuration, so that one child retained large cicatrices on the scalp.

With very slight variation he became increasingly comatose; the pulse varied somewhat in irregularity, and so did the degree of insensibility.

On the 25th he had convulsions; the pupils were more dilated, and less susceptible to light; pulse almost incalculable.

On the 27th the pulse was 150, strong and irregular; and he expressed pain on pressing the abdomen.

On the 28th he lost the power of deglutition; but regained it on the 29th.

He died in the evening of the 30th.

Inspectio cadaveris.—The vessels of the pia mater were turgid; and in the substance of the brain they appeared more conspicuous than usual.

When the cerebrum had been dissected down to the roof of the right ventricle, fluctuation was perceptible. On puncturing it, about two ounces of *perfectly limpid* fluid ran out. When the other ventricle was opened, more fluid escaped; but as there was free communication between the two ven-

trices, part had escaped when the opposite ventricle was opened. On the exterior of this ventricle an abscess was cut into, and when the finger was introduced, it was found to pass into a large cell, which occupied nearly the whole anterior lobe, and communicated with the ventricle.

The point at which it corresponded with the ventricle felt callous; almost like cartilage; which on subsequent minute examination appeared to arise from depositions of lymph around the cell.

The liver was natural in size, and the gall-bladder contained healthy bile; but upon the surface was a small opaque spot, and a few minute tubercles, about the size of pins' heads. The mesenteric glands were very slightly enlarged. The thoracic viscera were healthy.

CASE FOURTH.—On the 25th of March I was consulted respecting the child of Mr. Y——, of Lemon Street, two years and a half old; a very fine and intelligent boy, who had enjoyed almost uninterrupted health.

I transcribe from my journal the following memoranda:—The child has been ill about two days: he complains of head-ach; the pulse is quick and strong; eyes red; and skin hot.

Habeat Calomel, gr. ss.

Pulv. Antim. gr. i.

Quarta quaque horâ.

26th.—Bowels have not been freely opened; continuentur pulveres.

Habeat Mist. Salin. Purg.

Four leeches I directed to be applied to the temples; and cold lotions to the head.

27th.—The bowels freely opened. He seems considerably reduced by the leeches: the face, which before was florid, has become pale. The stools are of a good colour.

29th.—Less pyrexia; but still complains of his head; the eyes are less red. He is quite sensible. Pulse not above 90, regular; tongue brown and furred. He often starts when asleep. Two leeches to the temples.

30th.—In all respects better; and having been called to the house in the evening in consequence of an accident, it was reported to me that he continued comfortable.

31st.—Early this morning I was informed he was much worse. He had been restless through the night; incoherent; and insensible. I found his eyes nearly insensible to light; pupils not very much dilated. He lay sometimes in a comatose state, at others reaches after something in the air. On being roused he seemed to have momentary intelligence, and swallowed a little barley water; belly soft and open; pulse

86; extremely irregular. He moans occasionally. I directed a blister between the shoulders; the calomel and antimony, and saline aperients to be continued. The head shaved and kept cool with lotions. In the evening the coma was more profound; there was likewise strabismus.

April 1st.—Much the same. He has just passed fæces of good colour. His power of swallowing is impaired by an apparent want of control over the tongue. He has aphtha. Changes of countenance very sudden. Some digitalis added to his medicines, and blisters applied behind the ears. Raising him from the bed seems to distress him very much.

2d.—Pulse 96, soft, and irregular; no strabismus; pupils rather large, but more susceptible to light than yesterday; and, although not capable of speaking, he seems more intelligent. He appears conscious of the pain of the blisters. His power of deglutition has improved. His bowels being rather constipated, I gave him a dose of calomel and scammony, of each two grains, which after a few hours caused the evacuation of a dull dark green stool.

As his bowels were rather torpid, I directed him some pills containing of calomel, scammony, antimony, and digitalis $\bar{a}\bar{a}$ $\frac{1}{4}$ grain, every three hours.

At night he was more intelligent; sight a little improved. He frequently attempts to raise his left arm to his face, but with much difficulty and tremor. He was observed to sigh very frequently; and has subsultus tendinum.

From this period there was no material change: his pulse and respiration continued very irregular; he remained comatose until the evening of the 4th, when he died; only twelve days from the first appearance of indisposition.

Inspectio cadaveris.—April 5th.—On reflecting the scalp I observed a red line in the course of the coronal suture, exhibiting peculiar vascularity, extending also along the sagittal. The bones were not compact at the sutures. The dura mater adhered very closely to the cranium, but perhaps not much more so than is usual at this age. There was an appearance of granulation in lines corresponding with the sutures, which seemed to give to them their vascularity, and perhaps designated the process by which nature effects the ossific union. The tunica arachnoides was raised by much subjacent fluid, and the vessels of the pia mater were very turgid. The substance of the brain did not seem more vascular than ordinary. Each of the lateral ventricles contained upwards of an ounce of limpid fluid; and after the cerebrum was removed, the cerebellum and basis cranii were likewise found to contain a considerable quantity: making in the whole about three ounces.

On examining the substance carefully, I found an abscess occupying the right corpus striatum, spreading to the extent of a walnut. The substance was not quite so soft as it often is, but sufficiently broken down and circumscribed to define it. The contents had a reddish tinge. The other parts were healthy. The medullary substance of the cerebrum was firm, but that of the cerebellum extremely soft and loose in its texture. There was nothing like acute inflammation in the membranes or brain. The mesenteric glands were a little enlarged, one as large as a Spanish nut, many as large as hazel nuts. The liver was healthy. The gall-bladder contained some bile, of rather a dark colour. The thoracic viscera were quite healthy.

Notwithstanding the successful achievements of some comparatively recent physiologists, by which the progress of medical science has been surprisingly accelerated, yet there are many phenomena in disease so involved in obscurity, that the treatment is still conjectural. The interest of humanity, as well as the honour of the Profession, present most powerful incentives to the utmost diligence and perseverance in those investigations which have been found most effectual in developing the nature of diseases to which the body is incident. The progress of science may be imperceptible, and the agents in it subordinate; yet as it is by a careful collection of facts, and a deduction of legitimate inferences from them, that advancement is most likely to be insured, I shall not hesitate to communicate (though it be with diffidence) those principles which my own experience and observation have suggested respecting hydrocephalus. Whilst, then, I maintain, that although often co-existent with disease in remote organs, it seldom originates from them, I cannot cherish the opinion which many highly respectable Practitioners have adopted, that it is inflammation, either of the membranes of the brain, of the brain itself, or of the delicate investing membrane of the ventricles.

Sometimes the symptoms at the onset are so acute, as to conceal the real points of distinction betwixt hydrocephalus and phrenitis. The progress will generally exhibit discriminating characters; and the morbid appearances after death seem to me decidedly unlike those presented after inflammation in the membranes of the brain. The tunica arachnoides, indeed, is often rendered opaque; but the increased vascularity of the pia mater consists chiefly in venous congestion; and the dura mater has been but slightly or not at all affected in the cases I have examined; whilst it must be conceded, that

as in many diseases in which inflammation, though not the chief agent, is accessory, so there are cases of hydrocephalus in which high arterial excitement is a very prominent feature.

If we suppose an inflammatory condition of the membrane of the ventricles to constitute the cause of the disease, I am apprehensive we shall be unable to account for all the phenomena which happen too frequently to be considered merely fortuitous, and from the peculiar structure of the brain, it is probable they exist more frequently than is discoverable.

The dull and clouded, or more distinctly vascular aspect of this membrane is not constant, and, so far as I have observed, the choroid plexuses (from which, as well as the membrane, secretion is supposed to take place) are generally paler than natural.

We cannot by it account for effusion between the tunica arachnoides and pia mater, except, indeed, by admitting that the membrane of the ventricles is a continuation of the arachnoid coat, which has been rendered extremely probable; in that case, however, the disease should be designated inflammation of the tunica arachnoides. Neither can we explain the frequent occurrence of abscesses in the substance of the brain, nor changes in the texture itself, where the nature of the change may be scarcely appreciable. The characters of the fluid itself likewise differ considerably, in general, from the fluids of other inflamed serous membranes. It is generally limpid, as pure water, and is believed to approximate the natural state more than any other morbid effusion.

Of those cases in which there appeared unequivocal symptoms of hydrocephalus, but in which no effusion was found after death, no instances have occurred to me; they are so well authenticated, however, that I cannot doubt their occasional existence, but apprehend that a state of inflammation of this membrane would by no means induce that series of symptoms which are usually supposed to denote this disease.

Is the disease then an inflammatory condition of the substance of the brain? The frequent formation of abscess; the deposition of lymph; the manifestly increased vascularity in most cases, concur, with the acuteness of the symptoms, to indicate an inflammatory state of the cerebral structure; but a variety of cases immediately present themselves to our view in which there was no other prominent feature than a softened and apparently disorganized condition of some part of the brain, quite distinct from that ensuing after death, as was seen in No. 4, of the preceding cases, from which we must infer that inflammation does not constitute an essential cause or quality of the disease.

I am rather disposed to consider it a peculiar organic

disease of the whole brain, affecting the substance and membranes in common, generally attended with a sub-acute form of arterial excitement, but more conspicuously, with some obstruction to the return of blood from the head, inducing the state of venous congestion. Of this condition effusion is a very common, but not inevitable consequence. From the variable state of vascular excitement, the distinctions into more and less acute forms have arisen; but this symptom often affords very inconclusive evidence of the state of the affected organ, probably deriving some modification from the peculiar connexion of the brain and nervous system with the heart and arteries, which, hitherto, it may not have been practicable to develope.

What the real nature of this disease is, I am not prepared to exhibit, but think it presents many points of analogy with scrofula. Their alliance derives some confirmation from the frequently hereditary nature of hydrocephalus, its frequent co-existence with other scrofulous diseases, and from the greater liability of children to it, in whom there is a remarkably early or energetic developement of the intellectual faculties, which, if I do not mistake, is often the case in youths predisposed to true phthisis pulmonalis.

That a tendency to the disease may often be counteracted, I have not the smallest doubt; and that in certain states of the disease itself, medical agency may be interposed with effect, there are cases enough to justify an expectation. If, indeed, the disease consisted merely of inflammation, and we had only to subdue this, and afterwards to promote absorption, the treatment would be greatly simplified: but, believing that it is more complicated than this, our reliance must, I conceive, be placed on plans adopted anterior to that period at which we have been accustomed to view it; at which perhaps only presumptive evidence may exist of the disease having really commenced, or of its being imminently threatened.

Parents are often extremely culpable in disregarding the inactive forms of juvenile complaints; but even in the present highly cultivated state of medical science, the most sagacious Practitioners will often fail to prognosticate formidable diseases, to which early and perhaps slight derangements of function often tend, and which, at that period, might have been averted.

In a large proportion of cases of hydrocephalus, the commencement and early progress are extremely insidious; the departure from health appearing to consist merely in torpor or irregularity of the digestive or excretive function, or slight deterioration of temper or disposition, no anxiety is

created. Too much solicitude, however, never can be exercised in the most trivial chronic disease, to which children especially are liable, and an increase of fretfulness (and, indeed, sometimes of vivacity,) should be considered as truly symptomatic of disease, as any character which the functions of the body can present, and as legitimately to claim the interposition of medical, as well as moral treatment. The wanton infliction of corporeal punishment under these circumstances, cannot be too strongly reprobated.

A disposition to the disease may often be known by the circumstance that other children in the family have been affected; and in some instances not only have parents been able from personal resemblance to select the individuals most liable to be invaded, but likewise to predict the time about which the attack shall take place.

There are states of constitution in which a morbid diathesis seems to prevail, rendering the individual peculiarly susceptible of the influence of adventitious circumstances, and yet no particular disease shall be apparent until the application of some local excitement. Many such children are delicate almost from birth; and as they pass through the years of childhood, often appear particularly amiable, and have an unusual aptitude in the acquisition of elementary knowledge. These pleasing qualities may not only be admired, but fostered; and under inordinate anxiety to cultivate the mind, morbid actions have been cherished in the brain; whilst the functions of other organs, essential both to health and life, have been disregarded.

Whether the earliest morbid changes connected with hydrocephalus take place in that texture of the brain in immediate relation with the nervous system or not, we find, at a very early period, that the functions of the digestive organs are disordered; and if any secretions are *peculiarly* subject to nervous influence, those of the abdominal viscera must be distinguished.

The unnatural appearance of the stools, or the irregularity of the excretion, may be the first token of disease which distinctly arrests the observation of parents; and if domestic remedies are unavailing, medical advice may be solicited, and the Practitioner's attention almost exclusively directed to this point.

The great influence which derangements in these organs exert upon the general health, and the surprising efficacy of remedies tending to induce salutary actions in them, in curing many diseases of distant organs, will plead strongly in extenuation of an occasional error in considering their derangements as primary, when they may be consecutive.

Whatever benefit may be derived from calomel and scammony, and other stimulating and exciting purgatives in certain diseases of these organs, I am persuaded, in that to which we are now adverting, they often do essential mischief; and that the organic affections of the liver, enlargement of the mesenteric glands, affection of the mucous membrane of the intestines, and the intus-susceptions, are often occasioned by them.

Where there is suspended hepatic secretion, it seems extremely rational to administer mercurial remedies. If calomel be adopted in these chronic cases, an eighth of a grain, steadily employed, will render more service than a larger quantity; yet I think an unirritating dose of the blue pill, or of the hydrargyrus cum creta, far preferable. In many instances, however, in which persevering employment of the most varied and guarded mercurial treatment did not avail, the secretion was established by a steady adoption of some mild aperient. In counteracting a disposition to hydrocephalus, there is much to be avoided, as well as much to be done; the mind should be cultivated very cautiously, and efforts of memory must be relinquished, whilst encouragement is given to active amusement. The diet must be nutritive and unstimulating. As an aperient, a few grains of the sulphate of magnesia are very suitable. Mineral acid, I think, is often useful; either the nitric, or, as I have recently employed it (but whether entitled to preference, I am not quite satisfied), the nitric and muriatic in combination. On one occasion, where the symptoms were very threatening, I successfully employed this acid with the extract of taraxacum, keeping the bowels gently open with the Epsom salt, and enjoining residence in the country.

Had I not already greatly exceeded the extent which propriety suggests in this essay, I should have considered the evils arising from an indiscriminate administration of calomel and stimulating purgatives worthy of much further consideration, and might have corroborated my opinion by a diversity of cases, illustrative of the morbid actions which these drugs induce and keep up; and of the greater efficacy of mild aperients in exciting hepatic secretion in some conditions of the liver in relation to other organs; and I might have corroborated my sentiments by reference to Practitioners, whose long experience and accurate observation entitle them to the highest respect. I shall only cite the opinion of Dr. Blackall upon the former particular, who, I recollect, in speaking of a child to whom calomel had been improperly administered, described the stools as black and liquid, "such as are not only brought off by mercury, but often entirely caused by it."

Nevertheless, I am persuaded that mercurial remedies in chronic indispositions, and even in forms threatening hydrocephalus, cannot be wholly abandoned. An unirritating dose of a mild mercurial preparation, repeated every other or third night, during a week or ten days, will often prove of signal utility; and although calomel does not appear equally adapted with other preparations of mercury, to the purpose in view, it is an agent of great efficacy under some other circumstances of morbid action.

As to the treatment of the disease itself, much must be determined by accidental combinations.

When the disease assumes a very active form, blood-letting is indispensable, but must not be carried to an extent equal to that which inflammation of the brain demands, and which even the strength of arterial action and appearance of the blood seem to justify. Wherever bleeding had been carried to a large extent, although it temporarily improved the patient's condition, unfolded reason, or removed some degree of coma, yet a proportionately larger quantity of fluid was effused. The case of Mr. Hill is interesting in this respect. Had the disease consisted of inflammation, he, in all probability, would have recovered; but as hæmorrhage continued to recur, the quantity of fluid appeared to increase. I therefore prefer the abstraction of blood by leeches, in cases of children; and three or four ounces taken from adults will often subdue arterial excitement, in a degree equivalent to a much larger quantity, in cases of inflammation.

As morbid actions are often created or kept up in the brain by unnatural secretion or accumulation in the intestines, it is not incompatible with the preceding observations on calomel and stimulating purgatives, to recommend the administration of a dose, in the first instance, adequate to their removal; and so speedy an amendment of cerebral functions occasionally results, that we admit the derangement was but sympathetic. To other sources of irritation attention must be directed, especially dentition.

During the state of greatest excitement, cold applications to the head are often useful. To apply them efficiently the head should be shaved, or the hair cut off very closely.

In phrenitis, and other cases of determination to the head, these evaporating lotions ought to supersede blisters to the head; but in hydrocephalus, early and extensive vesication upon the scalp seems highly expedient.

The medical treatment which has been most useful in my practice, has consisted of a combination of mercurial pill (in a very minute dose), with antimony and digitalis, keeping the bowels gently open by a neutral aperient salt. Under such

management as this, modified a little by circumstances, cases which seemed to be incipient forms of this disease have recovered; but from the uncertainty of the diagnosis, I am fully sensible how equivocal these instances must appear. Had I not already obtruded too much on the time of the Society, and encroached rather too greatly on duties claiming my attention, I should have candidly submitted some of them to the judgment of my hearers.

Under every form of management great disappointments will arise. There is no disease, however, which excites more commiseration towards parents and their offspring than this; nor any that creates more solicitude, or prompts to greater efforts in order to avert a fatal termination. Discouraged, and almost despairing, as we at times may feel, the extent of injury which the brain will sometimes endure, and of reparation it will occasionally effect, should animate us to unceasing researches into the cause, the progress, and consequences of this formidable malady, or rather into the origin of that train of morbid actions, and the change of texture they endure, upon the elucidation of which, correct principles, which impart efficiency to practice, can alone be securely established.

I am quite aware how unsatisfactory and incongruous this essay is likely to appear. It has been written amidst ceaseless interruptions; and whilst it has embraced topics which claim extended discussions, its specific object circumscribed me with reference to time and matter. If, however, in its present imperfect form, any benefit should accrue, either from the diffusion of my own experience, or by eliciting the experience and opinions of others, or should my professional brethren afford me the privilege of uniting with them in their examinations of morbid structure, in this or other diseases, I shall be most amply compensated.

II.

Some Remarks upon the late Epidemic Eruptive Diseases, supervening on Variola and Vaccinia, and upon Professor THOMSON'S Theory of the Identity of Modified Small-pox and Chicken-pox; with some Contributions to Diagnosis.
By Mr. FOSBROOKE, a Member of the Profession.

[Continued from page 277.]

I SHALL now enter into the particulars of some of the most authentic cases on record of secondary small-pox, to determine whether they differ from the primary, and in the next

place after vaccination; and whether, subsequent to either, they undergo a similar modification; for if it does not appear that there is any general diagnostic difference of the latter kind from the earliest accounts, it will be rather inauspicious for this section of the theory which refers to the reciprocal modification. As for the term *spurious small-pox* being formerly used, it is mere catching at straws to trust for evidence to appellations, for nothing could be more *comme il faut* than to name a strange distemper from its resemblance to one more familiar, and not ascertained by every body to originate from a different poison. Small-pox derived its name from a predecessor very dissimilar. Heberden, it seems, once conceived varicella to be a *mild genuine small-pox*. Longford's case in the fourth volume of the Memoirs of the Medical Society is well known; his countenance was strongly indicative of the malignity of the distemper: he had a bad confluent small-pox a second time, and died. Four persons, of whom one died, caught it, and fully satisfied the country with regard to the nature of this disease, which nothing short of this would have done. It is singular, says Dr. Jenner (First Inquiry), that in most cases of this *kind*, the disease in *the first instance has been confluent*. In Dr. Pearce Dod's cases, published in 1746, an instance is mentioned of secondary small-pox, in which there came out between two and three hundred pustules, which miasmated and scabbed likewise, and went through the same stages, and in the same manner that the former did, only the subject was worse before the eruption, but when that was completed he had no manner of disorder. A case of secondary small-pox, with the usual symptoms of the distinct disease, is given by Dr. Bateman, in the Reports of the Carey Street Dispensary, Vol. VI. Edin. Med. Journal. The case given by Mr. Dunning, of Plymouth, of secondary small-pox, occurred in the family of Dr. Stewart. His daughter was inoculated when very young, and had about two hundred pustules of distinct small-pox. Six years afterwards the doctor inoculated her a second time. She suffered more from the second than from the first inoculation. She was many days severely indisposed, and had a considerable number of variolous eruptions distributed over the body. Dr. Coxe, of Philadelphia, gives three cases without unusual symptoms. I myself have known one of secondary distinct, and another of secondary confluent: the history of one of these will be published hereafter. I have been inclined to form an opinion that many of these events have originated in too implicit a confidence in the regular gradations of topical appearances, and often when there has been a temporary disposition of the system (not of the skin),

to reject it by inoculation in the first place*. Sometimes, as a pertinent observer remarks, "this disposition continues through life; at other times it affords only a temporary protection†." This obtains in vaccination, and has led to multifarious failures. I must here remark the laudable mode in which the Broad Street establishment have always conducted their vaccinations, testing after the regular course with variolous matter. How many of these failures would by this means have been avoided, where the epidemic is purely varioloid. Among the cases of small-pox after small-pox, in Jenner's Inquiry, p. 80, variolation was attended with the most fallacious and regular appearances: "four took the small-pox afterwards in the natural way, one of whom died, three recovered, and the others (five altogether), being cautioned by me to avoid as much as possible the chance of catching it, escaped from the disease through life." In addition to these, a second instance occurred where "the children took the small-pox from this second inoculation, and had a very full burthen." It is probable matter was taken from a varioloid pustule at an improper period, or preserved in an improper manner. Wilson quotes some experiments of inoculation with crude matter, though small-pox was produced, but being doubted, a second inoculation was made with well formed matter, and all of them had the small-pox in the common form. See article Small-pox for other cases of severe secondary small-pox, in Rees's Cyclop.

Dr. Jenner has personally favoured me, since this article was first written, with some ingenious and original additions. Among the rest are the following anecdotes of secondary small-pox:—When I was at Gloucester assizes, three years ago, Mr. Justice Holroyd, at an hour of disengagement, requested to speak to me: after a few compliments he said, you must observe how universally my countenance is indented; people have been absurd enough to say small-pox cannot be taken twice; I had the disease when a little boy, with others; I went, when twelve years old, into a house

* See my former communication to the REPOSITORY, Vol. X. 1818.

† All that has been discovered in the progress of vaccination is a parallelism with small-pox inoculation throughout. The report of vaccination in France for 1815, by the central committee, contains instances from the second to the seventh vaccination with final success. "Un Praticien avoit déjà remarqué que quelques enfans des campagnes, vaccinés aux bras, sans succès, avoient ensuite contracté la vaccine par l'inoculation qui leur en avoit été pratiqué aux cuisses." A vaccine pustule near any cuticular affection may fail repeatedly.—F.

where small-pox was, I took it a second time, and this was the consequence.—The Marquis of Hertford told me his father had been inoculated by Sir Cæsar Hawkins, and from the eminence of Sir Cæsar, when a boy he went with him in a tour to France; at Rheims he took the small-pox, and died. This circumstance threw such a damp over France, that it gave a further check to the practice, which was always distrusted there. Mr. Bromfield, a celebrated surgeon in London, inoculated with small-pox Miss Pappendeck, the Duke of Clarence, and Prince Ernest. Miss Pappendeck afterwards went to play at Kensington with the little branches of the royal family, caught secondary small-pox and was pitted. Dr. Jenner cautioned the others who had been inoculated from the same thread, but they had resisted it after frequent exposure. Blomberg so often failed, that he gave up small-pox inoculation. A Mrs. G., a solicitor's wife, at Cheltenham, had small-pox five times. Mr. Chamberlayne, surgeon-apothecary, Clerkenwell, has had small-pox twice. Colonel Brysac twice severely. Two persons in Mr. J. Angerstein's family. The poet Campbell gave Dr. J. two cases in one family. The grandfather of Mr. J. Nicholls the publisher, is a case. Lord George Cavendish an instance of congenital small-pox *severe*. (I have read of several cases. F). Sir Wm. Rowley's son a case of secondary small-pox. Mr. Bagster's child, near Somerset House, inoculated by Sutton, died of secondary small-pox. Seventeen cases were enumerated among the nobility. Van Swieten says, that a servant maid, who had had small-pox twenty years before, was delivered of a child under true small-pox. The case was observed by Dr. Watson, an eminent Physician of London. After mentioning the cases of Forrestus, he gives Dobrzensky's case of a boy twice taken with small-pox, from fright, at seeing a subject who died of the disease. F.

Dr. Adams says, that small-pox has appeared in two different forms after vaccination. In by far the most numerous instances the small-pox, after the cow-pock, have appeared so mild and deficient in the true variolous character, (turning on the fifth or eighth day), as to excite doubt of the reality of the disease; *but its identity has been proved by inoculation from it*. In a very few cases the small-pox which occurred subsequent to the vaccine pock, were severe as usual; in one or two instances, fatal. Dr. Willan's observations on secondary small-pox, are almost literally the same. See some continental cases in confirmation, by A. F. Schutz, Muhry, &c. &c. Ed. Med. Journal, No. L. p. 160. Dr. Adams, in some further account of vesicular small-pox after

vaccination, says, "Their figure is somewhat elliptic, and though the pustules preserve a regularity in the manner in which they succeed each other in different parts of the body, yet the whole process is completed two or three days sooner than the mildest of the regular distinct small-pox. Nothing but the progressive hardness of the pustules would mark the disease in some of these cases, and that would have been insufficient if the insertion from them had not produced true small-pox."

The minutes of the Broad Street Institution, in 1805, are deserving of reference, as they relate an unfavourable state of vaccination, as at the present time, and a similar ambiguous kind of eruptive disease, presumed to be small-pox. In Goldson's cases of small-pox after vaccination, the pustules were few in number, and horny, and counteracted the avowed purpose for which they were published. In Dr. Pearson's Reports of 1806, (*vide Lond. Med. Rev.*) the cases of small-pox after vaccination were irregular, but exhibited nothing novel: the number of pustules in most cases were few. Some other cases, are from the minutes of the Broad Street Institution. In many of these cases, the miniature size of the eruptions suggested the idea of an independent disease. In two cases given by Dr. Wonden, of supervening variola (*Vol. XII. Rev.*) the disease was not anomalous. With these we may class Mr. Hallen's and Mr. Granger's cases, *Vol. VIII. Edin. Med. and Surg. Journal*. Mr. Burn's cases, *Vol. III. Ed. Journal*. Dr. Adams' on the small-pox hospital, morbid poisons, *Vol. XII. Lond. Med. Rev.* without pustular modifications, with the exception of diminutive size, mildness of the disease, and the duration not always deviating from that of the distinct small-pox. In several cases recorded in the *Lond. Med. Rev.* for 1807, the pock was perfectly regular. Dr. Winterbottom (*Vol. VII. Bradley's Med. Phys. Journal*), gives some cases of four children vaccinated when exposed to the contagion of small-pox. Though one of the four was covered three days afterwards with a copious eruption of variolous pustules, they proceeded very small and clustered, continued very small, and became confluent on many parts, particularly on the face. Not *the least appearance of efflorescence* round the base. In one of three others, inoculated under similar circumstances, on the tenth day twenty or thirty pustules, resembling varicella, appeared on the face and neck, which, after continuing out four or five days, fell off. In another child a trifling eruption of hard dry spots appeared about the tenth day, and soon disappeared. These may be considered as good specimens of modified small-pox. Two cases by Dr.

Jenner, p. 108 of his Inquiry, "The one had the disease in the slightest manner, a very few eruptions appearing, two or three of which only matured." In cases of variolation after vaccination, according to extracts from the minutes of Broad Street Institution, "small discrete pimples, with vesicles here and there on their apices, have appeared." In the two fatal cases of supervening variola here related, the pustules were in every respect resembling small-pox, though of a small size." In some other cases, it resembled eruptions of pimples, but in instances communicated regular small-pox. Baron Humboldt relates that in New Spain, a marked kind of small-pox succeeded to vaccination, which, whoever had passed through the disease mildly, this may be noticed as a proof of the irregularity of the contagion of the Edinburgh diseases. Some writer has observed, that "where these two diseases have gone together, they have produced a very favourable small-pox." It is a singular exception, that these two diseased actions, when synchronous, co-operate, in fact, blend together, topically and constitutionally, producing a mild anomaly*. Thus was formed the pearl-pock of the late Dr. Adams.

Dr. Thomson mentions inconsequently the horny character of the scab in this disease; yet surely I may ask, is this a peculiarity usual in chicken-pock, or does it only occur from vesicles containing lymph, indurating before maturation? Dr. Bateman names the horny, a severe variety of small-pox. It occurs in modified small-pock, after vaccination, according to Adams; by others I believe it is regarded as a peculiar disease, and in cases of secondary small-pox we find no mention of it at all. Mr. Bryce considers this epidemic horn-pock. Ed. Journ. for October.

The accounts of this disease being mostly traditional, I know very little of them. Willan says, (Reports on the Diseases in London, from 1796 to 1800,) "When the small-pox and vaccine disease had been inoculated at the same time, the eruptions were, in all cases I saw at the hospital, of the species vulgarly termed horn-pock, being hard, and semi-transparent. They contained *little fluid*, and though of long duration, did not mature or break by suppuration." This rather confirms the experiments of Adams, though both classify the disease differently, and somewhat differ in descrip-

* This has been said to be mistated by Dr. Adams, but I by no means deem it to have been refuted. It was even said by his sagacious reviewers, that he must have dipped the point of his lancet by mistake in vaccine lymph.—See Willan's Remarks, cit. loc.

tion. I am inclined to think that the integrity of small-pox and all its varieties is broken by the vaccine and modified; if this is true, horn-pock is a factitious disorder. Van Swieten, who had seen the natural, says, "I have observed three kinds of the bastard small-pox, *generally occurring at the close of the genuine*. At the first sight they do not appear different from the genuine small-pox. They are generally preceded by a slight fever, sometimes only by a little faintness, and a spontaneous lassitude: then prominent red pimples break out here and there on the skin, sometimes the first day, and sometimes not till the second or third, and sometimes immediately harden, (never suppurate, *cit. loc.*) dry up, and fall off. These pimples, the common people of this country generally call the Stein-pocken. Sometimes they seem distended with a thin lymph, especially at the first: these two immediately, however, dry up, and fall off: they are called the water-pocken. Sometimes that lymph is wanting, and nothing appears but empty vesicles, but distended, notwithstanding: these are called wind-pocken." Sect. 1381. Query, Whether the two former be not variceloid, the latter horn-pock? F.

As to the problem that chicken-pock does not occur generally in persons who have undergone either of the two diseases, I am at this moment witness of a case of unequivocal chicken-pock, long after vaccination. The learned Professor, aware of the difficulty of accounting for the fatal cases by this theory of identity, endeavours to establish it as a *sine quâ non*, that small-pox must always accompany chicken-pock; but, even admitting that these diseases were all derived from a mild, very mild disorder, at least according to Mr. Hennen, the contrary is scarcely possible; it may, perhaps, be more difficult to prove that they never co-exist, but with the contagion of mild small-pox, because most of the exanthemata become epidemic at the same time; yet I do not perceive that this must necessarily imply their identity. Measles, as well as scarlatina, co-exist with variola as well as chicken-pock; yet no one would assert that they are the same diseases on no solider foundation. A chicken-pock, ascertained to be genuine, in as far as descriptions could define it, spread in a town, in the south of England, in 1815, and attacked indiscriminately children who had not, and who had been vaccinated, and where no variola did then, or had existed. Whether variola and varicella modify each other; if their contagions mingle, it may be probable they may; but when they ensue by specific contagion, distinctly in the same subject, the like supersedure or suspension, as in the concurrence of all exanthemata, probably takes place, or

otherwise a spurious disease is produced. What could be a better test of the certain relations of one disease to the other, than inoculating with the matter of both contemporaneously*?

The milder epidemics of small-pock have always been considered prophylactic. "There are certainly more forms than one, (says Dr. Jenner, with his usual foresight, p. 49 Inquiry,) without considering the common variation between the confluent and distinct, in which small-pox appears in what may be called the natural way. He mentions an epidemic which prevailed in Gloucestershire, of so mild a nature, that a fatal instance was scarcely ever heard of, and consequently so little dreaded by the lower orders of the community, that they scrupled not to hold the same intercourse with each other, as if no infectious disease had been present among them. I consider this a variety of the small-pox." Mr. Fry, surgeon, of Dunley, further says, "this was called by the common people *the swine-pock*, not one of whom received the small-pox." Dr. Hicks, the contemporary Physician, promised a history of this epidemic; he left an accumulation of MS., which are not, however, forthcoming. Dr. Jenner has favoured me with the following information:—"Dr. Hicks never published his account of the mild epidemic; it prevailed for two years, raged *with severity* on the Cotswold, and was finally extinguished on the confines of Berkshire." Mr. Taylor, of Wotton-under-Edge, a Surgeon of eminence, in consequence of inoculating my eldest son, sent me an urgent message to be cautious, for he had found a patient or two who had had secondary small-pox; but instances of this nature were solitary. Mr. Hans, Surgeon at Berkeley, found two under it, who had had small-pox before. Van Swieten, who gives an excellent history of variola, says, "The small-pox has been sometimes observed to prevail epidemically, but that in so mild a manner, as to be attended with very few pimples, and to suffer almost all those who had it to escape." Sect. 1382. He

* I must here enter what should have come under varicella *in initio*. Dr. Underwood seems to think, in his "Diseases of Children," that varicella is frequently as severe as small-pox, especially in that variety, the hives or swine-pock. "I have known the head and face as much swollen as I have seen them in any distinct small-pox, however full, and the pustules containing a yellow matter, with highly inflamed bases, and exceedingly sore." He says it could not be small-pox, for one died of that disease afterwards, Vol. II. p. 299. Dr. Jenner has seen marks left by the chicken-pox, not to be distinguished from the cicatrices of the small-pock.

mentions a mild sporadic kind, 1387: also another epidemic of a very benignant kind: and gives a case of a young gentleman, being obliged to take to his bed, amusing himself the whole time with music, and the company of his friends, Sect. 1739. What is inoculated small-pox but mild small-pox? yet its preventive effects are infallible to a great extent. And, again, Dr. Adams' pearl-pock, which was a disease of a neutral gender, between small-pock and vaccinia, was preservative.

But I have lingered on this subject already "with *too* fond a delay," and must hasten to a conclusion. To recapitulate what I have in some measure endeavoured to advance, not unsupported by facts, there appear strong reasons to question whether these secondary eruptive diseases are in reality purely varicelloid or varioloid; that in the milder cases there are many remarkable discrepancies, that from the circumstance of the disease produced in the inoculated children, differing in many points from the true variolous character, it is still more warranted, that there are certain diagnostic marks of distinction between these varicella, and modified small-pox, which still remain to be ascertained*. That no analogy of cases of secondary small-pox proves the pre-existence of these eruptive diseases; that they tend to show that the disease was mostly severe, if not fatal, and small-pox, after vaccination, was very irregular in its action, not possessing any specific morbid character, with the exception of that of mildness; that these eruptive diseases have recurred twice in the same individual; that mild epidemics, of variolous character, have afforded security, which chicken-pock does not; thence we think that the arguments for the identity of these two diseases cannot be established by the apposition of past experience, or testimonies. Finally, when we reflect that the mass of collected cases only prove that secondary small-pox was always casual, so much so as not to occur within the observation of inoculators of immense experience, cases probably many times obscure and fortuitous; and when we reflect that Dr. de Carro observed, when the regular small-pox raged at

* The Edinburgh Reviewers say (in Vol. XV. on vaccination), with their usual good sense, "The diagnosis of regular constitutional small-pox is, indeed, abundantly easy; and if we were to refuse that name to every eruption which had not the nosological character, or did not correspond with the best systematic descriptions, we should hear very seldom of small-pox after vaccination. Since the introduction of vaccination, eruptive diseases, of a very different nature, have been confounded with small-pox."

Vienna, "There never was perhaps such a disastrous epidemic at Vienna as that we have now; it is certainly owing to it, that people think so much now of the cow-pock, against which they have been exceeding incredulous." That Dr. Marshall vaccinated, according to his evidence on the first inquiry of the House of Commons, 1000 who were exposed every possible way to variola, and even at that time 2,000,000 experiments had been made, in India and elsewhere, in which *regular* small-pox had had no effect. I am disposed to think that this epidemic is an anomaly of an independent kind, essentially different in its nosological nature from small-pox or varicella, but so strictly assimilated to each in its varied character, to sanction the probability that it is an union of many contagions, operating as novel, and, hitherto, undefined disease. Such an hypothesis is at any rate as good as any.

I find a few rays to light me on the way in this dark and delicate question. A peculiar anomaly seems to attend every extended epidemic of small-pox. Van Swieten, Sect. 1381, says, that he had heard a thousand times people speak of having had the small-pox twice, thrice, and even four times: but he says he has seen the *spurious small-pox break out, on the ceasing of the true kind*, which had prevailed epidemically for a long time, and seize both the young and old, and in great numbers. Afterwards he mentions Diembroeck's cases of persons scarcely recovered, *having it twice and three times* within the space of six months; yet, though the latter was a sedulous observer of diseases, I must own (says Swieten) I cannot help suspecting a little, that he had confounded the spurious with the genuine small-pox; and with the others he indulges the opinion, that the disease was spurious in the first and sometimes in the second occurrence. See Sect. 1381. The genuine small-pox, he elsewhere says, sometimes happens to *be very mild*, as causing very little disorder in the body, bringing with it very few, and those very slight, symptoms, and soon drying up and falling off. It cannot appear strange that the ignorant should confound the two kinds one with another; the spurious sort often attacks the person two or three times. Dr. Jenner, from whose mind new lights of genius seem to emanate, whenever he is willing to call them forth, says, that he can produce a variety of small-pox, or vaccine at will, by means of herpes, which variety may be perpetuated; thus we see how, by an accidental inattention to an existing disorder, a partially secure disease may be formed and communicated unconsciously in the first instance, and followed by spurious small-pox in the next. He says, "I have considered the small-pox as a variety of the cow-pox, or rather of the equine. It springs from a species

of herpetic eruption on the skin of the horse. We see then, if my theory be accepted, why it happens that these three diseases are capable of modifying each other; I mean the equine-pox, the small-pox, and that species of eruption which has its origin in the secretion or exudation of a peculiar fluid, that has obtained the name of herpes, and which seems to be entangled, more or less, with every kind of spontaneous cuticular disease, or nearly the whole. This we know for a certainty, that the herpetic fluid of the human subject, and the vaccine (equine), act reciprocally on each other; and we know, too, or ought to know, for I have explained it fourteen years ago, that we are apt to produce a *variety*, and not the genuine characteristic vesicle, when we insert the vaccine lymph in the skin of a subject whose constitution is at the same time under the influence of the herpetic lymph." He has named the case of a boy, Church, who had small-pox subsequent to small-pox connected with herpes. Dr. Jenner has favoured me with these remarks, orally and in writing, which he purposes giving more at large, with facts relating to herpes, and the singular phenomenon of some acute diseases, *e. g.* catarrhal fever subsiding on the appearance of an herpetic vesicle on the lip, as also of a vaccine vesicle. The vaccine, too, succeeds after *spurious* small-pox: it has long been my opinion, that the pocks are all varieties of the herpetic class, of which each has a certain duration. I must add a history from Dr. J. which bears on the point of the possible transformation of one variety of disease into the other. "Mrs. Carnegie, a lady in Scotland, who ranked high among the benevolent, vaccinated with lymph procured from the Broad Street Institution; her patients were exhausted, and she was at a loss for matter; previously to sending for more, she thought proper to test with variola, and found they resisted it; she applied to me at Cheltenham for vaccine lymph; her practice was renewed, and after going forward to a certain extent, she wrote to me at Cheltenham to say she was fearful that her new set was not under the same protection as the former, because no regular vesicle followed the process; for in the first instance it almost invariably happened that small pustules with watery heads, appeared on her patients: here, then, the vaccine matter had undergone that deviation which brought it one step nearer to small-pox." A Mr. Read gave Dr. J. four cases in one family of vaccine, modified by herpes; and I have somewhere in my readings found variola thus modified. Mr. Hennen queries whether "they have any, or what connexion with the reigning epidemic." I think sufficient authorities may be quoted to prove that simple contagions

may become compound, and affect with augmented malignity the infected subject. Two very old Practitioners, from inquiry made by me, as I was aware they had particular opportunities, said, "They had seen no cases of regular or definable small-pox, after vaccination; but that they had seen anomalous diseases, which could only, in their minds, be accounted for by the supposition of a mixture of contagious matter, and the state of seasons, when many diseases had been epidemic, predisposing the human constitution in a greater degree. In February, 1818, when I was on the banks of the Wye, in the County of Hereford, in a climate celebrated for its general salubriousness, mildness, and purity, typhus, measles, and small-pox, were at once raging, in which the two latter were topically exhibited, and terminated fatally in more than one instance*. But the coincidence of contagions may, I conceive, produce a very different constitutional disorder from the coincidence of diseases. In my opinion, all diseases of the same genera, as I have observed previously, modify each other; and to this principle we may attribute the action of herpes, and other excrementitious eruptions of that class on cow-pock, and even on variola in some instances: it tends to mitigate malignancy in acute distempers, in others to increase it. The illustrious discoverer of cow-pock makes a very excellent remark upon contagious diseases acquiring progressive increment of virulence, from concurrence of different contagions. He says of small-pox, after appropriating to it a mild origin, "May it not be reasonably conjectured, that incidental circumstances may have again and again arisen, still working new changes upon it, until it has acquired the contagious and malignant form, under which we commonly see it making its devastations among us? And from a consideration of the change which the infectious matter undergoes from producing a disease in the cow, may we not conceive, that many contagious diseases now prevalent among us, may owe their present appearance not to a simple, but to a compound origin? For example, is it difficult to imagine that the measles, the scarlet fever, and the ulcerous sore throat, with a spotted skin, have all sprung from the same sources, assuming some variety in their forms, according to the nature of their new combinations? The same question will apply respecting the origin of many

* I am persuaded that there is a very common deception, when there happens to be synchronous measles and small-pox. The roseola variolosa of Willan, and such appearances of erythema as are described in more than one of Mr. Hennen's cases, are mistaken for coincidences.

other contagious diseases, which bear a strong analogy to this." I may also add to this theory of combinations, that some diseases may be temporarily influenced by vicissitudes of climate, difference of employment, and, consequently, of temperament and susceptibility of the subject. Local causes certainly produce decided variation in the action of diseases, perhaps by the atmospheric communication, through the medium of the lungs, (*conjoined with personal habits: what a conductor of disease is the skin!*) The vaccine in London, under Dr. Woodville's practice, was attended with maturing erysipelatous inflammation, very different from that of rural situations. Mr. Russell's cases of coincidence of measles and small-pox, in the London Society, Vol. II. p. 92, show that either of these diseases may succeed each other, without operating any difference of quality. A mild distinct small-pox was often observed to follow the worst kind of measles, and *vice versa*. Hoffman, in his Essay on Fevers, p. 130, states, he "had often seen the epidemic fever coincide in the same patient with the small-pox." He quotes the malignant epidemics of 1740, 1, and 5, as observing a fatal kind of small-pox, breaking out with the symptoms of such malignant fever; at the same time those who had no communion with the febrile patients, had a small-pox of the most gentle kind. Thus Dr. Jenner: "A family in the parish of Berkeley, living in a small cottage, had typhus, the epidemic of the day; the whole, consisting of five, had eruptions, the appearance of which was midway between small-pox and chicken-pock. Mr. H. J. who attended them became infected, and had the disease with great severity. In a week eruptions began to appear on the face, and spread over the body and limbs, possessing the same character." Among miscellaneous observations bearing some relation to the present subject, may be included the following. In Sydenham's Account of the Epidemic of 1670, in which measles and small-pox prevailed, "The variolous pustules were of a small round size." Mr. Maurice has proved (Vol. IX. Bradley,) that cow-pock and rubeola, though coincident, cannot be communicated by inoculation. Dr. Percival (Vol. V. Med. Observ. and Inquiries,) remarks, that in particular seasons of the year, small-pox might be complicated with thrush, diarrhœa, gripes, and other divers fevers, convulsions, &c. Grant on fevers (1779, Vol. II. p. 82,) says, describing variola, "which is the course of natural small-pox, so long as there is no other disease complicated with it." Wilson observes: "During a contagious epidemic, almost every disease which appears is sometimes more or less influenced by it." Though the

writer of the article small-pox (Rees's Cyclop.) thinks that "the nature of the original contagion has no influence in modifying the disease which it inflicts, and makes the causes of severe small-pox idiosyncraneous and personal, yet he advises shunning the concurrence of other diseases."

Such is a disease of which every Protean variety, like the feigned chameleon, may elicit a medley of hypothesis, and I should not have hazarded any ideas of my own, if not involved by a difference of opinion, resulting from a laborious research. I am aware that all hypothesis is of easy construction, and of easy disintegration; but we are much more inclined to deceive ourselves, than rest in indecision; and I am aware, also, it may be said, that what is here advanced is merely collateral; but I repeat, that Dr. Thomson's theory must stand or fall, as accurate descriptions of the disease in question, or connected diseases, tend to explain that there is evidently a deficiency of circumstantial accounts, either of modified or any similar epidemic to confirm or refute it *in toto*. I think that the arguments, as well as facts, which are urged against it, justify the observation, that identifying diseases excited by different poisons, is a propensity of modern ambition. I have witnessed one or two deplorable mishaps from an abandonment to the new fangled paradox of the non-existence of syphilis: it is the character of the present daring age, to overturn and transpose the doctrines of former experience. I by no means, however, plead guilty to an obstinate prejudice in favour of what I have urged, or devote to it implicit faith: it will perhaps be said, what consolation does it afford, that we have a new and enigmatical contagious malady, not cognizable in the nosology, and for the same reason so much further removed from any power of arrest, and which is almost equal with that to which it is related? But may we not infer that its existence is merely contingent? And if it cannot be eliminated by any means, what a triumphant certainty is afforded, that its energy is extenuated by vaccination to a trifling indisposition, and that variolation affords so slight a security, that any man of the meanest understanding, or most vulgar infatuation, who would undertake to decide from proofs, would have but one alternative. In the meanwhile, I wish Mr. Hennen and Dr. Thomson still greater success in their liberal inquiries, which, conducted without too much bias to the exclusion of established opinions, will tend still more to satisfactory discriminations and the establishment of important truths.

III.

Two Cases of Morbid Dissection.

[Communicated by GORDON SMITH, M.D.]

AMONG a few scraps that have been preserved from the wreck of many papers of some importance, I find two memoranda of morbid dissections at which I was present some years ago. The appearances, *post mortem*, are nearly the whole of what I can communicate; but if they are deemed of sufficient importance to be put on record, they may not be without their use. I would take advantage of this opportunity to suggest, that notwithstanding the little explanation we can sometimes offer on points of morbid anatomy, and the many obstacles in the way of making draughts or preparations of parts extensively deranged, and which come in the way of every zealous Practitioner who supplies (to the medical world) the failure of remedies by the research of the scalpel, yet accurate verbal descriptions of extraordinary appearances are of the very highest importance. I fear that many interesting articles of this nature have been laid up in other *Repositories* than such as that for which I am now writing, from a mistaken notion that they did not merit publication. Let diffident observers of phenomena remind themselves that *facts* are the foundation of improvement; and the acquisition of one fact is of more importance to science than the construction of a hundred theories.

The authenticity of the subjoined statements does not rest upon my simple testimony. The appearances described were seen by Physicians of excellence and eminence; but some of them being at present in distant countries, I have not quoted their names.

CASE I.—In the summer of 1813, at Santarem, in Portugal, I had an opportunity of seeing a soldier* who had been long labouring under chronic dysentery, and whose death was preceded by frequent attacks of vomiting, which, for the last day or two, amounted to copious pouring out of fæculent fluid. This horrible symptom, which appeared to supersede all the others, was excited by the slightest bodily movement, but more particularly by any attempt to swallow. No relief whatever could be afforded. According to custom the body was opened after death, and I happened to be present at the dissection. The contents of the abdomen were completely hid by a dark coloured membranous-looking body that pre-

* In the British General Hospital.

sented itself to view, and which was found to be the stomach in this state of extension, apparently carried as far as the containing parts of the abdominal cavity would admit. It descended into the cavity of the pelvis, and pushed the diaphragm considerably upwards on the left side. It contained a great quantity of such fluid as had been vomited by the unfortunate patient before his death.

I am not able to state that a rupture in the *valvula coli* was discovered; but I think there can be no unwarrantable stretch of hypothesis in concluding that this must have existed.

CASE II.—The following summer I was appointed to assist Dr. S. in assuming the duties of the General Hospital for French prisoners at Lisbon, which had been under the management of some Portuguese medical gentlemen. Among a few English patients we found a person employed in the Commissariat, who, according to the account received, had long laboured under dysentery. His principal, and, indeed, only known disorder now was hypochondriacism, in which he was sunk so low, that we could not get a single word from him, although his sensibility seemed little, if at all impaired. The medical attendants turned down the bed-clothes, and showed us a remarkable elevation in the centre of the abdomen, the appearance of which was as if the parietes were (as he lay continually on his back) stretched over a globe of considerable size. This, according to account, had suddenly appeared one night about six weeks before. The patient was evidently in the last stage of existence, and died in a day or two afterwards.

The dissection was made under disadvantageous circumstances, and there may be some particulars that I have now forgotten; but this tumor was occasioned by the urinary bladder, which we found enormously enlarged, without rupture or any remarkable thickening of the coats.

IV.

Animadversions on Medical Nomenclature, and a new one proposed. By T. PARKINSON, M.D., Author of Synopsis Zoo-Nosologiæ, and Teacher of Medical Science in London.

[Continued from page 373.]

2. *Physiological Nomenclature.*

THE Physiological Nomenclature consists of such technical terms as represent the official capacities and modes of function, of abstract solids, and fluids, and in their various associations and configurations, but limited to health; and

a perspicuous view of physiology will be afforded by running the Physiological Nomenclature in parallel lines with that of anatomy.

1. Physiology of abstract solids.

1. Mycleuthytona synesthesia, *συν αισθησις*. This is the general physiology of the nervous system; but it is divided into two genera:—

1. Mycleuthytona hæmeuthytodes, æsthesis, *αισθησις*, perception; the function is limited to the immediate organs of sense, and the brain within the head, and consists of sensation and motion. It is a compound function, arising out of the association of two abstract solids, the function of one of which is sensation only, and that of the other motion only, and such an association is essential to the physiological product, æsthesis, or perception.

2. Mycleuthytona enyphantodes, æsthephoresis, *αισθησις φορεω*, the carriers of perception; the function is limited to the nervous cords, and the function arises out of the organization. The nervous cord, as before stated, is not a perceiving organ, it is merely a conveyor of the perceptions obtained by the organs of sense to the brain, that such perceptions may be elaborated into mind, and also the carrier of volition to the other solids which are acknowledged to inherit the capability of obeying the commands of the brain to all the genera of solids, but most obvious in the moving solid, hæmeuthytona, or the muscular solid, by whose actions the judgments or the volitions of men are manifested, that is to say, not what a man wishes to be done, but what he doeth, declares his volition or his mind. But it is not to the solids which are destined to perform voluntary actions only that æsthephoresis is applicable; it attaches to all living animal functions—to all those which are not at all influenced by the will—every solid in the whole animal system, so long as it possesses life, must be supplied with all the attributes of life, that is, with sensibility, circulation, motion, and caloric, in order to preserve life, and to perform their respective functions. Examples are as numerous as the genera of solids. Membrane, though not acting in obedience to volition, has obviously the whole of the attributes of life within its own sphere, otherwise it would cease to be a living substance, and would of course be, and act as an extraneous material—not only so, membranes are secreting organs, and without the exercise of all the attributes of life, secretion could not be produced by them. Again, the muscles of the heart are in perpetual action without the influence of the will; but this subject will be more fully illustrated hereafter; suffice it for the present to say, that all parts of the body

are supplied with nerves, therefore action, whether voluntary or involuntary, is necessarily attributed to each of them. I do not mean to say that muscular action, kinesis, is inherent in membrane; I deny it; circulation and caloric are essential to its life and function, though the moving power does not reside in it. It contains arteries, veins, nerves, &c., and all that is wanted to fill up the integrity of life is kinesis, direct or positive action, and that is derived from the left ventricle of the heart; apokinesis from the tubulated elastic fibre, helasmata siphonodes; and caloric is the product of these functions. But it is time to proceed to the next class.

3. Hæmeuthytona kinesis, *κινεω*, to move; kinesis, direct or positive action, is the only function hæmeuthytona possesses; it is not capable of apokinesis or reaction; hence the necessity and almost universality of antagonist muscles, action and rest, function, and absence of it, are all that can be discovered in the capability of muscle; and it will, it must remain at rest till called into action through the influence of the brain transmitted by the nerves.

Hæmeuthytona is divided into two genera, and consequently two distinguished modes of function.

1. Hæmeuthytona stereoses. Kinesis.
2. Hæmeuthytona antrodes. Antrokinesis.

3. Helasmata apokinesis, *απο κινεω*. The only capability ascribable to this abstract solid is reaction, or a return to its place of rest, after having been displaced by some foreign impulse. It does not possess the capability of performing kinesis.

It is necessarily divided into three genera, and consequently three distinguishable modes of function.

1. Helasmata stereoses. Apokines.
2. Helasmata siphonodes. Siphapokinesis.
3. Helasmata siphogyrodes. Eccrisis.

4. Enyphanta parenthesis, *παρενληθῆμι*. The only capability ascribed to this abstract solid, is that of interposing between one thing and another, to keep them distinct or separate.

It does not possess the power of kinesis, or of apokinesis, as an abstract solid: but it is necessarily divided into ten genera, and consequently ten distinguishable modes of function.

1. Enyphanta platinodes. Parenthesis.
2. Enyphanta siphonodes. Siphoparenthesis.
3. Enyphanta hæmeuthytodes. Parenthisystolesis.
4. Enyphanta collodes. Diastolesis.
5. Enyphanta siplocollodes. Siphodiastolesis.
6. Enyphanta coniodes. Acamptosis.

7. Enyphanta siphoniodes. Siphacamptosis.
8. Enyphanta helasmatodes. Parenthapokinesis.
9. Enyphanta steatodes. Morphosis.
10. Enyphanta siphogyrodes. Eccrisis.

Now the functions of these genera of enyphanta arise out of, and are the inevitable consequences of their associations, and of the forms imposed upon them.

The first genus has no associate; its form is broad, or simply extended; it has, therefore, only a simple function, that of interposing between one solid and another solid. Parenthesis.

The second genus has no associate; but the form or shape it assumes entitles it to a distinct appellation, declaratory of its genus, consequently of its function also. Siphoparenthesis, σιφονπαρενθεσις, interposing between solids and fluids; and it appears to me not to possess any other faculty.

The third genus is clearly an association of one abstract solid with another abstract solid; consequently it possesses a compound function, the inevitable consequence of such association. The association is manifestly membrane with muscular fibres; accordingly the compound function is denoted by parenthesis, interposition and constriction, παρενθεσις, insertion, and συσπλω, to contract.

The fourth genus is an association of membrane with albumen, enyphanta collodes: its function is to keep parts at proper distances, diastole, διαστολη, dilatation or distinction.

The fifth genus is similar to the fourth, excepting in form, on which account its function is so different as to constitute it a distinct genus, enyphanta siphocollodes, membrane associated with albumen tubulated: its function is to keep tubes perpetually open, siphodiastole, σιφον, a tube, διαστολη, dilatation.

The sixth genus is an association of membrane with phosphate of lime, enyphanta coniodes: its function is inflexibility, acamptosis, ακαμπτος, inflexible.

The seventh genus differs from the sixth only in form, being tubulated: its function is that of inflexibility in tubulated bones, siphacamptosis, σιφον, a tube, ακαμπτος, inflexible.

The eighth genus is an association of membrane with elastic fibre, enyphanta helasmatodes; its physiology arises out of the association, namely, interposition and reaction, parenthapokinesis, παρενθεσις, interposition, αποκινεω, to react.

The ninth genus is an association of membrane with fat, enyphanta steatodes: its function is chiefly that of giving form or beauty to the fabric, morphosis, μορφω, to shape.

The tenth genus is a peculiar form or shape of membrane,

enyphanta siphogyrodes: its function is secretion, eccrasis, *εκκρινω*, to secrete.

It remains now only to show the physiology of the fluids; having done that, we shall have completed the Physiological Nomenclature.

It will, I trust, be thought sufficiently explicit, if the Physiological Nomenclature be made to run parallel with that of anatomy, and at the same time giving the exact meaning of the physiological terms: —

1. Hæma, stereotrophsis, *στερεος*, solid, *τροφη*, nourishment; nourishment of solids.

2. Hæmatodes, hæmathemeleosis, *αιμα*, blood, *θεμελιωσις*, foundation; the basis of hæma.

3. Diaphanodes, hæmaleptosis, *αιμα*, blood, *λεπτυνω*, to attenuate; the dilution and vehicle of blood.

4. Galatodes, hæmatrophsis, *αιμα*, blood, *τροφη*, nourishment; the nourishment of hæma.

5. Urodes, akrestophoresis, *αχρηστος*, useless, *φορεω*, to carry; carrier away of useless things.

6. Cholodes, pepsis, *πεψις*, digestion.

7. Spermatodes, paraphusis, *παραφυσις*, propagation.

8. Ophthalmodes, diastolesis, *διαστολη*, dilatation; to keep parts of the eye at proper distances.

9. Coprodes, akrestophoresis, *αχρηστος*, noxious things, *φορεω*, to carry; carrier away of noxious things.

10. Hydatodes, hygrosis, *υγραινω*, to moisten; moistening.

11. Blenodes, blennosis; lubrication.

By a careful look over the Anatomical and Physiological Nomenclature as I have arranged them, it will be seen that they are in exact concordance with each other; that the physiology arises as an inevitable consequence of organization; and that, of course, the laws which govern the economy of health must be inflexible and immutable.

It may be urged, that the terms at present in use have been long employed, and are well understood; the latter, however, must be denied, and be laid sufficiently open to animadversion and ridicule, if it should be deemed necessary. Every branch of natural science is rendered more easy of being taught, and is the more systematical in proportion as the Nomenclature is determinate and condensed.

A popular cry will probably be raised against any form of nomenclature, however simple and appropriate it be in its nature; and it will be stigmatized with the greatest acrimony, by those who will not condescend to revert to elementary

studies; they will deem it an innovation, and strive to hunt it down: but such treatment will not serve them as a protection against the imputation of ignorance and idleness; nor will it loosen the attachment of those who have examined for themselves, and have declared themselves favourable to the Nomenclature I have proposed.

It will probably be deemed difficult to be understood, and on that account be objected to; but this objection is removed by an impartial examination of it; for it will be found very easy to be understood, and that it cannot be misunderstood; whilst all those Nomenclatures which have preceded it are not capable of being understood. Moreover, the present Nomenclature is true to itself, in all the departments of medical science.

The technical terms in anatomy and physiology being understood, those in nosology and therapeutics cannot be mistaken, because their radicals are the same; the anatomical governing the appellations for the identities of diseases, and the physiological the appellations for the evidences by which they are distinguished, and for the indications of treatment.

The example has been the Chemical Nomenclature.

It has been already promulgated among so many who are competent to decide on its merits, and who will ably advocate it, that I feel persuaded there remains little more for me to do than to commence, and steadily persevere in, my intended lectures on zoo-nosologia, or on the elements of medical science; and of this I shall publicly give early notice.

I now proceed to the Nosological Nomenclature.

PART II. *Nosological Nomenclature.*

The nomenclature of nosology is divided into two parts, the first from the anatomical tables representing the identities of diseases; the latter from the physiological tables, representing the symptoms by which diseases are distinguished.

The technical terms used in the first, or the anatomico-nosological nomenclature are called cletics, from κλησις, a denomination or a proper name for a disease; those in the second, or the physio-nosological nomenclature, are called phaneries, from φανερον, to make manifest.

Were the merits of the proposed Nosological Nomenclature to rest alone on the certainty with which it separates idiopathic from symptomatic affections, it would be worthy of adoption. But it does much more, it raises the image of each individual disease, to which the human frame is liable, in the minds of those who understand the meanings of the terms, by which they are respectively denoted.

I would ask, How is it possible to prevent misconception and confusion in teaching medical science from any of the present *Nomenclaturæ*, which include in one confused jumble idiopathic diseases and mere symptoms without distinction?

For example, Cullen's *adipsia*, *agheustia*, *anaphrodisia*, *anorexia*, *anosmia*, *apoplexia*, *asthma*, *atrophy*, *bulima*, *catarrhus*, *chlorosis*, *cholera*, *chorea*, *continuæ febres*, *contractura*, *convulsio*, *cynanche*, and more than fifty other technical terms for diseases, have not the most distant reference to their identities. Those which I have already mentioned are all symptomatic only, or the evidences by which diseases are known. *Adipsia*, *agheustia*, and so on, including *anosmia*, are not diseases; they are symptomatic of a diseased state of some certain definable part, and the consequent disturbance of its function. *Apoplexia*, *αποπλησσω*, to knock down; now what reference does the term *apoplexy* bear to the intrinsic quality of the disease? God forbid that knocking down should always and necessarily comprehend those derangements of the brain which the term *apoplexy* is intended to denote, but which it in no measure expresses. But the proper question to be answered is, What is the identity of the disease usually called *apoplexy*? Not knocking down surely. It is *anæsthesia encephalica*, or impaired function of the brain within the head, a resulting consequence of one or another of those genera which are found under the second class of diseases; and, let me add, it cannot have existence otherwise. It is referred, therefore, to the fourth class of diseases, when the defunction of the brain continues after the parent of it has ceased to be. But while the cause remains, and the form of that cause is understood, it is properly placed under the second class.

The genera of the second class are:—

1. *Merotome*, division, or partial division.
2. *Ectopesis*, displacement, or partial displacement.
3. *Platynesis*, distention, or over action.

Now the cletic term for the disease called *apoplexy*, when it is known to be the consequence of a division of the brain by violence, must be *merotome encephalica*, such being the identity of the disease; but the phaneric term must be *anæsthesia encephalica*, such term comprehending the symptoms by which division of the brain is distinguished.

The cletic term for *apoplexy*, when it is attributed to pressure upon the brain, either from a depression of the skull, or from extravasated blood within the head, or from effusion, or, indeed, from whatever cause adventitious pressure is produced, must be *ectopesis encephalica*; because a portion of

the brain is displaced by that pressure, and is rendered unable to perform its natural function. But the phaneric term must remain *anæsthesia encephalica*, such term comprehending the symptoms by which pressure on the brain is discovered and distinguished.

The cletic term for apoplexy, when it is attributed to too strong or too sudden exercise of the brain, as sudden and great excitements of the mind, intense study, excruciating pain, and whatever is capable of exciting the brain beyond the limits of health, as opium, wine, alcohol, &c. leaving the brain partly exhausted by excessive excitement, must be *platynesis encephalica*, such being identically the disease. But the phaneric term must remain *anæsthesia encephalica*, such term comprehending the symptoms by which exhaustion is known to exist. I have dwelt at some length on the disease, called apoplexia, by Dr. Cullen, to show that it is merely symptomatic according to his term; and, that, being an idiopathic disease, it demands a cletic appellation, declaratory of its identity.

I would ask, What is to be understood by Cullen's term *epilepsia*, *ἐπιληψία*, from *ἐπιλαμβάνω*, to seize upon suddenly?

Does it refer to the identity of an idiopathic disease, disordered state of the brain, productive of, and known by a temporary dereliction of function, or temporary *anæsthesia encephalica*? Epilepsy differs from apoplexy only in intensity and duration; they are different types of the same identical affection, the former transitory and intermittent; the latter permanent and progressive.

I have chosen apoplexia and *epilepsia* of Cullen, for no other reason than because they first present themselves in the alphabetical arrangement of his technical terms, to evince that they are instances of the terms denoting symptoms instead of identities; and to prove that they are not the only instances, I shall take the liberty of bringing to light others equally palpable.

Asthma, atrophia, bulimia, before mentioned; and were I to enumerate all the terms he has appointed, I should not fail to make manifest the accomplishment of the first object I had in view, that of distinguishing between identical diseases, and their symptoms, or those evidences by which their real characters are to be known.

I am sorry to have trespassed so long upon the reader's time and patience; but I deemed it highly necessary; and, even now, cannot reconcile to myself the neglect of going through the remainder of the terms adopted by Dr. Cullen, to represent identical diseases; but which, in truth, only denote the symptoms by which they are detected.

Caligo, caligo darkness,	Anæsthesia Ophth.
Catarrhus,	Paranthitis mycter.
Chlorosis,	Apantthesisystoles gon.
Cholera,	Eccrisitis enteron.
Colica,	Paranthitisystolitis enter.
Continuæ febres,	
Contractura,	Proscollis.
Convulsio,	Æsthephoritis.
Diabetes,	Eccrisitis.
Diarrhœa,	Paranthitisystolitis enter.
Dysenteria,	Paranthitisystolitis enter.
Dyseccæa,	Anæsthesia oton.
Dysorexia,	Apantthesisystoles ent.
Dyspepsia,	Apantthesisystoles ent.
Dyspnœa,	Apantthesisapokinesis thor.
Dysphagia,	Akinesis œsoph.
Dysuria,	Siphoparanthitis gon.
Dyspermatismus,	Aneccrisis gon.
Ecchymoma,	Symptomatic of merotome.
Elephantiasis,	Paranthitis exot eleph.
Ephidrosis,	
Epiphora,	Eccrisitis ophth.
Erysipelas,	Paranthitis exot.
Ganglion,	Apantthesis exot.
Gonorrhœa,	Eccrisitis gon.
Hæmoptysis,	Paranthapokinitis thor.
Hæmorrhagia,	Symptomatic of merotome.
Hectica,	Symptomatic local inflammatio spher.
Hæmorrhœis,	Symptomatic of merotome.
Hernia,	Ectopesis.
Herpes,	Paranthitis exot.
Hydarthrus,	Apantthesis exot.
Hydatis,	Apantthesis.
Hydrocele,	Apantthesis gon.
Hydrocephalus,	Apantthesis enceph.
Hydrometra,	Apantthesis gon.
Hydrophobia,	Æsthephoritis canin.
Hydrothorax,	Apantthesis thorac.
Hypocondriasis,	Apantthesisystoles enter.
Hysteria,	Paranthitisystolitis gon.
Hysteritis,	Paranthitisystolitis gon.
Icterus,	Symptomatic of biliary obstruction.
Intermittentes,	Symptomatic of inflammatio diffus.
Ischuria,	Symptomatic of obstruction of the urine.
Lepra,	Paranthitis lepros.
Luxatio,	Ectopesis.
Mania,	Æsthesitis enceph.
Melancholia,	Anæsthesia enceph.
Menorrhagia,	Paranthitisystolitis gon.
Miliaria,	Paranthitis milliar.

Nymphomania,	Æsthephoritis gon.
Obstipatio,	Aparenthisystoles ent.
Odontalgia,	Acamptositis stomat.
Oneirodynia,	Anantrokinesis.
Palpitatio,	Antrokinesitis.
Paralysis,	Akinesis.
Pemphigus,	Parenthitis exot.
Pertussis,	Parenthapokinitis thorac.
Pestica,	Parenthitis pestic.
Pneumatoxis,	Aparenthesis.
Pneumonia,	Aparenthapokinesis.
Podagra,	Parenthitis exot.
Prolapsus,	Ectopesis.
Psora,	Parenthitis psor.
Ptyalismus,	Eccrisitis stom.
Pyrexiaë,	Symptomatic of local inflammation.
Pyrosis,	Parenthitis œsoph.
Quartana,	Symptomatic of inflammatio diffus.
Quotidiana,	Symptomatic of inflammatio diffus.
Rachitis,	Acamptositis exot.
Raphania,	Symptomatic of local inflammation.
Rheumatismus,	Kinesitis.
Rubeola,	Parenthitis rubeol.
Satyriasis,	Æsthephoritis gon.
Scarlatina,	Parenthitis scarlat.
Scirrhus,	Symphylakesis.
Scorbutus,	Parenthitis.
Scrophula,	Phylakesis.
Syncope,	Anantrokinesis.
Synocha,	Symptomatic of inflammatio spher.
Synochus,	Symptomatic of inflammatio comp.
Syphilis,	Parenthitis syphil.
Tertiana,	Symptomatic of inflammatio diff.
Tetanus,	Æsthephoritis exot.
Tinea,	Parenthitis tineos.
Trichoma,	Parenthitis tric.
Trismus,	Æsthephoritis exot.
Tympanitis,	Aparenthesis enter.
Typhus,	Symptomatic of inflammatio diffus.
Ulcus,	Merotome.
Urticaria,	Parenthitis urtic.
Variola,	Parenthitis variol.
Varicella,	Parenthitis varic.
Varix,	Asiphoparenthesis.
Verruca,	Metamorphosis.
Vulnus,	Merotome.

There are yet some other terms used in Cullen's Nosology which require our notice, and which ought to be expelled from Nosological Nomenclature.

Amaurosis, *αμαυρω*, to darken ; indeterminate altogether : the proper appellation for this disease is anæsthesia ophthalmica, or the cletic platynesis myeleuthica hæmeuthytodes ophthalmica.

Anasarca, *ανα σαρξ*, amongst the flesh. Is this indicative of any idiopathic disease ? What the term is intended to represent is C. prokeusis, P. aparenthesis.

Aneurisma, *ανευρυνω*, to dilate much ; indeterminate : C. platynesis helasmica siphonodes, P. asiphapokinesis.

Aphtha, *απλω*, to inflame. C. enyphantitis platynodes stomatica, P. parenthitis stomatica.

Ascites, *ασκος*, a bottle ; ridiculous. C. prokeusis enteronica, P. aparenthesis enteronica.

Cancer, *καρκινος*, a crabfish. C. symphylakesis.

Caries, *κειρω*, to abrade. C. merotome enyphantica coniodes, P. acamptitis.

Carditis, cystitis, enteritis, gastritis, hepatitis, hysteritis, nephritis, peritonitis, phrenitis, and splenitis are to denote what they are intended to do ; but, they are objected to because they do not raise in the mind either the anatomical construction of the part inflamed, or the derangement of function. The heart is a muscle ; its function is antrokinesis, excess of its function then is P. antrokinitis, C. hæmeuthitis antrodes, cystitis, enteritis, gastritis, and hysteritis are all associations of membrane with muscle, whose function is parenthisystolesis, consequently the excess of function must be P. parenthisystolitis, C. enyphantitis hæmeuthytodes.

Hepatitis is inflammation of a venous gland, whose function is eccrisis ; consequently excess of function will be P. eccrisitis, C. enyphantitis siphogyrodes.

Nephritis and splenitis, inflammation of arterious glands, whose functions are eccrisis in excess, P. eccrisitis, C. helasmitis siphogyrodes.

Peritonitis, phrenitis, pleuritis, are inflammation of membranes, whose functions are parenthesis, in excess P. parenthitis, C. enyphantitis platynodes.

I shall conclude by observing, that this Nomenclatura Medica agrees with itself in every department of the science. It gives wonderful facility to study, as well as fixes solid and just principles ; and it affords rules of syntax, exhibiting the concord of the classes, genera, orders, species, varieties, and types of diseases, in a climax of harmonious medical language.

DEPARTMENT OF NATURAL HISTORY, &c.

Enumeration of those Indigenous Plants which have an Emetic Effect. By MR. GRAY.

OF the several medicines, advised by the London College of Physicians to be kept in the shops of that city, and its neighbourhood, as being in common use amongst their members, there are no less than four which are frequently employed as emetics, namely, emetic tartar, white vitriol, ipecacuanha, and oxymel of squills. It may therefore seem to some superfluous to recall to the memory of Practitioners, the existence of others which grow wild in England, and, although now neglected by most regular Practitioners, have been, and still are by some employed as emetics in the cure of diseases.

Those, however, who pay attention to the secondary and even third actions of medicines, after the cessation of their primary effect, must know that those whose primary actions are the same frequently vary in other respects. Thus in the class of medicines now under consideration, what Practitioner is not aware of the difference between the after-actions of tartar emetic and ipecacuanha, so that although when the simple evacuation of the contents of the stomach is the sole object in view, it is indifferent which of these medicines is employed; yet in other cases when a further and secondary action is required, then each has its appropriate use, and cannot be employed in the other's place. Now, as this difference is well known in these two medicines, which are of daily use at present, we have every reason to suppose that every medicine has its peculiar, and in some respects specific action; and hence the superiority of one Practitioner over another, in point of medical practice, will depend very much upon the greater number of medicines their superior reading or experience will allow them to employ.

A real friend to the medical Profession sees, with regret, many patients who have tried the routine of the ordinary medicines in the College List, who afterwards apply to persons educated in foreign countries, or hard students in the old authors, and receive that relief which they could not obtain from our simple hospital practice. And with still greater regret he sees the majority of Practitioners, instead of endeavouring to extend their knowledge of the *materia medica*, and acquiring the mode of using the *nostrums* of their occasionally more successful brethren, contenting themselves with the common shop medicines.

With a view to enable Practitioners, especially those in the country, to increase the number of their resources, the following collective view of such emetic vegetables as grow wild in England, or are usually cultivated in private gardens, has been drawn up.

Although an infusion of three to six asarabacca leaves in whey was the most common mild vomit before the introduction of ipecacuanha, yet authors differ much in respect to the other actions of this plant. Some say thirty to forty grains of the powdered root excites violent vomiting: while others say it works milder than the leaves. It would appear that neither the root nor leaves ought to be given in substance, but in infusion; namely, one to two drams of the leaves, or one to three drams of the root.

The roots of betony, *betonica officinalis*, are emetic, but very violent, and must therefore be given in small doses.

The roots of horseradish, *cochlearia armoracia*, are emetic, especially the rind; it may be given either in substance, or still better in infusion, which should be made very strong; it is very serviceable in cases where the stomach is loaded with thick phlegm, as being incisive. An infusion of the seeds is also used for the same purpose.

The expressed juice of the root of common garden radishes, given warm, is considered by some as a good emetic; or a strong infusion made by expression of three drams of the seed bruised.

The roots of asphodel lily and narcissus, have been used as emetics.

The juice, or a decoction of common groundsel, *senecio vulgaris*, has been much used as an emetic; in doses of one to two ounces: it acts violently, and is also vermifuge.

Although spinach is not itself emetic, our old botanical writers recommend it as an adjuvant, as tending to facilitate the action of emetics, by inducing a disposition to vomit, and it may therefore be serviceable in a few cases where it is wished to empty the stomach with as little exertion as possible.

The juice of wall-pepper, or stone-crop, *sedum acre*, is strongly emetic, and has been used as such; it is also antiscorbutic. A handful boiled in a pint of stale beer to an half, and two or three ounces of the strained liquor drank warm, fasting, was used with success in the Swedish army, in scurvy. Its immediate action was emetic. The juice taken with vinegar is used by some to cure obstinate agues.

The dried roots of primroses, *primula veris*, taken up in autumn, in doses of one dram and a half, operate as a strong but safe emetic; it is therefore probable, that it might be

substituted for ipecacuanha, in the usual dose of that foreign root.

The fresh root of bryony, or wild vine, *bryonia dioica*, in doses of one dram, has been used in dropsical cases, as an emetic and hydragogue cathartic; also the expressed juice in doses of two drams to half an ounce. With a view to render its operation milder, the slices of the fresh root have been infused in wine, and then dried.

Spurge olive, *daphne mezereum*, although an English plant, is admitted a place in the pharmacopœia. The berries have been attempted to be used as an emetic; but their acrimony is so great, that they are to be regarded rather as poisons than as potent but manageable remedies; twelve grains produced almost immediate death: but spurge laurel, *daphne laureola*, although not in the pharmacopœia, is really the plant which produces the twigs sold in the shops for those of *daphne mezereum*; that plant being very scarce, and not to be found about London.

The leaves of buckbean, *menyanthes trifoliata*, in doses of one dram, not only vomit, but also act as cathartics; and the seeds are also said to be emetic.

The emetic action of camomile flowers is too well known to need any further notice, especially as they still continue a shop medicine.

An infusion of a handful of water hemp agrimony, *eupatorium cannabinum*, vomits smartly, and, moreover, acts as a purge; as also a decoction of one ounce of the root.

The roots of herb Paris, or one berry, *Paris quadrifolia*, are said to act very similarly to those of ipecacuanha; but they must be given in a larger dose.

An infusion of broad leaved pepper-wort, *lepidium latifolium*, is emetic.

The distilled water of less spear-wort, *ranunculus flammula*, has the most instantaneous action of any emetic yet known, operating the moment it is swallowed, without exciting that contraction in the upper part of the stomach which the sulphas zinci sometimes occasions, and by which its action is defeated; the juice has been said to have the same effect; but it seems too acrid to be given internally.

Besides the above, other plants common in England have an emetic effect, as the dried inner rind of the walnut tree, a decoction of ash keys, the seeds and bark of the elder tree.

From this recapitulation it appears that the country Practitioner has an ample resource, in case of his wishing to try the effect of indigenous remedies, when the foreign or chemical ones fail.

Calendar of Flora and Fauna, kept at Hartwell, by Tunbridge Wells, Sussex, by Dr. T. FORSTER, from the 15th of April to the 15th of May, 1819, inclusive.

April 15th.—The Swallow (*Hirundo rustica*) first made its appearance in the neighbourhood of Lingfield. The Turnip is now in full flower every where, and the Moorhen (*Fulica chloropus*) is building. The seeds of *Papaver somniferum* coming up, which were sown only a week ago. Vipers and Snakes out a considerable time.

17th.—Cool showery weather, and westerly wind. The Cowslip and Pagel every where in flower hereabouts. Pilewort still flowering abundantly, and *Cardamine pratensis* in all the meadows.

18th.—*Orchis mascula* in flower under a hedge facing the South. The Kidlock (*Sinapis arvensis*) plentifully in flower in the corn-fields near Cowden and elsewhere. Specimens appear here and there in marshy ground of the *Agaricus glutinosus*.

19th.—A thorough rainy day. A few Swallows were flying about at Hartfield. I had not seen this bird before since the 15th, and they are not common yet. *Allium ursinum* in flower.

20th.—Rainy morning. Stitchwort (*Stellaria Holostea*) in flower under the hedges between Hartfield and Withyham.

21st.—Showery; but fair evening. *Tussilago Farfara* in seed at Lankington Green.

22d.—Wind got to Northward, and cooler.

23d.—Rains in gentle showers, and cool. *Ranunculus bulbosus* came into flower. Swallows as yet but few. *Mercurialis perennis* in blow.

24th.—Rainy cold day. From a Correspondent I learn that *Thlapsi Bursa Pastoris*, *Fritillaria Meleagris*, *Draba muralis*, and the Great Leopard's Bane (*Doronicum Pardalianches*) are in bloom at Walthamstow.

25th.—The Wryneck first heard at Hartwell; cold day. The House Martin (*Hirundo urbica*) seen. Swallows become more frequent. *Agaricus glutinosus* still found in the fields; but the pileus of it is lighter coloured than that of the same plant in autumn. The *Tremella mesenterica* growing on some sear trunks.

27th.—Clear cold day; wind easterly. *Lycoperdon Epi dendrum* found flourishing. The Nightingale (*Sylvia Luscinia*) first heard singing, notwithstanding the coldness of the night.

28th.—*Ranunculus acris* in flower here and there.

30th. — *Ranunculus arvensis* in bloom.

May 2d. — Warmer weather to-day, and a fine shower at night; the Cirri and WanecLOUDS, which appeared all day and yesterday, were a sure indication of a change. The Kidlock or Charlock is still abundantly in flower every where*.

3d. — The *Cynoglossum*, so remarkable for its brilliant blue flowers, still in bloom†.

5th. — A fine warm spring day, after a night of rain. *Schoeniclus arundinaceus* observed. Swallows and Martlets become common. *Orchis Morio* in flower.

6th. — The following plants now in full flower: — *Ranunculus bulbosus*, *R. acris*, *Fragaria sterilis*, *Erysimum Alliaria*, *Veronica Chamædrys*, *V. serpyllifolia*, *V. agrestis*, *V. arvensis*, and *V. hederifolia*, *Anthoxanthum odoratum*. *Valeriana dioica*, and *V. Locusta*, *Phleum pratense*. *Alopecurus pratensis*, *Briza major*, *Poa annua*, *P. trivialis*, and *P. pratensis*. *Galium cruciatum*, *Alchemilla arvensis*, *Sagina erecta*, *Myosotis arvensis*, *M. versicolor*, and *M. umbrata*. *Borago officinalis*, *Primula elatior*, and *P. veris*. *Anagallis arvensis*, *Viola tricolor*, and *V. Tonbrigenensis* (supposed a variety), *Sanicula Europæa*, *Caucalis Anthriscus*, *Scandix Pecten Veneris*, *Viburnum Lantana*, *Narcissus biflorus*, *Allium ursinum*, *Scilla campanulata*, *Vaccinium Myrtillus*, *Acer Pseudoplatanus*, and *A. campestre*. *Chrysosplenium alternifolium* (wild), *Arenaria trinervia*, *Lychnis dioica purpurea*, and *L. dioica alba*, *Cerastium vulgatum*, *Euphorbia amygdaloides*, *Mespilus Oxyacantha*, *Pyrus Malus*, and *P. Aria*. *Adonis autumnalis* (in T. F. Forster's garden); *Ranunculus auricomus* in the corn fields.

12. — The Charlock (*Raphanus Raphanistrum*); also *Sinapis nigra*. The *S. arvensis* still abounds.

The weather continues warm and still, and the foliage

* This plant (*Sinapis arvensis*) should be carefully distinguished from the other, called also Charlock, viz. *Raphanus Raphanistrum*, which much resembles it; but which in this district is not near so common. The former is a noxious and irradicable weed in corn; and its seeds, when deeply buried by ploughing, work their way by degrees up to the surface, and grow again. This circumstance, which is common to many plants, leads us to inquire by what means seeds possess this ascending power, when buried, of regaining the surface of the earth?

† There are three plants in our gardens noted for the brilliancy of their light blue flowers. The *Cynoglossum* is the purest fine ultramarine colour; the *Veronica chamædrys* has a very slight tint of the red in its composition; and the *Anchusa sempervirens* (the third I allude to) has a tint of greenish. The blue of the *Cynoglossum* being the only perfect blue.

advances. There is every appearance of spring. The banks are covered with *Viola canina*, and the fields here gilded with *Ranunculi*, there blue with *Scilla nutans*.

T. FORSTER.

[*This Journal is to be continued in the neighbourhood of Tunbridge Wells.*]

PART II.

ANALYTICAL REVIEW.

I.

Treatises on Epidemic Fever.

(Concluded from page 401.)

It will be recollected, that the chain of our critical disquisition on this topic was broken by our limits just at the point in which inferences were made against the absolute necessity of inflammation in fevers, from the occasional *post mortem* appearances, as faithfully delineated by Dr. Percival. This able author commences the fifth section of his work by the following remarks on the pathology of the febrile state, remarks which we have great pleasure in quoting, since they entirely accord with our own sentiments on the subject; and it is impossible that the positions they are designed to establish could be put into more concentrated or more comprehensive language.

“ The science of disease is hardly yet sufficiently advanced to compass the pathology of fever. Much collective light has been thrown upon it by the humoral theories of the older writers; the vascular spasm of Hoffman; the doctrine of morbid associations by Darwin; of local inflammation by Ploucquet*; and of morbid temperature by Currie. That the labours of these, and of other distinguished men, have furnished many solid and some highly wrought materials for the structure of febrile pathology, cannot be questioned; nor will the Physician, who is at all versed in the difficulties of the task, refuse the tribute of his admiration to each of these scientific artists. Yet to select, assemble, and give cohesion to the valuable parts of their several fabrics; to supply radical deficiencies; and render the whole con-

* We are not pleased to see so studied an omission of even the name of Clutterbuck, by Dr. Percival; and we are sick of that kind of cant which would deprive ingenuity of its due award, because there have happened to be priorities or coincidences in the statement of opinions.

sistent and symmetrical, may demand still higher powers of scientific genius.

“ What has hitherto retarded the advancement of this work, has been not so much a propensity to generalize, which belongs to all philosophic minds, as an eagerness to abandon old doctrines, whenever new ones have been projected, and to rely too exclusively upon each, for a solution of all the various phenomena of fever. Thus the humoral pathologists slighted the Hippocratic doctrine concerning morbid temperature; and, in turn, the humoral theory, though pregnant with the most important doctrines of the economy of secretion, was rejected for neurological hypotheses of debility and spasm. Organic disease was thus in a great measure overlooked; until the doctrines of morbid heat, of local congestion or inflammation, again brought this important feature into notice. But there is now danger, lest, *in discarding the cycles and the epicycles of fever, delineated by Cullen or Darwin, the doctrines of morbid catenation, or associate actions of disease, will be at the same time fatally overlooked.*”

Dr. Percival then goes on to develop, with the same masterly precision, the connexion of sensorial disturbance with vascular irregularity, as occurring in different grades and proportions, under the various circumstances of fever, and concludes by observing:—

“ That genuine acute inflammation does not always, or perhaps even in the majority of cases, attend typhus, (as it has appeared epidemically in these islands,) may, I think, be fairly maintained. Yet, in most of the worst cases, and, by consequence, in most of those which come under posthumous examination, there are unequivocal evidences of genuine inflammation, accompanied with those appearances of venous congestion, which frequently distinguish these diseases from the proper phlegmasiæ.”

Our author then adverts to the disordered condition of the discerning and secreting organs in fever; alluding to the circumstance of febrile heat as “ having hitherto been but imperfectly explained,” since “ under apparently similar circumstances of respiration and circulation, the temperature of the body is found to vary considerably,” he suggests whether “ the disturbed balance or economy of the discerning organs does not require to be taken more into consideration than has hitherto been done, in reference to this particular. There cannot be a doubt that the pulmonary theory of animal heat, if we may so name it, leaves unexplained several points connected with fever heat, which would certainly seem to have more connexion with the peculiar actions going on in the body under this state of morbid being, than with the respiratory process. Breathing a condensed and oxygenated air, which would add to the quantity of sensible heat in a healthy subject, every thing besides being favour-

able, will often serve to diminish the temperature of fever, by abating the virulence of the disorder, or by reducing morbid excitement.

Dr. Percival concludes this section of his treatise by referring his readers to Dr. Cheyne's comparative *tables* of pulse, respiration, and temperature, in his last clinical report from the Hardwick Hospital.

At the commencement of the last chapter, which comprehends "the curative treatment of typhous fever," our author alludes to those sceptical notions which slight the comparative pretensions of dissimilar modes of management; and in reply to those statements, which are grounded upon such scepticism, he remarks, "it has appeared from the bills of mortality, that in places where this disease has been suffered to commit its ravages with little or no control from medical treatment, one-fourth, and even one-third of those afflicted by it have died; whereas, the registers of different fever hospitals show, that under due remedial management, one-tenth, and sometimes one-twentieth only of the cases terminate fatally." Dr. Percival then goes on to compliment Sydenham as the founder of correct principles of treatment in the fevers of this country, and concludes by stating the result of his own observations and experience, with a very brief abstract of which we shall conclude what we have to say on the present interesting little volume. The first point to be attended to is a plentiful supply of cool and fresh air. The next is suitable evacuation, and primarily that of blood-letting, "the safest and best period for which is undoubtedly at the commencement of the disease." This remedy is especially called for when bronchial irritation is present, "when cough is suppressed, and mucous secretion suspended*," and it must be repeated till the dyspnœa is relieved, and mucous secretion restored. Such inflammatory state of the pulmonary organs must, however, be carefully discriminated from that in which hurried circulation, with great debility, are the true causes of scanty and oppressed respiration." This pseudo-peripneumony may be distinguished from inflammatory irritation, (when the case is doubtful) by respiration being accompanied by a certain degree of elevation in the chest, as well as depression of the diaphragm, and by the

* These symptoms are exceedingly frequent accompaniments of fever, especially at the vernal season. By the kindness of Dr. Armstrong, we were yesterday allowed to go through his wards of the London Fever Institution; and we remarked that pulmonary and bronchial affections were very general in that admirably conducted establishment.—REV.

patient being able to take a slow and full inspiration, without inducing cough or pain. In the "cephalic form of typhus," bleeding is often called for, but the benefit derived from it has appeared considerably more precarious than in the "pneumonic species." Leeches, or opening the temporal artery, are occasionally requisite; but assiduously sponging the shaven scalp with cold vinegar, or moistening it with ether, at the same time fomenting the patient's legs for several successive hours, has proved in general less objectionable and more efficacious. "After free catharsis, and other depletion, blisters should be applied to the nucha and between the scapulæ." Blood-letting may, perhaps, with its usual accompaniment, a dose of purgative medicine, occasionally succeed "in extinguishing some incipient efforts at fever." The afternoon or evening is in general the best time for bleeding. The cold affusion, although probably too highly lauded by Dr. Currie, is an admirable remedy under due restrictions. Free catharsis is in all cases desirable; but violent purging at the commencement of fever, has often been carried to an injurious extent. Calomel, used to the extent of inflaming the mouth, has been tried without decisive benefit, and sometimes with aggravation of the patient's sufferings. Heating diaphoretics are to be avoided, and antimony has only appeared serviceable as it proved emetic or purgative. Vomits, when given early, may cut short ephemeral and mitigate the severity of other fevers; but their exhibition has formed no part of Dr. Percival's stated or ordinary practice. Cold water is to be given freely, with Currie's restrictions. Of the mineral acids our author has not had much experience. Peruvian bark is only to be administered during convalescence, when no inflammatory irritation is present. It may then be mixed with elixir of vitriol or tartrate of antimony, or kali and lemon juice. When cordials are required, diluted wine is the best; and the best time and occasion for the exhibition of these is when the limbs are cold and clammy while the trunk preserves its morbid heat. When much restlessness is present, small doses of opium may be used with benefit, due evacuations having been premised. With respect to diet; before crisis the aliment should be fluid, and of the simplest kind, and meat should not be allowed for some days or weeks after the crisis. Warmth of clothing, and due ventilation, are necessary in convalescence; and gestation in slow recoveries appears sometimes more beneficial than any other means.

DR. GRAHAM.—The duty of reviewers is arduous, from the circumstance of their engagements involving the necessity of often wading through what is jejune in substance, and dull in

style ; but were the manner and matter of all authors like the one now before us, the irksomeness of criticism would be very considerably diminished. Dr. Graham is not only a sensible, but a masterly writer. The following extract will at once serve as proof of our position, and give the reader an earnest of what he is to expect from the perusal of this very able tract : —

“ I may premise, by way of caution, that with respect to fever I have been able to draw no general rule, excepting that generalizing is nearly impossible in that disease. Much must always be left to the *pro re nata* discernment of the Physician; and if he allows himself to be guided by preconceived notions, rather than by reflection on the circumstances of the case, and the symptoms which it presents, it would have been well for his patient if he had intrusted himself to the *vis medicatrix naturæ* alone. So far am I from thinking, with some people to whom I have already alluded, that *the causes, and the history, and the cure of fever are perfectly known, and as well understood*, that I believe the ignorance of every one of us on all these particulars is very great; and I have the fullest conviction that we are only to become wiser by a repeated and more careful investigation of its phenomena, by contrasting symptoms and circumstances; the many futile attempts at theory, show that we are not yet ripe for giving a plausible *rationale* of the disease.”

Dr. Graham then proceeds to a detail of the general symptoms of the Glasgow fever, as they occurred in his own practice, and remarks, that as far as topical inflammation is concerned, the head, the spinal canal, the thorax, the abdomen, and the external cellular substance, have each at different times been its seat. With respect to the cephalic condition, Dr. Graham candidly acknowledges that he has seen many cases where it was extremely difficult to determine from the symptoms whether there was active inflammation within the head, or a state the very reverse of this. “Delirium; (he very properly, in our judgment, remarks) taken by itself, can never be considered as a symptom of inflammation. It often arises from a modification of nervous energy, independent of the existence of either inflammation or congestion, and is removed either by an effort of the patient himself, or by the application of a stimulus.” To this very important point we wish especially to call the attention of our readers, convinced as we are that the present-day pathology has in it too much of tendency to confound nervous with inflammatory action, or to suppose that sentient and vascular excitation are invariably coincident and commensurate. Let it be remembered, that the above caution as to the necessity of the distinction alluded to, comes from one who tells us in the same page, that when the eye is more or less suffused, and

sparkles wildly, with a sharp contraction of the pupil, connected with headach and a jarring pulse, or delirium, or even without this last symptom, he never hesitates in declaring there is inflammation within the head, or at least, never delays for an instant the abstraction of blood, either generally or topically, and the other means which are calculated to save life when the brain is inflamed.

Inflammation of the spinal chord, Dr. G. suspects has been too much overlooked in the æteology of fever, and those pains about the neck which characterize it have been too indiscriminately regarded as rheumatic. For this hint he confesses himself indebted to the clerks of the infirmary.

In the doctrine of critical days Dr. G. is not so firm a believer as Dr. Percival: in general, he says, he has found the period and manner of convalescence remarkably ill defined. "In repeated instances the patient has lingered for several weeks, the symptoms sometimes subsiding a little, giving promise of a speedy recovery; but by and by again becoming rather more prominent, suspended the patient between hope and fear, and either gradually overcame his strength, or left him to creep slowly back into the world again."

In alluding to the proportion of deaths, he refers to a table which he gives at the end of his pamphlet, of the number of patients dismissed from the Edinburgh Infirmary during fourteen months, beginning with January, 1817, by which it appears that the average proportion of deaths during that time was one in $15\frac{5}{25}$. Of his own patients he tells us that the proportions of deaths were rather more than one in nine males, and about in $16\frac{1}{2}$ females. The mortality, too, he, with Dr. Percival and others, states to be greater among the rich than the poor.

When discoursing on the treatment of fever, Dr. G. tells us, that the greater number of cases "require little or no treatment at all." In common and slight cases, "the practice of giving an emetic at the onset, and following it up by a purgative, has often been attended with marked advantage." The lancet Dr. G. never uses, excepting when its employment is indicated by "local disease;" but when such is the case, he tells us he "cannot too strongly recommend it, and that too without reference to the period of the fever when these symptoms occur." He often, he says, bleeds in the third week of the fever, when inflammatory symptoms present themselves. Those bronchial affections which we noticed when reviewing Dr. Percival's volume, our present author likewise adverts to as attended often with much danger. He never, he tells us, neglects the employment of blisters in these cases. Cold applications to the head Dr. G.

is very partial to; "they are often of infinite advantage, and are most grateful to the feelings of the patient." The state of the surface has seldom been such as to justify cold affusion; but sponging both with cold and tepid water, we are told, formed part of Dr. G.'s practice. Active purges are useful; "but they tend very materially to increase debility in typhoid cases." The virtues of calomel and opium, as recommended by some in fever, Dr. G. does not rate very high. In cases of typhoid sinking, when stimulus are required, "it must often be pushed in very great quantities." Wine has been given occasionally *ad libitum*, and alcohol, ether, and camphor, in such doses as the patient could be made to swallow, and in some cases, "he has doubtless owed his life to this treatment."

As to the means of preventing the propagation of fever, Dr. Graham's principles and views are virtually the same with the four authors that stand next in succession in the list which we have placed at the head of the present article. These authors are Dr. Millar, Dr. Porter, Mr. Parkinson, and Dr. Dickson, all of whom assume the contagious quality of the febrifacient virus, and urge, as measures necessary for its extinction, the establishment of houses of recovery; the separation of the sick from the well; and the adopting every possible expedient for ensuring to individuals and families as much ventilation and cleanliness as is consistent with town residence, and poverty of circumstances.

We had marked down several forcible passages from each of these pamphlets with an intention to extract one or more of them in the present article; but as they have all pretty much the same bearing, and as we have extended our critique on this subject to perhaps already an unwarrantable length, we must content ourselves with merely saying, that the particular cause espoused finds an able advocate in each of the writers before us. The pamphlet of Dr. Porter is avowedly of a popular cast, and by his self-imposed restriction the writer is prevented from philosophically engaging in the pathology of the febrile state, although he treats of the origin and course of fever: since, however, the former part of the present paper was written, we have met with some incidental observations of Dr. P's, in another publication, which so entirely coincide with our own sentiments on the essence and æteology of fever, and are so well expressed, that we cannot resist the temptation of transcribing the passage which contains them:—

"In typhoid fever, the cranial and spinal brains are primarily affected in their sensorial and locomotive function, by the direct influence of contagion, and some other acknowledged remote causes,

antecedent to vascular commotion; but in a subsequent stage of the disease, those organs not unfrequently suffer a further derangement, in common with many other parts of the body; having an increased liability, somewhat in the ratio of their more abundant vascularity: and here the essential cause of cauma rises up in typhus; and if I am not mistaken, this last stage of obvious cerebral lesion has been confounded with its less manifest primary derangement; and on these distinct conditions of cerebral disorders, contending pathologists have fixed their eye, when disputing on the efficient cause of idiopathic fever."

Dr. BROWN.—The different inferences that are drawn by different persons from precisely the same premises, is a very curious fact in the history of medicine. Some, as it has already been said, deny the specific nature and communicable property of fever, while others conceive such peculiarity and quality to be established with the force of almost absolute demonstration. Some talk with familiarity, and as a matter of every-day occurrence, respecting cutting short and preventing fever; while others, as in the instance before us, call in question the power of either doing one or the other. Of the three alleged sources of fever, says Dr. Brown, namely, a particular constitution of the material world, the vapour that is produced by heat and moisture, and a matter which is usually called contagion, our present ignorance is such as to prevent our controlling them; and with regard to the last principle, namely, contagion, it must be remarked that the knowledge of its source has been of late attacked in such a way as to lead us to entertain doubts whether our notions concerning it were correct. "We are, then, rather thrown back in this matter, and made to hesitate whether we really possess that degree of power of preventing contagion which we thought we had acquired." Contagious fever, continues Dr. B., has been conceived to be diminished by the establishment of hospitals to ensure the separation of the sick from the well; and the advantages of separation are so evident that it would be absurd to deny their existence; but to ascribe the cessation of epidemics to these sources, seems at the very least a questionable principle; nay, "in every instance (he says) on record or within our own memory, fever has ceased, although no fever-houses were provided, nor any extraordinary means employed." Dr. B. goes on to question whether a great deal may not have been taken for granted in the way of preventive measures, in reference to fumigation, airing apartments, &c.; and then enters upon the main object of the pamphlet, namely, to inquire whether we have just reason for giving credence to the doctrine of the curable nature of fever. His investigations have led him to a sceptical conclusion; and he presents his readers with several documents

in order to prove that, in the long run, it is of little consequence whether we use cold affusion, blood-letting, purging, or any other supposed agent in the cure of the disease, since they are all equally inefficacious to accomplish the object. We must assent, he says, for example, to the truth of the assertions, that the sick specified by the numerous advocates of blood-letting were relieved by this operation, and on that account we cannot withhold our assent to the usefulness of the practice of taking away blood in certain cases of fever. But the testimony carries us no further. The same witness brings evidence, which appears also irresistible, to convince us that the efficacy of this remedy is of very limited extent. They assure us that in a great many cases it did no good. One unsuccessful case counterbalances a considerable plurality of others, inasmuch as we know most assuredly that fever often disappears without the aid of venesection, or without the aid of medicine at all; nay, even under the application of remedies which the patronizers of venesection consider as certainly pernicious."

Dr. Brown, in order to establish his assumption that all imaginary curative measures stand upon the same footing in point of efficacy, presents his readers with several tables, in which the days of termination in fever are remarkably uniform, under a treatment considerably different; and he then concludes his pamphlet by the following remarks:—

"If these observations be just, the knowledge of them gives us very important advantages. While it does not oppose any obstacle to the farther investigation of the disease, or to the invention of more powerful means of cure, it teaches us to employ the means of relief which we do possess more extensively, with more certainty and more uniformity for the advantage of the sick. It hinders us from fixing our attention on one single view of the nature of the disease, the justness of which we must hesitate to acknowledge, and calls us to contemplate symptoms with more earnestness, and to direct our endeavours principally to the removal of uneasy sensations, and restoration of disordered functions. Hence we may be delivered from the fear of moderate blood-letting in diseases called putrid; of the prudent use of wine in those termed inflammatory; of the cautious employment of opium in all cases where its soothing operation can allay uneasy feeling; of heat, where the comfort of the patient is increased by it; and of cold, where it brings agreeable sensation along with it. Nor need we dread the stimulant and putrescent properties usually attributed to different kinds of food. In this respect we may safely abandon the patient, if not under delirium, to his own experience, or direct him more according to the principles of common observation, than according to rules of an uncertain philosophy."

For our proposed concluding remarks an extremely limited space is left.

First, then, as to the specific nature and identity of fever.

It appears to our judgment by no means satisfactorily made out that the disease we call typhus acknowledges any positive or exclusive cause; and it is, at the least, probable that different modifications of cold, that impure air, irregularities of diet, and even mental affections, may, under some circumstances of the recipient, prove equal to the production of genuine fever.

The fever thus engendered shall be communicable to another, exterior and internal circumstances being favourable to its production; but this power of communication is, comparatively with what has place in the specific contagions, so feeble, that febrile affections would never from such source be spread among a community without the aid of conjunctive influences: such influences being either an epidemic constitution of the air, acting exclusively, or in combination with deficient ventilation and cleanliness, irregularities in living, or mental anxieties.

Secondly, all theories hitherto proposed respecting the *modus operandi* of feбри-facient matter in bringing about its particular effects, fail in satisfactorily accounting for the phenomena which fever exhibits; certain it is that in every case of idiopathic disease, the sensorial functions are especially and peculiarly affected; but in what consists the essential and primary derangement in the organs subservient to such functions, is at present among the arcana of nature.

Inflammation, whether encephalic, visceral, organic, or cutaneous, is an exceedingly common concomitant of fever; but however speedily it may be engendered, it is invariably subsequent to the first shock, and is by no means absolutely essential to the disease.

Thirdly, as there is reason to doubt the specific nature of typhus, so may we fairly presume upon the uncertainty of the doctrine of critical days; or at least it may be supposed that mere fever does not necessarily commence, decline, and disappear with the same regularity of period, as those febrile derangements that are obviously and always excited by a specific virus, such as small-pox and measles.

Fourthly, it is probable that curative attempts of a vigorous nature, applied before the cycle of actions is completely established, may occasionally prevent their full formation, or, in other words, *cut short* fever. But this principle is not fixed with a force beyond what probability is capable of imparting to it. It seems, however, next to certain that both death and a protraction of ailments may at times be obviated by a judicious employment of remedial measures to counteract the severity of incidental symptoms. These measures are blood-letting, topical and general, purging more active or more lenient, emetics or nauseating doses of emetic substances, the partial

and general use of cold externally in a variety of forms ; refrigerant, diuretic, sudorific, anodyne, and stimulant articles of medicine and diet ; and the application of heat and other excitants to various parts of the external surface.

Lastly, much may be effected in the way of preventing the spread of fever, by checking indiscriminate intercourse between the sick and the well ; by an assiduous attention to individual cleanliness, and by ensuring as free a ventilation as possible in the apartment of the sufferer. There are nevertheless certain epidemic visitations which occasionally make their inroads in spite of precautionary measures, and which have hitherto proved invincible by the energies of man. It would seem, moreover, that efforts to guard against these irruptions of our physical enemies must, to be efficacious, proceed upon different principles from those which regulate the prevention of the absolute or specific contagions : the communicability of typhus, and perhaps of plague, being governed by somewhat different laws from that of measles and small-pox.

PART III.

SELECTIONS.

Some Observations on the Opinions of the Ancients respecting Contagion. By G. D. YEATS, M.D., Fellow of the Royal College of Physicians, &c. &c.

(From the *Quarterly Journal of Science and Arts*.)

[Continued from page 413.]

IN various parts of Diodorus's history, we find accounts of pestilential diseases as they occurred in different parts of the world, particularly among multitudes of people collected together for the purposes of war. A contagious pestilence broke out at Carthage at the time it was invaded by Dionysius, the tyrant of Syracuse. Diodorus, in his account of this pestilence, the symptoms of which he has described, particularly points out the infection and fatality produced by approaching the sick :—μετα δε ταῦτα διὰ τε τὸ πλεθος των νεκρων και το τοὺς νοσοκωμούντας ὑπὸ τῆ νόσῃ διαρπάζεσθαι, ουδείς ετολμα προσιέναι τοῖς κάμνοισι.

“ As the mortality caused by the disease was great, and as the attendants upon the sick were cut off by it, no one dared to approach the infected.—Again :

Καὶ γὰρ οἱ τοῖς κάμνοισι παρεδρεύοντες ἐνέπιπτον εἰς τὸν νόσον παντες ὥστε δεινὴν εἶναι τὴν συμφορὰν των ἀρρωσούντων, μηδενὸς θέλοντος ὑπηρετεῖν τοῖς ἀτυχουσιν, οὐ γὰρ οἱ μηδὲν προσήκοντες ἀλλήλους ἐγκατέλειπον, ἀλλ ἀδελφοὶ μὲν ἀδελφοῖς, φίλοι δὲ τῆς συνήθεις ἡναγκάζοντο προίεσθαι διὰ τὸν ὑπερ αὐτων φόβον.

“ For all took the disease who had close communication with the sick, so that wretched indeed was the condition of those who were diseased; every one being unwilling to assist them, for not only they, who were not bound by any tie of relationship, deserted each other, but brothers and friends were compelled to neglect their nearest relatives and companions, on account of their dread of the contagion.”

In various parts of the history of the Romans, by the Halicarnassian historian, we find accounts of pestilential fevers which spread havoc and destruction around; and we not only can discover that these fevers were infectious, by the manner in which they spread, but Dionysius expressly tells us, that they who touched, or lived with, persons so diseased, became infected. In the 451st year before the Christian æra, and about 300 after the building of the city, a contagious fever broke out in Rome—*Λοιμικὴ νόσος εἰς τὴν Ρώμην κατέσκηψε, μεγίστη των εκ τῶν προτέρων χρόνων μνημονευομένων υφ' ἧς οἱ μὲν θεράπωντες ὀλίγῃς ἐδεησαν ἅπαντες ἀπολεσθαι, των δὲ ἄλλων πολιτῶν ἀμφὶ τῆς ἡμίσεως μαλιστα διεφθάρησαν, ὅτε τῶν ἰατρῶν ἀρκούντων ἔτι βοηθεῖν τοῖς καμάτοις, ὅτε οἰκειῶν ἢ φίλων τᾶναγκᾶια ὑπηρετούντων οἱ χαρ ἐπικερεῖν ταῖς ἐτέρων βελόμενοι νόσοις, ἀπτόμενοι τε καματηρῶν σομάτων, καὶ συνδαιτώμενοι τὰς αὐτὰς ἐκείνοις νόσος μετελαμβάνον.* *Dionysii Halicarnassensis Historia.* Oxoniæ, 1704. p. 645.

“ The most pestilential disease ever remembered, brought destruction upon the city, by which almost all those affording assistance were cut off, and nearly one half of the other citizens were destroyed; neither were the Physicians able to attend effectually the sick; nor the friends and domestics to administer the necessaries; for they, who willingly attended others, by touching their diseased bodies, or dwelling with them, were seized with the same malady.”

Here we have both contagion and infection clearly stated; the former communicated by touching the diseased bodies, the latter giving disease to those who came within the concentrated sphere of its action. The miserable condition of the city during the ravages of this pestilence is pathetically described by Dionysius.—The stench from the unburied dead bodies, which were cast into the sewers, on the highways, and into the river, and again thrown by the tide upon its banks, contributed to maintain the disease by spreading the infection; for such was the desolation, that whole houses were deprived of their inhabitants by death. The contagion was carried into the country, where numbers perished; and the Æqui, the Volsci, and the Sabines, enemies of Rome, desirous of taking advantage of the distresses of the city, by invading it, received the infection, and carried destruction into their own habita-

tions. The yeomanry of the country were either destroyed, or paralyzed by the febrile infection; the ground remained untilled, and famine was added to pestilence.

Interspersed in various parts of Livy will be found histories of pestilential fevers, the infection of which, it is expressly stated, was spread by contact. About the year 389, A. U. C., a fever of this kind broke out in Rome.

“Grave tempus et fortè annum pestilens erat,” says Livy, “urbi agrisque nec hominibus magis quam pecori; et auxere vim morbi terrores populationis, pecoribus agrestibusque in urbem acceptis. Ea colluvies mistorum omnis generis animantium et odore insolito urbanos et agrestem confertim in arcta tecta æstu ac vigiliis angebat, ministeriaque invicem et contagio ipsa vulgabant morbos.” Lib. 3. c. vi. p. 47.

Again, in the account which Livy gives of the fever which broke out among the soldiers during the siege of Syracuse, a siege ever remarkable by the death of Archimedes, it is clearly stated, that contact of the sick propagated the disease.

“Accessit et pestilentia, commune malum, quod facile utrorumque animos averteret a belli consiliis, nam tempore autumnii et locis naturâ gravibus, multo tamen magis extra urbem quam in urbe intoleranda vis æstûs per utraque castra omnium fermè corpora movit, et primo temporis ac loci vitio et ægri erant et moriebantur, postea curatio ipsa et contactus ægrorum vulgabat morbos; ut aut neglecti desertique, qui incidissent, moriuntur aut assidentes curantesque eâdem vi morbi repletos secum traherent.” Lib. 25. c. xxvi. Carthaginians, Romans, Sicilians, all fell victims to the disease.

So prevalent indeed was the opinion of the contagious nature of pestilential fever or plague, that we find in medical writings, when the authors wish to represent the infectious nature of disease, they compare it to the plague. Thus Aretæus, one of our best and most accurate professional writers, in giving an account of the nature of Elephantiasis, and wishing strongly to impress on his readers the idea of its highly contagious nature, says,—ἀτερπὲς μὲν καὶ φοβερόν, θηρίῳ γὰρ ἰδέη, δεὸς δὲ ζυμβῶντε καὶ ξυνδιατᾶσθαι, ἔμειον ἢ λοιμῶν ἀναπνοῆς γὰρ ἐς μετάδοσιν, ῥήιδῃ βαφῇ. — Θεραπεία Ἐλεφαντος.

“It is a terrible and unsightly disease, putting on the appearance of the beast: there is great danger too in taking food with one so diseased, as much as with one afflicted with the plague, for the infection is readily caught by a reciprocity in respiration.”

Galen, too, in his first book, chapter iii. *De Febris*, not only alludes to, but directly asserts, the contagious nature of the plague; for he says, in strong language, there are none, possessing any understanding, who do not know that a pesti-

lential condition of the air will produce fevers, as also that it is very imprudent to have any direct communication with those afflicted with the plague, on account of the danger of catching it, in like manner as in the itch, or inflammation of the eyes—*καὶ μὲν δὲ καὶ ὅτι λοιμώδεις ἀέρος κατάσεις ηνεγκε πυρετον, εἰ δὲ τῆτο αγνοῶσιν, οἱς μέτεσι συνεσεως ὡσπερ γε καὶ ὅτι συνδιατρίβειν τοῖς λοιμωτοῖσιν ἐπισφαλές ἀπολαυσαι γὰρ κίνδυνος ὡσπερ ψώρας τινός ἢ οφθαλμίας.*

It may not be incurious to remark here, that ophthalmia is said to be contagious; and Aristotle asserts the same thing in the eighth problem of the seventh section. What is the reason, he says, that they who have close intercourse with persons labouring under the itch or ophthalmia, are seized with it?—*Διὰ τί ἀπὸ φθίσεως καὶ ὀφθαλμιάς καὶ ψώρας οἱ πλησιάζοντες ἀλίσκονται;*

The public are well acquainted with the discussion which has taken place respecting the contagion of that species of ophthalmia, which so sorely afflicted our army in Egypt.

In the sixth chapter of the fourteenth book of the history of Ammianus Marcellinus, where he describes the vices of the people of Rome, he alludes to a disease of a highly infectious nature, at a period of time about three hundred and fifty-three years after the birth of our Saviour. It appears to me to be almost impossible to say what the disease was, but it is sufficient to state that the account describes it to be so exceedingly infectious, that the servants sent to inquire after those who were ill, were ordered to undergo purification before they returned home. “*Et quoniam apud eos, ut in capite mundi, morborum acerbitates celsius dominantur; ad quos vel sedandos omnis professio medendi torpescit: excogitatum est adminiculum hospitale, ne quis, amicum perferentem similia, videat: additumque est cautionibus paucis remedium aliud satis validum, ut famulos percontatum missos quemadmodum valeant noti hâc ægritudine conligati, non ante recipiant domi, quam lavacro purgaverint corpus. Ita etiam alienis oculis visa metuitur labes.*” Here we have not only the dread of contagion being communicated from one individual to another, but precautions were taken to prevent the infection being carried by the clothes or person of a second individual to a third. Whatever particular condition or nature of disease “labes” may be supposed to mean, it is, nevertheless, perfectly clear that an infectious principle, communicable through the medium of another, was feared and avoided. Ammianus, however, in the fourth chapter of the ninth book, describing a pestilence which raged at Armida in Mesopotamia, when it was besieged by Sapor, king of Persia, A. D. 359, and in giving the different opinions which were held re-

specting the origin of pestilential diseases, makes the following observations, in which "labes" is evidently used as disease. Adfirmant etiam aliqui, terrarum halitu densiore crassatum aera emittendis corporis spiraminibus resistentem, necare nonnullos: quâ causâ animalia præter homines cætera jugiter prona, Homero auctore, et experimentis deinceps multis cum talis incesserit labes, ante novimus interire."

To the facts, which have been adduced from medical and historical writers respecting contagion, may be added the descriptions and opinions of the poets. The classical reader will feel a pleasing interest in bringing to his recollection the readings of his earlier days; and will, therefore, be gratified by the perusal of quotations from the writings of those authors whom he has probably often had in his hand. In the beautiful description from the first eclogue of Virgil, where he characterizes himself under the name of Tityrus, and the Mantuans under that of Melibœus, (who had been spoiled of their lands to enrich the followers of Augustus) the latter thus addresses him:—

Non insueta graves tentabunt pabula fœtas
Nec mala vicini pecoris contagia lædent.

Thus, as on a subject well known, Melibœus congratulates Tityrus that his cattle will not be exposed to the contagion of a neighbouring herd, as by the interest he had, through Mæcenas, with Augustus, he was permitted to retain his Mantuan property, and was not, therefore, obliged to remove his flocks to other and untried pasturage. In the third book of the Georgics, Virgil is still more explicit and clear respecting the contagious nature of disease in cattle, for he describes the symptoms of one becoming ill, and desires it may be immediately attended to.

———— Priusquam
Dira per incautum serpent contagia vulgus.

The other Roman poets of nearly the same period are equally descriptive and explicit in their accounts of pestilential diseases, as propagated by contagion, as we read in the pages of Lucretius, Ovid, Lucan, and Silius Italicus. I cannot avoid the pleasure of quoting, from the two former at least, their highly poetical descriptions. Lucretius, in his beautiful account of pestilential fever, unquestionably taken from the historical statement of Thucydides, evidently describes its infectious nature. Its malignancy and rapid propagation from one individual to another, by contagion, are unequivocally stated.

Quippe cum nullo cessabunt tempore apisci
Ex aliis alios avidi contagia morbi

Lanigeros tanquam pecudes et hucera sæcla;
 Nam quicumque suos fugitabant visere ad ægros,
 Vitæ nimium cupidi mortisque timentes
 Pœnibat paullo post turpi morte malâque,
 Desertos ope expertes Incuria mactans,
 Qui fuerant autem præsto contagibus ibant.

Ovid, in the seventh book of his *Metamorphoses*, gives an animated and highly poetical account of the plague which raged in the island of Ægina; and we find the symptoms and calamitous circumstances attending the disease similar to those as described by the masterly pen of Thucydides; we must therefore conclude that it is either a fiction of the poet's, as a copyist, or an account of a disease, similar to the Athenian pestilence, as it occurred in an island of the Grecian Archipelago. However that may be, the idea of the contagious nature of the pestilence is determined and unequivocal, clearly showing that the poet is stating an opinion generally received in his and the preceding times. After describing the calamitous havoc caused by the spreading of the disease, the fields and roads being strewed with the bodies of the dead, the air corrupted with the effluvia of the putrefaction, he adds, the contagion is thus spread far and wide:

———— * dilapsa liquescunt
 Afflatuque nocent et agunt contagia latè.

Human aid is of no avail, for the faithful attendant, in his solicitous care of the sick, by a near approach catches the contagion, and is thereby hastily hurried to his grave.

Nec moderator adest inque ipsos sæva medentes
 Erumpit clades, obsuntque autoribus artes;
 Quo proprior quisque est, versitque fidelius ægro /
 In partem lethi citius venit.

Instead, then, of having any doubts on the opinions of the ancients respecting the propagation of disease by contagion and infection, we have ample proof from the writings of their philosophers, physicians, and poets, not only of the existence of such an opinion, but of precautions taken to prevent the spreading of the infection. In the reading, however, which I have gone through, I do not recollect to have met with a passage describing any strictly precautionary means except in Ammianus Marcellinus. I am, nevertheless, inclined to believe, that by a deeper perusal of the ancient Greek and Roman authors, we should find that methods were adopted for preventing the communication of contagious miasma; not, however, with that philosophical accuracy and success which the improvements in modern science have produced. Many

* Scilicet Corpora.

works, besides those I have read, remain to be examined, as well as a more critical perusal of them; but what I did read was so much to the point, and so satisfactory, that it was unnecessary to proceed further.

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

SURGERY.

I. — *Inflammation of the Tunica Arachnoidea from external injury.* — A well-marked case of arachnitis, complicated with fracture of the cranium, has recently been described by Dr. Martinet*. The following is a succinct statement of its history.

A pavior, aged forty-three, received, on the night of the 6th of September, 1818, a blow from a stick upon the left posterior inferior part of the head; which was followed by a momentary loss of consciousness, and a discharge of blood from the left ear. Various other contusions were also inflicted.—7th. Pain very severe in the injured part, abdomen, and limbs; great thirst; nausea.—8th. Pain in the head continues. Sixteen leeches applied to each side of its posterior region.—9th. Loss of consciousness. Evening, limbs agitated; pain in the head constant.—10th. Profound coma; diminution of the sensibility of both sides; momentary agitation of the lips and both superior extremities, with more decided contraction of the left; eyelids paralyzed; trismus; stiffness of the neck, which was drawn backwards; pulse small and not accelerated; heat natural; respiration easy; tongue dry; abdomen free from pain; face not flushed; forehead warm; eyes bleary; extremities cold. Twenty leeches, with cupping-glasses, behind each ear. Antimonials; sinapisms to the feet at night.—12th. Coma more profound; sensibility farther diminished; superior limbs much less agitated, but beginning to fail; deglutition impracticable; pulse very frequent and feeble; heat augmented; respiration hurried and stertorous. At night, sinapisms to the calves; death.—*Dissection: Cranium.*—1. No trace of contusion on the hairy scalp; but ecchymoses about the left side of the occipital bone, sinciput, and right temporal, each several inches in extent.—2. Separation of

* Bulletin de l'Athénée de Médecine de Paris. — Bibliothèque Médicale, Février, 1819.

the occipito-temporal sutures, particularly the left, where, for some inches, it had taken place to the distance of a line and a half; simulating, at first sight, the appearance of a fracture.—3. Fissure of the base of the left petrous portion of the temporal bone, with rupture of one of the veins which traverse its internal surface.—4th. Fracture of the internal table of the squamous portion of the left temporal bone, near its union with the mastoid process.—5th. Effusion of coagulated blood, to the extent of some fingers' breadth, occupying the left inferior occipital depression, between the bone and detached dura mater.—6th. The sinuses and vessels of the arachnoid gorged with blood.—7th. The arachnoid membrane of the brain loaded with pus in the whole anterior superior region, and thickening of the membrane, which was yellowish, and formed a kind of cap: its posterior portion red, and covered with blood: drops of blood among the cerebral convolutions. The arachnoid of the base of the brain, of the cerebellum, and the portion investing the tuber annulare, loaded with pus, which escaped on pressure. Thickening of all these parts, and especially of the portion of membrane in the vicinity of the commissure of the optic nerves.—8th. Lateral ventricles filled with a yellowish limpid serum. About a spoonful of purulent serum on the section of the tuber annulare. Brain itself sound. Thorax and abdomen in the natural state.

II.—*Wound of the Thorax*.—Baron Larrey, on the 14th of January last, presented to the Faculty of Medicine*, the thorax of a soldier, who had died in consequence of a wound received in a duel; and which had completely traversed the cavity. The instrument had penetrated into the left region of the chest, between the first and second ribs, near the sternum, and had made its way out behind, in the vicinity of the cervical (posterior superior) angle of the scapula, between the second and third ribs. The sword, in its course, had divided the internal mammary artery; perforated the superior lobe of the lung; and cut, at its exit, the intercostal artery. Baron Larrey had, on the 9th day, been under the necessity of performing the operation of paracentesis; when about eight pints of a fluid, resembling wine-lees, were evacuated from the thorax. The man was progressively recovering, when, in the fourth month from the period of the accident, he died in consequence of a violent fit of anger, and the immoderate abuse of spirituous liquors. On *dissection*, were discovered inflammation of the heart and pericardium, and evident traces of the injuries above described.

* Bulletin de la Faculté de Médecine de Paris, No. I. 1819.

III.—*Rupture of the Venæ Cavæ.*—In a late Number of our Journal*, we noticed a case wherein the swallowing of a bone, followed by a violent inflammatory affection of the throat, and vomiting of blood, had produced death, and, on dissection, the œsophagus and corresponding part of the aorta were found perforated. A fact somewhat analogous to this, and equally interesting, has lately been recorded in another of the foreign journals†. A man, aged forty, experienced a very violent attack of angina, accompanied with cough and severe pains in the breast, in consequence of having swallowed a bone; the deglutition of which was effected with great difficulty. Ten days afterwards, he was seized with vomiting of blood, and died. On *dissection*, both of the venæ cavæ were found ruptured.

IV. *Hydatids contained in an abscess, consequent on chronic rheumatism.*—A French physician, Dr. Farradesche Chausse‡, has detailed a case wherein a tumor was formed by a collection of hydatids in the substance of the abdominal parietes, between the crest of the left ilium, the vertebral column, and inferior false rib. Inflammation spontaneously came on: the tumor burst, and gave issue to an enormous quantity of pus, succeeded by about six hundred hydatids of various sizes. After this the wound cicatrized, and the rheumatic pains completely disappeared.

V.—*Case of Lymphatic Tumor in the Inguinal Region*||. —A man, aged forty, employed as a servant in the naval hospital at Cherbourg, was bald, of a brown complexion, and bilious temperament, much addicted to spirituous potation, and had two years before suffered amputation of the left leg, for a caries of the ankle-joint, consequent on reiterated and neglected sprains. In December 1817, this man first perceived a tumor of the volume and figure of a nut, situated on the course of the femoral artery, about one-third from the summit of the left thigh. The tumor was hard, indolent, but little moveable; irreducible, and without pulsation. It was attributed to the pressure exercised by part of the apparatus connected with the wooden leg. Repose was directed, but not rigidly observed; and topical emollients and resolvers were alternately applied.

The swelling continued for three months to make a slow progress. It induced pain in the subjacent parts; assumed

* REPOSITORY, Vol. X. page 335.

† Journal complémentaire des Sciences Médicales, cap. 1.

‡ Recueil périodique de la Société de Médecine de Paris. Septembre, 1818.

|| Journal Universel des Sciences Médicales. Mai, 1819.

an oval and lobulated form; retained its hardness; and increased particularly in the superior direction. The employment of emollients was continued with the addition of narcotics.

On the 6th of June, when the patient was admitted into the hospital, the tumor had increased in every direction to the volume of two fists; involved the inferior lymphatic glands of the groin; was softened; and displayed an evident fluctuation. None of the indurated base, which commonly surrounds abscess, was here observed; nor did there exist any sign which could lead to a suspicion of aneurism. Soon afterwards the skin became thin, rose to a point, and menaced rupture. An incision now made in it gave issue to about ten ounces of limpid yellow serum, without smell or consistence. The parietes of the cyst never came together again. Its interior had a smooth aspect, and was divided into several cells. After three days, the discharge, which was poured out in abundance, contracted, notwithstanding the frequency of the dressing, a strong urinous odour: while the borders of the orifice became livid, and fell, with the subjacent cellular structure, into gangrene. From hence resulted a vast putrid chasm which gave issue very copiously to a fluid resembling urine, spontaneously decomposed. This cavity soon extended beyond the crural arch into the abdomen. The patient even asserted that he felt the fluctuation of a liquid contained in an interior cavity. Yet there existed no alteration in the alvine discharges, nor any phenomenon, local or sympathetic, indicating lesion of the urinary organs. The diseased thigh was scarcely increased in volume. The circulation and sensibility were unimpaired.

Still, in August, the general health was farther deranged. The thirst became urgent and habitual; and hectic fever was developed. Marasmus, meanwhile, made rapid strides, and some lancinating pains only were felt. Notwithstanding the greatest attention to cleanliness, the sanies excited in the integuments around the sore a violent smarting. The cyst filled from fifteen to twenty times a day; and at its external part the femoral vessels were seen denuded. The pulsations of the artery menaced every moment the eruption of fatal hæmorrhage: and the uncertainty respecting the condition of the external iliac was opposed to the only operation capable of preventing such an issue; the application of a ligature to that vessel.

About midnight on the 6th of September, the patient awoke weltering in his blood. The hæmorrhage was arrested by pressure; but the man was so completely exhausted by it, that he died in four hours after the accident,

Dissection of the body did not justify the suspicions which had been entertained respecting a disease of the urinary organs. The kidneys, and other abdominal viscera, were healthy. The mesentery displayed but some very small glands in a state of congestion. The sinus, which extended beneath the crural arch, was not more than two or three inches deep, and arose from the suppuration of the lymphatic glands of this region. The surface of the sore was granulated, and allowed the projections of the muscles, vessels, and nerves, to be seen. All these parts were covered with a substance resembling, in colour and consistence, the cortical portion of the brain, or the matter which is found upon wounds affected with hospital gangrene. Some hours after death, a sweetish, and, as it were, ethereal odour, exhaled from it. The femoral artery was whole; but had lost one-third of its diameter; and its parietes were thickened. The vein was in a very singular state. Two inches below the tumor it was contracted, and filled with a brown, dense, and fibrous substance. In all its parts corresponding to the ulcer, the parietes of the vessel were thickened, softened, and covered with grey matter. Several longitudinal ulcerations, in the form of fissures, opened a communication between the sanious cyst and the cavity of the vein, which, in the corresponding places, had the same aspect as the surface of the cyst. Above, the vein, very considerably contracted, was still filled by the brown fibrous substance which united the anterior and posterior parietes of the vessel in the same way that the opposed surfaces of serous membranes are connected by those of adventitious formation: and, as far as it is possible to judge from analogy, the adhesion appeared from its solidity to be of about two months' date. This disposition extended to the point of confluence of the primitive iliac veins, and terminated abruptly. It was propagated into the principal branches, particularly the hypogastric vein, so that the return of blood could only be effected by the anastomoses of the smaller venous branches with those of the opposite side in the pelvis, or by the lumbar veins of the same side. The vessel from which the hæmorrhage had proceeded was clearly made out to be the *arteria profunda femoris*.

Inquiries relative to the cause of the disease afforded no satisfactory result. The patient had suffered formerly from venereal affections, for which he had been methodically treated, without ever experiencing any relapse. A caustic issue had been established at the inferior part of the thigh; the irritation of which might have been the cause of sympathetic enlargement of the lymphatic glands; but could not have possibly had any share in the production of the other symptoms.

MIDWIFERY.

VI. *Dropsy of the Amnios, requiring premature delivery.*—Although facts of this description do not possess the boast of novelty, the case which we are about to notice will doubtless be read with interest, as affording an useful contribution to the materials of the systematic pathologist, and illustrating the safety and propriety of the treatment, by which it was brought to a successful issue*.

A lady, aged 25, of weak and lymphatic constitution, was seized, in the seventh month of her sixth pregnancy, with dry and frequent cough, which disturbed her at night. To this were added fever, intense thirst, dry skin, scanty and lateritious urine, œdema of the lower extremities, loss of colour, and sleeplessness. Soon afterwards, the abdomen became hard, tense, painful, and much enlarged; and the respiration so tight and laborious, that the patient could no longer rest in the horizontal posture. Hiccough, palpitations, almost incessant vomiting, rending pains in the kidneys, cessation of the motions of the foetus, anxiety, faintness, and aphonia ensued. On examination in this deplorable state, Dr. Duclos recognised excessive distention and elevation of the uterus. This organ seemed to occupy the whole abdominal cavity. Its orifice was directed backwards, and towards the base of the sacrum; and the fluctuation of a liquid in its cavity was evident. A consultation was instantly called. The pulse was then small and weak; the face shrunk and dejected; respiration short and hurried; and suffocation seemed impending on any change of position. The nature and peril of the case were unanimously agreed on by the consultants; and premature delivery, while acknowledged to be full of danger, was indicated as the only resource. Yet some diversity of opinion, as to the best means of inducing labour, existed. How, in fact, it was inquired, was the dilatation of the uterine orifice to be effected, in its present high and unfavourable situation? Extraordinary efforts, such as might prove fatal to the patient in her exhausted state, would be evidently requisite for this purpose. Hence the attempt was denounced by Dr. Duclos as imprudent and dangerous until labour should have commenced: an event which the extreme distention of the uterus would probably soon determine. The consultation was therefore adjourned till the next morning; and meanwhile small quantities of broth and wine were frequently administered, but as often rejected by vomiting.

On the morrow, the situation of the patient being still more

* Bulletin de la Faculté de Médecine de Paris, 1818, No. IX.

desperate, the question of artificial delivery was again discussed; and it was decided to wait till the os uteri should evince a tendency to dilatation. The patient now received the sacrament, and soon afterwards sank into a state of syncope; on recovery from which, incipient dilatation of the uterine orifice was perceptible. Fluctuation, on striking the abdomen, was distinguished in all its regions. Observing a return of the suffocation, Dr. Duclos determined on immediately rupturing the membranes, and evacuating the liquor amnii at four several times, with an interval of fifteen minutes between each. With his finger introduced into the os uteri, he regulated the evacuation; while the process was seconded by the pressure of a napkin encircling the abdomen. In this manner fourteen pounds of fluid were discharged, independently of that which escaped beside the basin. The vomiting immediately ceased, and respiration was relieved. During five hours of subsequent repose, the strength was recruited by frequent administration of broth and wine. The cough and palpitations nearly disappeared; but as the uterus seemed to be no longer capable of making an effort, the termination of delivery was resolved upon. The uterine orifice, thin and unresisting, was readily dilated. On penetrating into the cavity, the vertex of the child, and umbilical chord, were found above the superior aperture of the pelvis. The head was small, and placed diagonally, with the forehead backwards, and to the right of the sacro-vertebral angle. Thus the head was readily grasped; engaged diagonally in the pelvic cavity, and ultimately delivered as in natural labour. The child, a female, though living, was puny and feeble, with very slender limbs. Its eye-lids were closed; and it uttered a weak cry. From the calculation of the mother, it had nearly attained the seventh month. After having been fed for some days with sugar and milk, the child was put to the breast. The alvine discharges were at first scanty: and, at the end of two years, although lively, she was scarcely so large as a seventh months' foetus; and the process of dentition had not, at that period, commenced.

Immediately after delivery, the bandage round the patient's abdomen was somewhat tightened; and an attempt made to excite the action of the uterus by external frictions, and titillations of the orifice of the organ, and occasional exhibition of broth and wine. These means, however, proving inadequate to the expulsion of the placenta, it was readily detached by the hand; and, except that it was very small in proportion to the size of the membranes, presented no unusual appearance. Compresses, moistened with brandy, were now applied to the abdomen; and some hours of refreshing sleep sufficed to dis-

sipate completely the hiccup and palpitations. The lochia were abundant, and almost serous. The flow of urine, on the following day, copious; and the fever and cough entirely gone. On the 3d, the œdema of the extremities had considerably diminished, and the secretion of milk taken place favourably. The œdema no longer existed on the 10th; but the lochia continued to flow till the 15th. In six weeks the patient was quite restored. At the end of about two years she again became pregnant, and went through the process of parturition very favourably.

BOTANY AND CHEMISTRY.

VII.—*Natural and Chemical History of the Indian Berry* (*Menispermum Cocculus*, of Linnæus).—The shrub which bears the Indian berry is the *Menispermum Cocculus*, belonging to the class Diœcia, and order Dodecandria, of Linnæus, and the natural family of the *Menispermoides*, of Jussieu. It grows naturally in the sand, among the rocks on the coast of Malabar, and the island of Ceylon, and other parts of the east; and is frequently found twining round the trunks of large trees, and climbing to their highest branches. The berry is of a grey or blackish colour, equal in volume to a large pea, wrinkled, round, or sometimes reniform, with a fissure on the side, and contains within a tough and ligneous envelope, a whitish fragile kernel, bilobulated, of a bitter acrid taste, and nauseous disagreeable smell*.

* The Indians employ the whole of the plant to destroy corns and warts. For application, it is mixed up with ginger and grease; or they receive the smoke of it while burning. Its root constitutes with them the universal panacea. With the berries, gathered yet unripe, the natives form, by the addition of garlic, pepper, and human excrements, boles of the size of a cherry, with which they catch fish. The berry is also used to take various kinds of birds and quadrupeds. Fish, however, taken by these means, becomes speedily putrid, and operates as a poison when received into the human stomach, especially if kept for some time previously to being cooked. The elaborate Gmelin, of whose work we have here availed ourselves, gives a tolerably accurate botanical description of this species of *menispermum*, and, after noticing the poisonous effects of the berry on fishes, birds, and the larger quadrupeds, adds, "In cats and dogs its internal employment excites spasms and convulsions, which sooner or later terminate in death. In the human subject it produces piles, and sometimes nausea and fainting. But an example of its fatal effects is not to be found in any reputable writer." *Allgemeine Geschichte der Pflanzengifte*, pp. 513, 514. It is singular that Orfila, who appears, in many instances, to have copied from the descriptions of Gmelin, never once makes mention, in his celebrated work, the "General History of Poisons," of the accurate and laborious German.—EDITOR.

By some persons the deleterious properties of the Indian berries have been denied; but, as M. Boullay has judiciously observed, a substance, so powerful as to destroy the larger animals, must necessarily possess no inconsiderable activity: and in 1812, at the recommendation of Professor Chaussier, this distinguished chemist undertook to determine the nature of the principles which enter into its composition. From the analysis then published*, we learn that the seed of the fruit, separated from the ligneous envelope, in which it is enclosed, contains: 1st, about half its weight of a fixed concrete oil †; 2d, a vegeto animal albuminous substance; 3d, a peculiar colouring matter; 4th, a bitter principle, crystallizable and poisonous, to which M. Boullay has given the name of *picrotoxine*; 5th, a fibrous part; 6th, malic acid, probably in the state of acidulous malate of lime and potash; 7th, sulphate of potash; 8th, muriate of potash; 9th, phosphate of lime; and, 10th, a small proportion of iron and silex.

From a comparative examination of picrotoxine and morphia, Boullay observed, that both possess equally the property of combining with acids, and thus forming real salts. This analogy has induced him to resume his experiments; and to his labours on this subject ‡, the study of the saline combinations of picrotoxine, and the discovery of a peculiar acid with which this principle is united, import no common interest.

The aqueous decoction of the berry of the *menispermum cocculus*, treated with acetate of lead, furnishes a copious precipitate. On diluting this precipitate with distilled water, and supersaturating it with sulphureted hydrogen, an acid, differing from all other known acids, is obtained: and this, it is proposed to call, from the substance yielding it, and from the probability of its being found in other species of the *menisperma*, *menispermic acid*. This acid is incrySTALLIZABLE. Its characteristic properties are the following: 1st, It does not act on a solution of proto-sulphate of iron; 2d, It instantly determines in a solution of the deuto-sulphate a very considerable deep green precipitate; 3d, It forms a copious precipitate with a solution of sulphate of magnesia. The acid may also be procured by pouring nitrate of barytes into a de-

* Analyse Chimique de la Coque du Levant, Paris, 1812.

† This substance, obtained by bruising the nut, resembles in a certain degree the fat of animals; has a bitter taste; and a smell analogous to that of cantharides.

‡ Dissertation sur l'Histoire Naturelle et Chimique de la Coque du Levant (*menispermum cocculus*); examen de son principe vénémeux, considéré comme acid vegetal et d'un nouvel acid particulier à cette substance; par P. F. G. Boullay, Pharmacien, &c.

coction of the berry. Thus an insoluble menispermate is obtained; which may afterwards be decomposed by sulphuric acid.

After the trial of numerous experiments for procuring the picrotoxine, M. Boullay has adopted the following process, which he describes as being the best and most certain, whenever it is an object to collect, at the same time, the menispermic acid. This process consists in boiling in water the seeds, either previously to or after having separated the concrete oil, and slowly evaporating it to the consistence of syrup. This is afterwards to be triturated with a twentieth of its weight of barytes or pure magnesia. The mixture, after having stood for twenty-four hours, is to be dissolved, by a gentle heat, in rectified alcohol. The spirit is then to be evaporated to dryness, and the product to be redissolved in fresh alcohol. This, when reduced to a small volume, yields, on cooling, the greater part of the bitter crystallized principle, more or less coloured. It may be purified by repeated solutions in alcohol.

Picrotoxine, when perfectly pure, is inodorous, intolerably bitter, white, shining, semitransparent, crystallized in needles, distinguishable by the microscope as real quadrangular prisms. It is soluble in water and alcohol: its solubility is increased by warmth. The mineral acids act decidedly on it, only by the assistance of heat. The salts which it forms, are difficultly soluble, with the exception of the nitrate, which is, moreover, extremely bitter. The vegetable acids, particularly the acetic, dissolve it readily. The salts formed by them are also soluble. Analysis by fire demonstrates in it no trace of ammonia.

At the period of his first publication, M. Boullay merely suspected the presence of a saccharine matter in the Indian berry. Now, however, he declares himself to be assured of the existence of this principle, in the following manner: 1st, By treating with nitric acid, part of the extract resulting from a decoction of the berry deprived of its picrotoxine, he has obtained the malic acid; 2d, On diluting with water another portion of this extract, adding a small quantity of sugar, and placing the mixture for some days in a stove, fermentation was manifested; the liquid became turbid, and covered with scum. Yet, as on distillation, it yielded no appreciable quantity of alcohol, some reasonable doubts may be surely entertained as to the existence of any saccharine principle in the berry of the *menispermum cocculus*.

We may here, although obviously not quite in place, offer a cursory sketch of M. Boullay's observations on the *symptoms*,

effects, and treatment of poisoning by picrotoxine. Ten grains of this substance, incorporated with crumb of bread, were given to a young dog. In twenty-five minutes convulsions came on, followed by a whirling motion which continued a quarter of an hour. The animal then fell upon his side, experienced convulsive motions, and died at the end of forty-five minutes. On dissection, the stomach, which was full of food, displayed, for the compass of an inch around the œsophageal orifice, decided traces of inflammation. The membrane of the stomach was of a red colour*. The treatment, in the first instance, should be mainly directed to the expulsion of the poison from the stomach. After this, such remedies as will most effectually obviate or reduce inflammation may be advantageously employed.

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

ABSTRACT OF THE ANNIVERSARY ORATION DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON, ON THE 8TH OF MARCH LAST, BY T. J. PETTIGREW, SURGEON.

MR. PETTIGREW commenced his oration by expressing his surprise, that, considering the frequency of the occasion on which the Physician or Surgeon is called upon to give evidence in a court of judicature, and that no less than the life of an individual, the forfeiture of his property, or the confinement of his person, are principally dependent upon the testimony of the professional witness, so little attention should have been paid to forensic medicine in this country. "There is not," he observed, "a single Course of Lec-

* This fact, perfectly accordant with the observations of Dr. Goupil, of Nemours, is contradictory to those of Professor Orfila; who, in his experiments on animals with picrotoxine, asserts, that he has never found, after death, any sensible alteration in the membranes of the stomach. Two facts, when correctly observed, do not, however different, destroy each other. Yet if picrotoxine do not really induce inflammation of the gastric mucous membrane, why has it been classed by Orfila among the narcotico *acrid* poisons, of which one of the characters is, according to his own admission, a *rubefacient* action? A contradiction, thus glaring, would seem to decide the question in favour of Boullay. — Journal Universel des Sciences Médicales. Avril, 1819.

tures, either of a public or a private nature, delivered in this metropolis upon this interesting branch of inquiry. Few, very few works have been written respecting it in our language, and those merely of an elementary kind: the advocate is entirely at a loss where to seek for information, by which he may institute such inquiries as are necessary to the correct appreciation of the merits or demerits of the cases in the investigation of which he may be engaged, and to the determining of the validity or vagueness of the criteria which may be stated upon medical testimony. The attention of the medical student, not having been directed to this branch of science, unassisted by those publications which might enable him duly to appreciate its importance, and correctly to estimate the cogency or insufficiency of his opinions, is placed in the most embarrassing circumstances when called upon to give his evidence.

Dr. Haslam has justly observed, that "the important duty which the medical Practitioner has to perform, when he delivers his testimony before a court of justice, should be *clearly defined, conscientiously felt, and thoroughly understood*: his opinions ought to be conveyed in a perspicuous manner; he should be solemnly impressed that he speaks upon oath, the most sacred pledge before God between man and man; and that the life of a human being depends on the clearness and truth of his deposition." In the first Section of the Introduction to the Commentaries of the Laws of England, Sir W. Blackstone has expressed an opinion that the study of the law is not of more importance to medical men than to any other class of society. The learned Judge, Mr. P. conceived, was probably led to make the above observation in consequence of the exemption of medical men to serve on juries or inquests; or to undertake parochial offices: but it will be found that Physicians and Surgeons are frequently called upon to perform duties which require not only a knowledge of the principles of jurisprudence, but of the forms and regulations adopted in our courts of judicature.

The advice of the medical attendant is occasionally required in cases of sudden emergency, respecting a last will and testament. This is admitted by Sir Wm. Blackstone. It is therefore necessary that the Physician or Surgeon should be acquainted with the laws relating to the transfer or alienation of property either *personal* or *real*; with those relating to the incapacity of persons afflicted with madness, idiotcy, dotage, &c.; for making bequests and disposing of their property; and on this subject they will sometimes be required to give solemn judicial evidence. They should also be familiar with the laws relating to *nuncupative* testaments, or that which depends merely upon oral evidence, being declared by the testator *in extremis* before a sufficient number of witnesses, and afterwards reduced to writing. If it be important, continued Mr. P., for medical men to possess a certain knowledge of law, its forms and regulations; it is no less necessary for the lawyer to obtain some portion of medical information. To know the healthy from the diseased structure; to be acquainted with the several operations of the animal economy;

the probable effects of different acts of violence that may be committed on the various organs of which the body is composed; the morbid appearances produced by the taking of poisons, &c.

To Coroners, in particular, this knowledge is of the greatest consequence, the possession of it would enable them to make a proper examination of the medical witnesses, upon whose judgment the nature of the verdict almost invariably depends, and it would lead them to attach a due importance to speculative or practical opinions, and qualify them for correctly charging a jury. The persons who usually compose inquests and juries have not, and cannot be supposed to possess, any acquaintance with the operations of the animal economy: they are, therefore, necessarily directed by the presiding legal officer.

The Germans and French have paid the greatest share of attention to forensic medicine, and their Professors have published some valuable treatises on the subject: generally speaking, however, they are but ill adapted to the jurisprudence of this country. Medical jurisprudence, legal or forensic medicine, or, according to the Germans, state medicine, divides itself into two principal branches. First, That which relates to judicial cases; and, secondly, That which relates to the preservation of the health of the community.

The first division (to which Mr. P. confined himself in this oration) may be regarded as it relates either to the criminal, civil, or ecclesiastical courts.

The cases cognizable in the criminal court may be arranged under the following heads:—

1. Poisons, animal, vegetable, mineral, and gaseous.
2. Wounds and contusions.
3. Apparent death from drowning, hanging, suffocation, intoxication, lightning, excessive cold, lethargy or apoplexy, catalepsy, epilepsy, trances, &c.
4. Abortion.
5. Infanticide, and concealed birth.
6. Rape.

II. Those which belong to the civil court are:—

1. Insanity.
2. Idiocy.
3. Pretended or assumed diseases.
4. Imputed diseases, consisting of impotence, lues venerea, fits, insanity, fatuity, pregnancy, pretended and retarded delivery.

III. Those which belong to the ecclesiastical court consist of:—

1. Questions relating to marriage.
2. Impotence.
3. Hermaphrodites.

That the orator should enter into detail upon a subject involving so many points for consideration, in the course of time usually allotted to anniversary orations, could not be expected. He therefore confined himself to those points which he regarded as some of the principal desiderata relating to this interesting branch of inquiry.

Poisons, Mr. P. remarked, have of late years been much and success-

fully attended to. The labours of the Naturalist, the Chemist, and the Physiologist, have been equally exerted to advance this branch of human knowledge. Certainly there are but few subjects more worthy the attention of the Philosopher; to which his researches may be directed with so much advantage to mankind, whether regarded as affording admonitions of danger, as supplying us with the means of averting or remedying serious disorder, or enabling us to detect crime of the most heinous description. It is to the laborious researches of M. Orfila that we are principally indebted for the information we possess on this subject. By a well contrived series of experiments, he has arrived at the most important conclusions. He has described in the most masterly manner the physical and sensible characters of poisons in their natural state, and has explained the chemical properties of each of these substances. He has not only detailed the phenomena presented by the action of a great variety of chemical tests, but he has also shown the differences which the poison, when mixed with alimentary matter of various kinds, presents when examined with the same tests, and the changes effected on the poisonous substances by its admixture with the biliary and other secretions. His researches are exceedingly valuable, as they relate to the antidotes to the deleterious effects of poisonous matters. This knowledge has been derived from experiments upon animals, in several instances confirmed in their results by trials on the human species. He has also pointed out the best methods of detecting the nature of the poisonous substance, whether in its natural state or mixed with any extraneous body. To the juridical Physician his labours are of the highest value, for he has enumerated those symptoms which distinguish acute poisoning from other diseases, showing the variations of those symptoms, according as vomiting shall or shall not have taken place, and determining the degree of confidence which ought to be attached to the experiments in which animals are made to swallow the matter vomited by the patient suspected of being poisoned. He has detailed the manner of proceeding in the opening of bodies suspected of having been poisoned; and has shown the importance that ought to be attributed to the lesions of texture produced by the different classes of poisons; the different states of these lesions in bodies already corrupted, and in those examined shortly after death; whether the poison has been taken during the life of the person, or has been introduced after death.

From this slight sketch of the objects of M. Orfila, the importance of his work, in a juridical point of view, will be evident; but, although much has been effected by this learned Physician, still much remains on which it is desirable we should have information.

Poisons are derived either from the animal, vegetable, mineral, or aerial kingdoms. They may be taken into the stomach by the mouth; into the lungs through the medium of the air; into the bowels in the form of clyster, or into the circulation by means of the absorbent system, conveying them from the skin when applied to it in the form of ointments. They appear to act chemically and mechanically.

Upon being called to an individual who is said to have taken poison, the first point of attention should be to ascertain the kind of poison taken, and the manner and vehicle in which it was taken, whether before or after a meal. The kind of food last partaken of should be examined as to whether any mineral, vegetable, or animal matter of a deleterious nature should be mixed with it; whether it possesses any peculiarity of taste or smell. It has been recommended to give a portion of it to a dog, or other animal, to ascertain its effects; but this will afford no certain criterion, as that matter which is poisonous to man, may not be so to brute animals. Goats feed readily upon hemlock, which to man is poisonous. Corrosive sublimate, which to man is a poison of the most violent kind, when taken to the extent of a few grains only, may be given to a horse in the large quantity of an ounce without injury. Dogs are said to be capable of bearing, with impunity, a larger quantity of this drug than man. On the contrary, aloes, which can be taken by the human species in considerable quantity, when given to dogs and foxes in a very small portion, speedily proves fatal.

Many symptoms in common with those arising from the taking of poison, such as vomiting, purging, swelling of the abdomen, griping, eruptions on different parts of the body, &c. may be produced from having eaten of bread composed of grain, ergot, mildew, &c. From peculiar idiosyncracies of constitution, many persons are affected in a similar manner by eating several species of fruit, &c. All these symptoms must be distinguished from those which arise from the presence of poison. The matter vomited should be preserved for chemical examination; and should the case terminate fatally, the whole of the contents of the stomach, and other abdominal viscera, should be carefully preserved. The stomach in particular should then be minutely examined; also the whole of the intestinal canal; and should no particular appearances present themselves, the heart and its large vessels, the brain, and other viscera, should be attentively examined. It is well observed by Dr. Male, in a late publication of Forensic Medicine, that "unless all the different viscera are examined, a jury should cautiously decide how far surgical evidence is to be deemed satisfactory and conclusive. We should be careful not to give an opinion that a person has been poisoned, without being able to produce irrefragable proof of the fact."

When the mucous coat of the stomach detaches itself easily from the muscular, so that it and the serous coat remain perfectly isolated, Hebenstreit and Mahon regard this appearance as an infallible proof of poison. M. Orfila confirms this remark, as it respects the *corrosive poisons*. These poisons consist of the preparations of mercury, antimony, copper, tin, zinc, silver, gold, bismuth, the concentrated acids, the caustic alkalies and their earths, the muriate and carbonate of barytes, and cantharides. They are not all, however, capable of producing the same train of symptoms. In certain cases, the poison is absorbed, and carries its fatal action to the brain, the heart, and other organs. In some instances, it is the corroded mem-

branes of the stomach which act by sympathy on these organs, and suspend their functions, without any absorption taking place. In other circumstances, which very rarely occur, death is the consequence of inflammation of the stomach, irritated by these poisonous substances. Mr. P. then enumerated the symptoms produced by this class of poisons. The whole of these, he observed, were not to be expected in every case of poisoning by corrosive substances. Excruciating pain is, perhaps, one of the most constant; yet even this he has known to be absent in a case to which he was called during the last year. The subject of it was a young man, nineteen years of age, who swallowed at least an ounce of the white oxyde of arsenic at nine o'clock in the morning, and who expired at four in the afternoon. Sickness; thirst; small and quick pulse; coldness of the body, and particularly of the limbs, the skin of which was of a violet colour; great secretion of saliva; were the symptoms under which he laboured. He did not complain of any degree of pain, nor did he appear to experience any upon pressure on the region of the stomach, or on the abdomen. A few minutes before his death, he placed his hand upon the scroticulus cordis, and complained of a sensation of heat. His sensorial functions were not in the least degree disturbed. Upon examination of the body, the stomach was found in a high state of inflammation, and the mucous easily separable from the other coats of the stomach; it was studded with small particles of the metallic poison, and was very much altered in its texture, being of a pulpy nature. The duodenum was also highly inflamed, and different portions of the intestinal canal. A case of poisoning by arsenic, unattended with pain, is reported by Dr. Laborde, in the *Journal de Médecine*, Tome LXX, p. 89.

Mr. P. regarded it as a great desideratum to be able to point out the lesions of texture, their seat, extent, and character, especially attributable to the different kinds of poison. Those produced by corrosive sublimate are as yet not to be distinguished from such as result from other species of corrosive poison. The lesions of texture produced by arsenic, are generally such as result from inflammation of the mouth, œsophagus, stomach, and intestines. The stomach and duodenum are frequently affected with gangrenous spots, studded with dark coagula, resembling sloughs (but not really such, as is shown by Mr. Brodie, in the *Phil. Trans.* Part I, for 1812), and the mucous coat of the stomach is reduced to a reddish brown pulp. Other visera often present marks of inflammation.

The orator then proceeded to notice those lesions of structure attributable to poisoning with the various kinds belonging to the first class, noticing particularly those arising from antimony, copper, tin, zinc, silver, gold, bismuth, the concentrated acids, the alkalies, and cantharides. The other classes of poisons were then examined in a similar way, and the lesions of texture produced by these enumerated. Mr. P. dwelt thus long on the subject of poisons, because the medical Practitioner is most frequently called upon to give his testimony respecting them. A review, he remarked, of what had been said, would clearly evince the great difficulty that exists in determining whether

an individual has been poisoned, and if so, to what class the poison ought to be referred. The symptoms in common to many diseases are similar to those which arise from the taking of poison. Many cases on record will justify this assertion. The lesions of texture found after death, in many cases of indigestion, cholera morbus, and some other affections, also resemble those witnessed in the examination of the bodies of persons poisoned. It is, therefore, of the highest importance carefully to note every symptom, and to compare the same with the morbid appearances that may afterwards be ascertained to exist. There is occasion to fear, that for want of this knowledge, some individuals have been condemned upon insufficient testimony. It has been shown, by the celebrated J. Hunter, that the stomach of persons dying from hunger, or from any other cause, in a very sudden manner, is frequently found dissolved or eroded in various parts. Perforations in this organ have been met with in cases where there could not be any reason for attributing them to the having taken of poison. Thus, (he concluded,) it is evident that by the aid of *chemical means*, in order to detect the nature of the substance taken; of *pathology*, to examine into and discriminate the character of the symptoms; and of *pathological anatomy*, to trace the connexion between these and the appearances on dissection, that we can hope to arrive at any precise or satisfactory knowledge of the subject on which we may be called upon to deliver a most serious opinion. On the subject of wounds Mr. P. remarked, that it was not necessary for him to speak at length, since, happily, the law looks to the intention, rather than to the effect produced. He alluded to the difficulty of establishing criteria to distinguish wounds whether mortal, probably or accidentally so, or otherwise. The subject of asphyxia, or apparent death, came next under observation, and the variety of causes producing this state noted. To distinguish apparent from real death, numerous methods, he observed, had been contrived; but it is now generally admitted, that nothing short of the commencing appearances of putrefaction can be considered as a satisfactory distinction. To ascertain whether the vital spark be extinct, or merely dormant, is, indeed, a matter of the highest importance: it behoves us all not to consign to the grave those who appear to have expired suddenly, until such means as are recommended to be adopted in these cases have been persevered in for a considerable time. Examinations of the bodies of persons who have died from the causes mentioned should in all cases be made; they will lead to the best result. In cases of the drowned, the heart, and the right side in particular, is found loaded with dark coloured blood; the lungs are livid and distended with dark blood; there is a frothy effusion often of a pale red colour in the bronchia. Hebenstreit states, that the diaphragm in these cases is found bent towards the abdomen: this cannot possibly be true, as a drowning person continues to expire some time after he has ceased to inspire. In those who die by a stroke of lightning, the blood loses its power of coagulating. This, in a lesser degree, is the case with the drowned.

Infanticide and concealed birth forms one of those unhappy cases

which frequently demands the presence of the medical Practitioner in a court of justice. Every man of feeling will revere the memory of Dr. Hunter for having written the paper on this subject, inserted in the Med. Obs. and Inquiries. That humane Physician possessed extensive opportunities of knowing intimately the female character. To use his own words, he had seen the private as well as the public virtues, the private as well as the more public frailties of women, in all ranks of life. He had been in their secrets, their counsellor and adviser in the moments of their greatest distress in body and mind. He had been a witness to their private conduct, when they were preparing themselves to meet danger, and had heard their last and most serious reflections, when they were certain they had but a few hours to live. That knowledge of women had enabled him to say, though no doubt their will be many exceptions to the general rule, that women who are pregnant, without daring to avow their situation, are commonly objects of the greatest *compassion*; and generally are less *criminal* than the world imagine. The evidences of guilt in these cases should be most circumspectly examined. Those usually stated as such by medical men can be little depended upon. Prejudice operates but too generally against the unfortunate. Mr. P. then adverted to the several inquiries necessary to be made in these cases, and having shown the extreme vagueness of several of them, Mr. P. passed on to the consideration of medical jurisprudence, as it relates to insanity, which belongs to the civil as well as the criminal courts. On this important head Mr. P. brought forward the opinions of Sir Matthew Hale, Lord Erskine, Dr. Haslam, and some other eminent writers, and then concluded the oration with a few remarks on that branch of police which relates to the establishment of houses for the reception of the insane, and on the economy of which the probability of the recovery of the patients confined within their walls must materially depend.

The late parliamentary investigation, he observed, had brought to light the existence of numerous abuses shocking to humanity; and although it had not hitherto excited a correspondent degree of activity on the part of the legislature for their removal, yet its results cannot but be attended with the most beneficial effects.

“As no greater trust can possibly be reposed in any individual than that which is confided to the keeper possessing absolute authority over a fellow-creature deprived of the exercise of his reason, and unable to state his complaints or obtain redress for his grievances, it is of the highest importance that great circumspection should be exercised in the selection of those individuals to whom the superintendence of the insane is to be committed. They should be men of unblemished character, of benevolent disposition, of calm and dispassionate tempers. They should unite decision of character with gentleness of manner, to ensure at the same time the respect and fear of those subjected to their control. Mild and consolatory language will, it is satisfactorily proved, tend much to the recovery of the insane; whilst a contrary conduct increases the violence of the disease. If coercive measures, or, I would rather say, the exercise of force, ought ever to

be employed, it should be directed to its object accompanied with the least degree of irritation possible. The many fatal accidents which have from time to time occurred, prove the necessity which exists for the keeper's utmost circumspection. Every instrument of danger should be removed from the maniacs sight, that no association of ideas may be created to tempt him to the commission of any act of violence either on himself, or to those around him.

“ The peculiar feelings and habits of the different maniacs who are associated together, should be most carefully examined into. Lunatics generally retain some of those prejudices and sentiments which were imbibed previously to the loss of reason. To place a patient afflicted with deep religious melancholy in the same apartment with one who makes a sport of religion, or to associate a person of a timid disposition with an individual of a violent character, is to commit an act of great cruelty towards one of the parties, and highly prejudicial to the recovery of both.

“ To strike, or otherwise maltreat maniacs for any part of their conduct, however outrageous, is an evident dereliction of the very principle on which alone the right of restraining their persons is founded. The dictates of law, as well as of reason, pronounce them guiltless, in a moral view, of every offence they may commit. They are neither held responsible for their actions, nor are they considered to be susceptible of reform from the influence of opinion, or the fear of punishment. When sent to a madhouse, it is not intended that their keepers should act towards them as judges or as executioners, but as guardians of their persons, and alleviators as far as possible of the sufferings which Providence has attached to their existence. The unhappy fate of the confined lunatic should be commiserated, and the rigour of his confinement softened by an unceasing attention to his personal comfort. The furious and flighty maniac should be gently soothed to reason, and the melancholic should be roused from the stupor of despair by encouraging a feeling of his own dignity and importance. By such means alone can the purposes of lunatic establishments be accomplished. The exercise of severity within their walls is abhorrent to every sentiment of humanity, and repugnant to every rule of judgment.

“ The present mode of licensing houses for the reception of insane persons he conceived liable to many objections. A defect, and one of a very serious nature, in the existing laws relating to licenses, is the circumstance of those being excepted from the necessity of obtaining them, who take only one lunatic under their charge. Such persons are also free from the obligation incumbent upon the keepers of large establishments, of stating the condition of their patients, and submitting to the visits of an inspector. The dangerous tendency of these exceptions is so manifest, that it is difficult to conceive upon what grounds they have been originally suggested. The evils of mismanagement in public institutions are of trivial consequence, compared to those which may arise to society from the possibility of any individual being consigned to solitary and perhaps perpetual seclusion.”

The Pupils and Friends of Mr. Astley Cooper and Dr. Haighton have an opportunity of furnishing themselves with engraved Portraits of those celebrated Characters at a very trifling expense, by application to Mr. Cox, Medical Bookseller, St. Thomas's Street, Borough.

NOTICE OF LECTURES.

Dr. Merriman, Physician-Accoucheur to the Middlesex Hospital; and Dr. Ley, Physician-Accoucheur to the Westminster Lying-in Hospital; will commence a Course of Lectures on the Theory and Practice of Midwifery, and the Diseases of Women and Children, on Monday, the 7th of June, at Half-past Ten o'Clock.—Particulars may be learnt at Dr. Merriman's, No. 26, Half-Moon Street, Piccadilly; at Dr. Ley's, 62, South Audley Street; and at the Middlesex Hospital, where the Lectures will be given.

LITERARY NOTICES.

The Army Medical Officer's Manual upon Active Service. By J. G. V. Millingen, M.D.

Mr. J. G. Mansford, author of a Treatise on Consumption, will shortly publish Researches into the Nature and Causes of Epilepsy, as connected with the Physiology of Animal Life and Muscular Motion; with Cases illustrative of a new and successful Method of Treatment.

Dr. J. Veitch has in the press, Part I. of a Synopsis of the Principles and Treatment of the Diseases of the Eye.

Dr. Bateman is preparing for the press, Reports on the Weather and Diseases of London, from 1804 to 1816 inclusive.

Mr. Murray, the Chemist, is preparing for the press a Translation of Chaussier on Counter-Poisons, rendered intelligible to those who have not studied the curative Art; with numerous Notes, the results of Mr. M.'s own Researches on Poisons.

In the press, and speedily will be published, a short Account of the Principal Hospitals of France, Italy, Switzerland, and the Netherlands; with Remarks upon the Climate and Diseases of those Countries. By Henry William Carter, M.D., F.R.S. Ed.; one of Dr. Radcliffe's travelling Fellows from the University of Oxford.

Dr. Harrington, from whose work all the new and improved Nautical Tables have been taken, has in the press, and it will be published shortly, an Extension of his Important Theory and System of Chemistry, elucidating all the Phenomena, without one single Anomaly.

Preparing for publication, an Essay on the Diagnosis, Morbid Anatomy, and Treatment of the Diseases of Children. By Marshall Hall, M.D., F.R.S.E., &c.

The Enemy of Empiricism; or, a concise Explanation of the Functions of the Male Organs. By a genuine Disciple of Hippocrates.

In the press, Cases of Hydrophobia. By Dr. Pinckard.

A METEOROLOGICAL TABLE,

From the 21st of APRIL to the 20th of MAY, 1819,

KEPT AT RICHMOND, YORKSHIRE.

D.	Barometer.		Therm.		Rain Gauge	Winds.	Weather.	
	Max.	Min.	Max	Min.				
21	29	54	29	42	52	37	20 SW.. NW...	134 Cloud... 2 Sun.
22	29	65	29	57	52	38	NE.	134 Cloud... 2 Sun.
23	29	55	29	48	55	37	E..	1 Sun..
24	29	60	29	53	53	36	EbN..	1 Sun...
25	29	86	29	81	52	36	ENE..	1 Sun..
26	29	86	29	86	52	35	EbN.	1 Sun..
27	29	88	29	86	59	32	SE..	1 Cloud.. 2 Sun..
28	29	82	29	78	53	36	SSE..	1 Sun...
29	29	74	29	63	61	40	SE.	1 Cloud.. 2 Sun..
30	29	48	29	44	61	40	07 SE...	1 Cloud.. 2 Sun.. 4 Rain.
1	29	44	29	44	59	42	13 SE.. SW..	14 Cloud.. 2 Rain.. 3 Sun..
2	29	46	29	43	66	41	SE..	1 Sun...
3	29	45	29	38	66	46	SW.. E..	1 Sun..
4	29	44	29	39	68	45	NW.. EbN..	1 Sun.. 3 Cloud...
5	29	57	29	51	65	46	EbN..	1 Sun.. 3 Cloud...
6	29	69	29	69	68	47	ESE.	1 Cloud... 2 Sun..
7	29	78	29	76	71	48	SSE..	13 Cloud.. 2 Sun.. 4 Moon..
8	29	79	29	78	72	46	SE..	13 Sun.. 2 Cloud.. 4 M..
9	29	81	29	80	74	42	17 SE.. WSW..	1 Sun.. 2 Rain.. 4 Cloud..
10	29	74	29	70	69	51	31 WSW..	1 Sun.. 3 Rain....
11	29	73	29	69	69	52	SW..	1 Sun..
12	29	69	29	62	67	44	SW..	1 Sun..
13	29	72	29	72	61	44	SW.. WbN..	1 Sun.. 4 Starl....
14	29	77	29	75	66	37	WbN..	1 Sun...
15	29	73	29	70	69	38	Vble.	1 Sun..
16	29	67	29	61	71	44	SW.	1 Sun..
17	29	47	29	38	75	54	SSE..	1 Sun.. 3 Cloud..
18	29	48	29	45	69	39	SW..	1 Cloud.. 2 Sun..
19	29	38	29	34	69	44	14 SE.	1 Cloud... 3 Rain..
20	29	42	29	40	51	44	21 NbE..	14 Rain... 23 Cloud....

The quantity of rain during the month of April was 2 inches & 17-100ths.

Observations on Diseases at Richmond.

The disorders under treatment were Asthma, Colica, Cynanche tonsillaris, Diarrhœa, Dyspepsia, Enteritis, Epistaxis, Febris simplex, Gastrodynia, Hæmoptysis, Hydrocephalus, Marasmus, Obstipatio, Ophthalmia, Rheumatismus acutus, and Scabies.

THE METEOROLOGICAL JOURNAL,

From the 20th of APRIL to the 19th of MAY, 1819,

By Messrs. HARRIS and Co.

Mathematical Instrument Makers, 50, High Holborn.

D.	Moon	Rain	Therm.			Barom.			De Luc's Hygrom.		Winds.		Atmo. Variation.			
									Dry.	Damp.						
20	☾	,02	54	59	49	29	73	29	71	12	11	W	SW	Fog	Rain	Clo.
21		,03	53	57	45	29	67	29	77	11	10	WSW	NW	Clo.	—	Fine
22			49	52	43	29	88	29	75	9	10	NE	NE	Clo.	—	Fine
23			47	50	43	29	63	29	57	10	10	ENE	SE	Clo.	—	—
24			45	48	44	29	60	29	64	11	11	E	E	Rain	—	—
25		,15	45	45	38	29	80	30	02	11	11	ENE	ENE	Rain	—	Fine
26		,18	42	49	39	30	12	30	15	9	8	ENE	E	Fine	—	—
27			45	49	39	30	18	30	20	6	7	ESE	E	Fine	—	—
28		,04	44	50	43	30	12	30	14	9	6	SE	E	Fine	—	—
29			48	51	41	30	07	30	00	5	5	SE	E	Fine	—	—
30	,03	47	50	43	29	95	29	90	2	3	SSE	SSW	Fog	Fine	—	
1	☾		45	57	45	29	89	29	85	3	2	S	WSW	Fine	—	—
2			50	61	51	29	75	29	65	2	2	SE	SSE	Fine	—	Sho.
3		,15	57	65	56	29	62	29	58	3	5	ESE	SE	Fine	—	Clo.
4		,05	57	62	51	29	53	29	54	8	12	SSE	ESE	Rain	Clo.	Rain
5		,88	55	62	50	29	61	29	80	10	10	S	WSW	Clo.	Fine	—
6			57	63	48	29	96	29	53	8	8	SW	SSW	Clo.	—	Fine
7			53	64	53	30	06	30	06	8	8	SE	SE	Clo.	—	—
8			58	63	55	30	03	30	00	9	9	ESE	S	Clo.	Fine	—
9		☉	59	70	53	30	10	30	14	7	8	W	W	Fine	—	Rain
10		,12	57	69	57	30	07	30	16	8	9	NW	W	Fine	—	Clo.
11		59	66	57	30	16	30	13	9	9	W	WNW	Clo.	—	—	
12		62	65	55	30	10	30	09	9	9	WNW	NW	Clo.	—	—	
13		60	66	49	30	06	30	14	9	8	NW	NW	Fine	—	—	
14		55	64	49	30	15	30	11	9	8	NNW	N	Fine	—	—	
15		54	61	49	30	06	30	04	7	8	NE	SSE	Fine	Clo.	—	
16	☾	55	64	48	30	02	30	00	9	9	SSE	S	Fine	Clo.	—	
17		55	67	52	29	96	29	88	7	5	SE	S	Fine	—	—	
18		57	67	50	29	83	29	87	6	7	WSW	WSW	Fine	—	—	
19	,15	55	62	49	29	63	29	60	9	13	NE	S	Rain	—	—	

The quantity of rain fallen in the month of April is 2 inches and 13-100ths.

A REGISTER OF DISEASES

Between APRIL 20th and MAY 19th, 1819.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	7		Febris <i>Intermittent</i>	6	
Abscessio	6		—— <i>catarrhalis</i>	38	
Acne	1		—— <i>Synocha</i>	3	
Amaurosis	5		—— <i>Typhus mitior</i> ..	16	2
Amenorrhœa	8		—— <i>Synochus</i>	20	
Amentia	2		—— <i>Remit. Infant.</i> ..	16	
Anasarca	15	1	Fistula	3	
Anorexia	5		Furunculus	1	
Aphtha <i>lactentium</i>	14	1	Gastrodynia	25	
Apoplexia	1	1	Gonorrhœa <i>pura</i>	2	
Ascites	8	1	Hæmatemesis	3	
Asthenia	13		Hæmaturia	1	
Asthma	43	6	Hæmoptœe	10	
Bronchitis <i>acuta</i>	3		Hæmorrhœis	10	
—— <i>chronica</i>	6		Hepatalgia	2	
Bronchocele	1		Hepatitis	17	1
Calculus	1		Hernia	2	
Carbunculus	1		Herpes <i>Zoster</i>	2	
Cardialgia	7		—— <i>circinatus</i>	3	
Carditis	2		—— <i>labialis</i>	2	
Catarrhus	45		—— <i>præputialis</i>	1	
Cephalalgia	22		Hydrocele	2	
Cephalæa	7		Hydrocephalus	10	6
Chlorosis	1		Hydrothorax	1	1
Chorea	2		Hypochondriasis	1	
Cholera	6		Hysteria	7	
Colica	14		Hysteritis	1	
—— <i>Pictonum</i>	4		Icterus	2	
Convulsio	6		Impetigo <i>figurata</i>	2	
Cynanche <i>Tonsillaris</i> ..	10		Ischias	2	
—— <i>maligna</i>	1		Ischuria	3	
—— <i>Trachealis</i> ..	2		Lepra	2	
—— <i>Parotidea</i>	5		Leucorrhœa	9	
—— <i>Laryngea</i>	2	1	Lichen <i>simplex</i>	3	
Diarrhœa	19	2	Lithiasis	1	
Dolor lateris	4		Mania	5	1
Dysenteria	9	3	Melancholia	3	
Dyspepsia	31		Menorrhagia	12	
Dyspnœa	11		Miliaria	1	
Dysuria	8		Morbi <i>Infantiles</i> *	45	1
Ecthyma	9		—— <i>Biliosi</i> *	31	
Eczema	4		Nephritis	1	
Enteritis	7	1	Neuralgia	1	
Entrodynia	4		Obstipatio	5	
Epilepsia	4		Odontalgia	9	
Epistaxis	4		Ophthalmia	18	
Erysipelas	6		Otalgia	2	
Erythema <i>læve</i>	4		Palpitatio	3	
—— <i>papulatum</i>	1		Paralysis	8	
Exostosis	1		Paronychia	2	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Pemphigus.....	1		Rheuma <i>chronicus</i>	26	
Peripneumonia	10	1	Roseola.....	1	
Peritonitis	26	2	Rubeola	14	
Pertussis	24	2	Scabies	75	
Phlogosis	4		Scarlatina <i>simplex</i>	4	
Phrenitis	1		———— <i>anginosa</i>	4	
Phthisis Pulmonalis	24	7	Scorbutus	4	
Plethora	1		Scrofula.....	12	
Pleuritis	18		Spasmi.....	1	
Pleurodyne	3		Splenitis.....	2	
Pneumonia	18	4	Stricture	6	1
Podagra.....	4		Strophulus <i>intertextus</i> .	4	
Polydipsia.....	1		Syphilis	26	
Poinpholux <i>benignus</i> ...	1		Tabes Mesenterica.....	3	
Porrigo <i>larvalis</i>	1		Tussis	2	
———— <i>favosa</i>	2		Vaccinia	40	
Prolapsus	5		Varicella	3	
Prurigo <i>mitis</i>	1		Variola	13	3
———— <i>senilis</i>	3		Vermes	17	
Psoriasis <i>guttata</i>	3		Vertigo.....	14	
———— <i>gyrata</i>	1		Urticaria <i>febrilis</i>	2	
———— <i>inveterata</i>	3				
Purpura <i>simplex</i>	1		Total of Cases	1222	—
Rosicedo	1		Total of Deaths	49	
Rheuma <i>acutus</i>	12				

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from den-
tition or indigestion, and which may be too trivial to enter under any distinct head; *Morbi*
Biliosi, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

THE diseases of the past month have not been marked by any striking peculiarity, with the exception that pulmonary and bronchial affections have been very frequent accompaniments of the febrile cases, and in many instances a more than ordinary susceptibility has been evinced to the induction of erysipelatous inflammation, from the application of leeches and blisters.

“ Fever (says one of our Reporters) is much diminishing, and those cases which are now met with in our district, appear but seldom to arise from contagion; in most cases they have been fairly referrible to some error in the non-naturals, wrong indulgencies in diet, excessive exertion, improper exposure, &c.”

Will any of our correspondents say whether they have employed the pyrola umbellata, and with what effect?

Quarterly Report of Prices of SUBSTANCES employed in PHARMACY.

		s.	d.			s.	d.
Acaciæ Gummi elect.	lb.	5	0	Ferri subcarbonas	lb.	1	4
Acidum Citricum	-	28	0	— sulphas	-	1	6
— Benzoicum	unc.	5	0	Ferrum ammoniatum	-	5	6
— Sulphuricum	P. lb.	0	9	— tartarizatum	-	5	0
— Muriaticum	-	2	0	Galbani Gummi-resina.	-	16	0
— Nitricum	-	4	0	Gentianæ Radix elect.	-	1	2
— Aceticum	cong.	4	6	Guaiaci resina	-	7	6
Alcohol	M. lb.	5	6	Hydrargyrum purificatum	-	6	6
Æther sulphuricus	-	12	0	— præcipitatum album	-	9	0
— rectificatus	-	14	0	— cum creta	-	5	6
Aloes spicatæ extractum	lb.	7	6	Hydrargyri Oxymurias	unc.	0	8
— vulgaris extractum	-	6	0	— Submurias	-	0	9
Althææ Radix	-	1	6	— Nitrico-Oxydum	-	0	8
Alumen	-	0	6	— Oxydum Cinereum	-	1	6
Ammonia Murias	-	2	3	— Oxydum rubrum	-	6	0
— Subcarbonas	-	4	0	— Sulphuretum nigrum	-	0	4
Amygdalæ dulces	-	5	6	— rubrum	-	0	6
Ammoniacum (Gutt.)	-	9	0	Hellebori nigri Radix	lb.	3	0
— (Lump.)	-	5	6	Ipecacuanhæ Radix	-	20	0
Anthemidis Flores	-	2	6	— Pulvis	-	22	0
Antimonii oxydum	-	7	0	Jalapæ Radix	-	6	0
— sulphuretum	-	1	0	— Pulvis	-	7	0
Antimonium Tartarizatum	-	8	0	Kino	-	10	6
Arsenici Oxydum	-	2	6	Liquor Plumbi subacetatis	M. lb.	1	8
Asafetidæ Gummi-resina	lb.	6	6	— Ammonia	-	3	0
Aurantii Cortex	-	4	0	— Potassæ	-	1	6
Argenti Nitras	unc.	6	6	Linimentum Camphoræ comp.	-	6	0
Balsamum Peruvianum	lb.	28	0	— saponis comp.	-	4	0
Balsamum Tolutanum	-	20	0	Lichen	lb.	1	4
Benzoinum elect.	-	10	0	Lytta	-	11	0
Calamina præparata	-	0	6	Magnesia	-	10	6
Calumbæ Radix elect.	-	4	0	Magnesia Carbonas	-	3	6
Cambogia	-	9	0	— Sulphas	-	0	8
Camphora	-	6	6	Manna	-	7	0
Canellæ Cortex	-	3	6	— communis	-	4	0
Cardamomi Seinina	lb.	9	0	Moschus pod. (60s.)	in gr. unc.	70	0
Cascarillæ Cortex	-	3	0	Mastiche	lb.	6	6
Castoreum	unc.	3	6	Myristicæ Nuclei	-	18	0
Catechu Extractum	lb.	4	0	Myrrha	-	7	6
Cetaceum	-	4	0	Olibanum	-	5	9
Cera alba	-	4	6	Opopanax gummi resina	-	24	0
— flava	-	3	6	Opium (Turkey)	-	42	0
Cinchonæ cordifoliæ Cortex (yellow)	-	7	6	Opium (East India)	-	-	-
— lancifoliæ Cortex (quilled)	-	10	0	Oleum Æthereum	oz.	2	0
— oblongifoliæ Cortex (red)	-	16	0	— Amygdalarum	lb.	3	9
Cinnamomi Cortex	-	18	0	— Anisi	unc.	3	0
Coccus (Coccinella)	unc.	2	6	— Anthemidis	-	6	6
Colocynthis Pulpa	lb.	12	0	— Cassia	-	8	6
Copaiba	-	5	6	— Caryophilli	-	6	6
Colchici Radix	-	0	0	— Cajuputi	-	5	6
Croci stigmata	unc.	6	0	— Carui	-	1	6
Cupri sulphas	lb.	1	4	— Juniperi Ang.	-	3	6
Cuprum ammoniatum	-	10	0	— Lavandulæ	-	5	0
Cuspariæ Cortex	-	3	0	— Lini	cong.	6	6
Confectio aromatica	-	8	8	— Mentha piperitæ	unc.	4	0
— Aurantiorum	-	3	0	— Mentha viridis Ang.	-	5	0
— Opii	-	5	0	— Pimentæ	unc.	6	0
— Rosæ caninæ	-	2	0	— Ricini optim.	-	10	6
— Rosæ gallicæ	-	3	0	— Rosmarini	unc.	1	0
— Sennæ	-	1	8	— Succini 2s. 6d.	— rect.	5	0
Emplastrum Lyttæ	-	6	6	— Sulphuratum	P. lb.	1	6
— Hydrargyri	-	3	6	— Terebinthinæ	-	1	2
Extractum Belladonnæ	unc.	2	6	— rectificatum	-	2	0
— Cinchonæ	-	3	0	Olivæ Oleum	cong.	24	0
— Cinchonæ resinosum	-	6	0	Olivæ Oleum secundum	-	16	0
— Colocynthis	-	4	0	Papaveris Capsulæ (per 100)	-	5	6
— Colocynthis comp.	-	1	9	Plumbi subcarbonas	lb.	0	8
— Conii	-	0	9	— Superacetas	-	2	6
— Elaterii	-	46	0	— Oxydum semi-vitreum	-	0	9
— Gentianæ	-	0	8	Potassa Fusa	unc.	0	8
— Glycyrrhizæ	lb.	6	0	— cum Calce	-	0	6
— Hamatoxyli	unc.	0	6	Potassæ Nitras	lb.	1	2
— Humuli	-	1	0	— Acetas	-	10	0
— Hyoscami	unc.	1	6	— Carbonas	-	4	0
— Jalapæ 1s. 6d. Res.	-	5	6	— Subcarbonas	-	1	4
— Opii	-	4	0	— Sulphas	-	1	5
— Papaveris	-	1	3	— Sulphuretum	-	4	0
— Rhæi	-	2	0	— Supersulphas	-	0	9
— Sarsaparillæ	-	3	0	— Tartras	-	3	6
— Taraxaci	-	0	9	— Supertartras	-	1	8

		s.	d.			s.	d.
Pilulæ Hydrargyri	- - unc.	0	6	Spiritus Myristicæ	- - -	3	6
Pulvis Antimonialis	- - -	0	9	— Pimentæ	- - -	3	6
— Contrayervæ comp.	- - -	0	4	— Rosmarini	- - -	4	6
— Tragacanthæ comp.	- - -	0	4	— Ætheris Aromaticus	- - -	7	6
Resina Flava	- - lb.	0	4	— — Nitrici	- - -	5	0
Rhæi Radix (Russia)	- - -	40	0	— — Sulphurici	- - -	6	6
— (East India) opt.	- - -	10	0	— — Compositus	- - -	7	6
Rosæ petala	- - -	14	0	— Vini rectificatus	- - cong.	31	0
Sapo (Spanish)	- - -	2	6	Syrupus Papaveris	- - lb.	2	0
Sarsaparillæ Radix (Lisbon)	- - -	6	6	Sulphur	- - -	0	9
Scammoniæ Gummi-Resina	- - unc.	3	6	— Sublimatum	- - -	1	0
Scillæ Radix siccata. opt.	Ang. lb.	4	6	— Lotum	- - -	1	2
Senegæ Radix	- - -	4	0	— Præcipitatum	- - -	2	0
Sennæ Folia	- - -	6	6	Tamarindi Pulpa opt.	- - -	2	0
Serpentariæ Radix	- - -	7	6	Terebinthina Vulgaris	- - -	0	10
Simaroubæ Cortex	- - -	3	6	— — Canadensis	- - -	6	0
Sodæ subboras	- - -	4	0	— — Chia	- - -	12	0
— Sulphas	- - -	0	6	Tinct. Ferri muriatis	- - -	5	0
— Carbonas	- - -	6	6	Tragacantha Gummi	- - -	6	0
— Subcarbonas	- - -	1	6	Valerianæ Radix	- - -	1	8
— — exsiccata	- - -	4	6	Veratri Radix	- - -	2	0
Soda tartarizata	- - -	2	6	Unguentum Hydrargyri fortius	- - -	5	0
Spongia usta	- - -	24	0	— — — Nitratiss	- - -	4	0
Spiritus Ammoniaæ	- - M. lb.	4	6	— — — Nitrico-oxydi	- - -	3	0
— — — aromaticus	- - -	5	0	Uvæ Ursi Folia	- - -	2	6
— — — fœtidus	- - -	6	0	Zinci Oxydum	- - -	7	0
— — — succinatus	- - -	5	6	— Sulphas purif.	- - -	3	0
— Cinnamomi	- - -	3	6	Zingiberis Radix opt.	- - -	3	0
— Lavandulæ	- - -	5	6				

Prices of New Phials per Gross.—8 oz. 70s.—6 oz. 58s.—4 oz. 47s.—3 oz. 43s.—2 oz. and 1½ oz. 36s.—1 oz. 30s.—half oz. 24s.

Prices of second-hand Phials cleaned, and sorted.—8 oz. 46s.—6 oz. 44s.—4 oz. 33s. 3 oz. 30s.—2 oz. and all below this size, 25s.

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NOTICES TO CORRESPONDENTS.

Acknowledgments are due this month to Dr. Maclean, Dr. Hamilton, Dr. Clutterbuck, and Mr. Andree.

The notice of Mr. Samuel Young, Surgeon to the Cancer Institution, respecting his Lectures, came too late for insertion. We have only room here to state that his Course will commence on the 1st of July next.

*** Communications are requested to be addressed (post paid) to Messrs. T. and G. UNDERWOOD, 32, Fleet Street.*

END OF THE ELEVENTH VOLUME.

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